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Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Co-Dean

January-February, 1927 **Number 25**

SPRING SEMESTER OPENS WITH NORMAL ENROLLMENT OF STUDENTS

Classes in the University for the spring semester opened Saturday, February 12th, with an enrollment practically normal in all departments. The number of students in the secondary groups is within a few of being as large as in the fall semester. There are still a number of students in the College of Arts and Science and the College of Agriculture and Forestry who have not yet returned, but from many of these letters have been received and they are expected to return at an early date. In view of the disturbed political conditions in many parts of China from which our students come, of the difficulty of securing funds so soon after China New Year, of the difficulties of travel, and of the fact that the enrollment last semester was unusually large—by far the largest in the history of the institution—the conditions at the opening of the spring semester are especially satisfactory. The enrollment this semester is considerably larger than of the spring semester a year ago. Last semester was one of the finest from every standpoint which the University has ever experienced and we are hoping that we may be allowed to continue our work uninterruptedly until the close of the school year.

OUR FIRST FARMERS' WEEK

The College of Agriculture and Forestry held its first Farmers' Week, February 7th to February 12th. There were present thirty-two gentry, landlords, farmers and teachers, representing ten different places in Kiangsu and Anhwei Provinces. The mornings were devoted to lectures on sericulture, farm management, farm crops, farm bookkeeping, crop improvement, country roads and cotton culture. The afternoons were given over to practical demonstrations so far as possible in connection with the lectures of the morning. The evenings were given over to entertainments. The purpose of the week's meetings was to bring the farmers into closer touch with the work of the College of Agriculture and Forestry and to find out from the men living in the country how our own work can be more closely related to the practical problems of their everyday life.

PROFESSOR R. G. WIGGANS THE NEXT CORNELL REPRESENTATIVE

Prof. R. G. Wiggans, a member of the Department of Plant Breeding of the New York State College of Agriculture, will be the next Cornell representative in connection with the triangular crop improvement program in which Cornell University, the International Education Board and the University of Nanking each have a share.

Professor Wiggans will arrive in Nanking the latter part of March and will be accompanied by Mrs. Wiggans and their two children.

TWO DEMONSTRATION CENTERS TO SHOW IMPROVED METHODS OF SERICULTURE

The Department of Sericulture is establishing two demonstration centers, one in the Kiangyin district and one in the Wusih district, Kiangsu Province, to provide practical demonstrations to the silk farmers of improved methods of rearing silkworms. Our disease free selected silkworm seed will be used in the demonstrations. A number of farmers will cooperate in each area. These demonstration stations are being developed with the dual purpose of not only proving to the farmers the value of improved rearing methods and improved seed, but also to provide an increasing market for our disease free slikworm eggs.

LETTERS WE LIKE

The following letter was received recently from Rev. J. E. Shoemaker, a missionary of the Presbyterian Mission, North, at Yuyao, Chekiang, one of our valued cooperators: "A silk raiser in one of our country districts has tried your silkworm eggs and finds them a great improvement over the local supply, so he wishes me to order fifty sheets for the coming season. Send the eggs to me and I will see that the money reaches you in due course."

BULLETIN NO. 16

If you have not received Bulletin No. 16, "Loan Books for Rural Workers in the University of Nanking Library" a copy will gladly be sent upon request. This list of loan books includes twenty-nine of the best books dealing with the rural church, rural sociology, rural economics and rural education. The books are designed particularly for those who are interested in rural work in China. There is a brief review of each book. Already a number of subscribers are availing themselves of the facilities offered by the loan arrangement.

RECENT VISITORS

Among the recent visitors to the College of Agriculture and Forestry have been Mr. Paul Nyhus, a statistician of the United States Department of Agriculture; Mr. W. F. Dawson, a missionary of the London Missionary Society, Tsangchow, Chihli; Mr. C. B. Alspach, Huping Christian College, Yochow, Hunan; Dr. J. A. von Monroy, Schwerin, Mecklenburg, Germany; and Messrs. L. G. Connor, John A. Nye and C. C. Chang, representatives of the United States Tariff Commission, Washington, D.C.

NEW EXTENSION PROJECT FOR CONTROL OF MILLET SMUT

"Kernel Smut of Millet and Its Control" by Mr. R. H. Porter, our plant pathologist, is the title of Circular No. 14 and constitutes a new extension project in the control of kernel smut of millet which is a very common disease wherever millet is grown in China. The project recommends control by selection of non-diseased heads and by use of copper carbonate dust. This latter is a very simple treatment, very effective and offers an excellent means for those in touch with farmers who raise millet to bring them help in controlling this common disease of one of North China's principal food crops. The circular describes the treatment in detail. The College is in a position to furnish the copper carbonate dust at a very small cost.

950,000 LAYINGS OF IMPROVED SILKWORM SEED DISPOSED OF

Nine hundred and fifty thousand saleable layings of disease-free selected silkworm eggs was the next production of the 1926 season from a gross production of 1,157,540 layings. One lot of 600,000 layings of eggs was sold to the International Committee for the Improvement of Sericulture in China at Shanghai. By February 1st our available supply of eggs for distribution this spring had been taken up. This condition is most encouraging. The farmers are beginning to realize the value of the improved seeds and the demand for them is increasing rapidly.

1926-1927 CROP IMPROVEMENT PLANTINGS NUMBER OVER 55,000

Experimental plantings in our 1926-1927 cooperative crop improvement project amount to 55,000 odd head rows or rod rows of wheat, barley, kaoliang, beans, rice and corn. This includes not only the plantings at Nanking, but the cooperative plantings at Wusih and Soochow in Kiangsu Province; at Wuchang in Hupeh Province; at Nanhsuchow in Anhwei Province; at Kaifeng in Honan Province; and at Yihsien and Weihsien in Shantung Province. This is some 10,000 more plantings than in the 1925-1926 season.

SERICULTURE EXHIBIT SECURES SIX PRIZES

The exhibit of the Department of Sericulture in the Industrial Exhibit in Nanking during October and November of products of the three provinces, Anhwei, Kiangsu and Chekiang, secured two first, two second and two-third prizes as awarded by the official commissioners responsible for the Exhibit.

50,000 MULBERRY TREES SOLD

The 50,000 mulberry trees which were grafted last spring have all been disposed of. The demand for these plants is very much greater than we have been able to meet and for some time now we have had to refuse orders which we could not fill.

ACTIVITIES IN RURAL COOPERATIVE ORGANIZATION

The following paragraphs outline briefly the activities of our Department of Agricultural Economics and Farm Management with various rural cooperative projects and are taken from the Annual Report of the College of Agriculture and Forestry for the year 1925-1926 to be published soon. The work has been under the immediate direction of Mr. Hsu Chen, one of the first graduates of the College, and who, for a number of years now has been a member of the Department of Agricultural Economics and Farm Management and has specialized in rural organization.

Much interest is developing in rural co-operative credit and marketing societies. The data below will indicate the progress that has been made. The chief limiting factor in the co-operative undertakings has been funds. The China International Famine Relief Commission furnished the funds for the organization and financing of two societies. A considerable sum of money has been borrowed on personal security from the Shanghai Commercial and Savings Bank, Shanghai, and on July 1st there became available a capital fund of $5,000, from the China Famine Fund Committee for the study and organization of different kinds of co-operative effort. Eleven trips have been made to different places in Kiangsu province for organizing rural co-operative

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credit and marketing societies and it is a most encouraging fact that in all cases where connections could be made with rural communities there have always been found some good leaders who were able to influence at least a small group of farmers to start a co-operative organization.

All the societies organized up to the present time are in sound condition. The Fung Run Society at Nanking has carried out the rule of unlimited liability in paying back their fifth loan. More than 20 of its members advanced $1.00 each for that part of the loan not collected from the other members at the time payment of the loan was due. All loans have been paid back in full on or before the date due, along with all service charges.

Number of societies previously organized	2
(Date of organization of first society was Nov. 1923).	
Number of societies organized this year	14
Number of societies in process of organization	5
Total membership of organized societies	370
Number of societies making loans	6
Amount of money borrowed last year	$5,530
Amount of money borrowed since organization of first society	$7,380
Amount of money paid back in this year	$4,520
Amount of money now on loan	$2,800
Value of loans due but unpaid	None

The Wukiang Co-operative Credit and Co-operative Marketing Society consists of 25 members all of whom grow cotton. Mr. C. C. Li, teacher of the Rural Normal School at Wukiang, under the direction of the Department of Rural Education, is supervisor of the society and helped in organizing it. One regulation of the society makes it obligatory for all members to pool their cotton and to sell directly to a cotton mill. The cotton was graded into improved cotton and ordinary cotton. Adulteration with water or powder or any other material was absolutely forbidden. Co-operative baling was also practised and all of the cotton sold was baled with iron bands so as to reduce the transportation cost and the risk from fire and stealing. Insurance was taken out to cover the cotton while in transit and storage. The shipment consisted of 14.5 piculs of improved and 49 piculs of ordinary cotton and was sold to the Hsin Shen Third Cotton Mill at Wusih. In spite of difficulties of transportation and the loss of weight in shipping and the falling price of cotton, the co-operative society nevertheless sold its cotton at a much higher profit than would have been realized from local sales, as shown by the following figures:

	per picul.
Price received for improved cotton sold through co-operative society	$42.00
Price for ordinary cotton sold through co-operative society	38.00
Cost of baling, transportation, rent of warehouse, insurance, etc.	3.16
Net price for improved cotton	38.84
Net price for ordinary cotton	34.84
Local price at Wukiang for ordinary cotton	30.00
Local price at Wukiang for improved cotton	32.00

This indicates an additional profit of $4.84 per picul for ordinary cotton and $6.84 per picul for improved cotton through co-operative selling. The society made three short term loans amounting to $1,300.00 from the Department to finance the members while the cotton was being marketed. Five per cent of the net profit over local selling was turned over to the society by the members as a reserve fund against general expenses and for future development.

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Agriculture and Forestry Notes

UNIVERSITY OF NANKING

COLLEGE OF AGRICULTURE AND FORESTRY

NANKING, CHINA.

December 1931-January 1932 Number 26

SURVEY OF FLOODED AREAS BY DEPARTMENT OF AGRICULTURAL ECONOMICS

In response to a request by the Director of the National Flood Relief Commission, the Department of Agricultural Economics made a rapid survey of the relief requirements in the flooded areas. The purpose of the survey was to find out the character and extent of the needs of the farmers who have been affected by floods, and at the same time ascertain the extent of losses.

Information has been obtained from approximately 12,000 farms in 247 localities and 91 hsiens scattered throughout the flooded area. Detailed questions were asked about the losses in each farm family and in each village. The tabulation of this data is proceeding rapidly and will be finished by the end of December. Many students from the University and from Ginling College have given voluntary service in the tabulation of this data. In addition to this at the request of the National Flood Relief Commission, the Department has finished the tabulation of the reports of magistrates sent to the Commission.

"AGRICULTURAL INDEX" SOON TO BE PUBLISHED

Since November 1924, the Research Library has been collecting material for a subject index to articles pertaining to agriculture which have appeared in periodicals published in China, both in English and in Chinese. The value of this has become increasingly evident and many requests have been received for this index in the published form. Recently a grant was made from the China Foundation through the National Peiping Library to provide for the publication of this material. Definite plans are now under way to complete the index through 1931 and publish it next summer. It is estimated that some 36,000 entries will be included, representing more than 30,000 articles from 300 Chinese and 30 English periodicals. It will include all the important articles on agriculture which have

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appeared in these periodicals during the last 82 years, and especially during the last fifteen years. The finished publication will contain eight to nine hundred pages.

KWEICHOW EXPEDITION PARTY ATTACKED BY BANDITS

The botanical expedition of the University of Nanking was attacked by bandits near Tungjen in Northeastern Kweichow on December seventh. Some specimens and certain items of equipment were lost, and Mr. C. Y. Chiao was wounded. A recent telegram reports that the specimens and much of the equipment were returned in good order. It is clearly stated that Mr. Chiao's injury is not serious and that the party will soon proceed homeward under military escort.

AN AGRICULTURAL POLICY FOR CHINA

On November 18th, Professor R. H. Tawney led a discussion with the seminar and staff of the Agricultural Economics Department on "An Agricultural Policy for China". He emphasized that in addition to the fundamental requirements of good communication facilities and elementary education for farmers, the three most important problems are credit, marketing and reallocation of large landholdings to farmers. Professor Tawney talked at length upon the importance of cooperation and emphasized the need of a cooperative movement sanctioned by, but independent of, the government.

GRANT OF $20,000 GOLD BY THE INSTITUTE OF PACIFIC RELATIONS FOR LAND UTILIZATION STUDY

The Institute of Pacific Relations has made a grant of $10,000 Gold a year for 1932 and 1933 to the Department of Agricultural Economics for a continuation of the China Land Utilization Study.

GUESTS OF THE COLLEGE

Among the recent guests of the College was Professor W. G.S. Adams, Gladstone Professor of Political Theory at All Souls College, Oxford University. Professor Adams was a member of the Agricultural Tribunal of the British Government and served for several years with Sir Horace Plunkett. We were fortunate in having a series of lectures by Professor Adams on Sir Horace Plunkett's slogan "Better Farming, Better Business, Better Living".

In the early part of November we had the pleasure of a visit from Professor P. M. Roxby, Geographer of the University of Liverpool. Professor Roxby is internationally known in the geographical field and has previously made two trips in China. He lectured on "The Growth of Nationalism in England".

Professor L. R. Jones of the Department of Plant Pathology of the University of Wisconsin spent about four days in Nanking in the latter part of October. Professor Jones was very much interested in the research work of Professor Tai and his associates. He spoke to a group of workers and advanced students on "The Relation of Plant Pathology to Other Fields of Agriculture" and "The Importance of a Mycological Survey in China". We are glad to know that Professor Jones will make another trip to China in 1936.

President David L. Crawford of the University of Hawaii paid us a short visit early in November. He is particularly interested in crop improvement and extension work and mentioned the possibility of exchanging professors some time in the future.

Sir Reginald F. Johnston, formerly minister from Great Britain to China, attended the Institute of Pacific Relations Conference in Shanghai and paid a short visit to Nanking. In 1926 Sir Reginald was a member of Lord Willingdon's Delegation on the Indemnity Fund and was in favor of having one third of the fund go toward agricultural work.

NEW CONTRIBUTION TO THE BREEDING OF KAOLIANG

In the past it has been difficult to get accurate weights of the seed of kaoliang because many of the glumes adhere to the seed even after threshing. Dr. Shen has been working on the problem of securing accurate results without threshing all of the grain. He has finally concluded that it is not necessary to thresh all of the kaoliang heads to obtain relative yields of different rows or strains because the results of his experiments show a very high correlation between the total weight per head and the weight of grain per head. His findings will be included in his paper on "The Methods of Breeding Kaoliang in China" which will be published very soon.

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DISTRIBUTION OF WHEAT IN THE NINGSHU FLOOD AREA

The Ningshu Branch of the National Flood Relief Commission has appointed Mr. C. M. Heh to take charge of the seed relief work in the Ningshu area. Surveys have already been made and seed distributed where needed. Messrs. C. W. Chang and Y. S. Tsiang have been sent to Ying Hong Chen outside the South Gate of Nanking to carry on seed relief work.

COOPERATION WITH YENCHING ON BLANK TESTS OF KAOLIANG AND MILLET

Mr. T. Tsu of the Crop Improvement Station of Yenching University, Peiping, is spending some time with our Department of Agronomy for further training on methods to be used in the calculation ot the blank tests of kaoliang and millet. Blank tests are conducted to furnish information for the improvement of technique for carrying out breeding and strain trials of the crops in question.

NEWS FROM ABROAD

We have just received a letter from Mr. Chen Hung-kwei of the Division of Plant Pathology, part of which is quoted below: "I am continuing my studies on kaoliang anthracnose as part of my research work and also as part of the work for the China Foundation Fellowship. Recently I started work on cross inoculation and host range studies and wish to experiment with the common Gramineae usually found in kaoliang fields. Will you be good enough to send me lists of grasses and weeds found in Kiangsu, Honan and Shantung so that I may experiment with the inoculation of the hosts existing in these provinces.

Mr. Yu Ta-fu expects to take preliminary examinations for his doctor's degree this winter. He will probably be back in China in June."

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Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

June, 1932 Number 27

ADJUSTMENTS NECESSITATED BY POLITICAL DISTURBANCES

The Sino-Japanese conflict has caused some changes in our regular schedule. Classes will continue through the month of July in order to allow the students time to make up work missed in the early part of the year. Spring vacation was also omitted to allow for make-up work. In spite of the time lost in instruction, the research and extension work has gone on practically without interruption and several flood relief projects have been completed.

THE BEGINNING OF SELF-SUPPORTING FARMERS' SOCIETIES IN CHINA

Mr. Swen Yu-nung, formerly of the Extension Department, has effectively established a farmers' union in our extension demonstration area at Wukiang. This organization has a membership of 300 farm families. When the National Government, because of its retrenchment program, withdrew support of the extension work, several men had to be dismissed including Mr. Swen. However, upon hearing this, the farmers' union called Mr. Swen back and is now paying his salary so that he may continue the work. This action is very significant in the development of agricultural organization in that it shows the people's appreciation for Mr. Swen's work, and in that the farmers themselves have taken responsibility for improving their farming methods. Probably this is the first truly indigenous, modern farmers' organization employing a technical expert in China. It is hoped that this will be the forerunner of the widespread growth of self-supporting societies in China.

FLOOD RELIEF AT MOLINKWAN AND WUKIANG

In order to facilitate farm rehabilitation after the destruction caused by the flood in the summer of 1931, the National Christian Council turned $6,000 over to the University of Nan-

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king to be loaned to farmers. Under the direction of Mr. T. H. Shao of the Department of Agricultural Economics, this money was loaned to twenty five "farming societies" which included about 400 farm families. These societies were newly organized by Mr. Shao for meeting the immediate emergency. A "farming society" is somewhat similar to a cooperative credit society but simpler in organization. Each family received a loan of approximately $15 to purchase rice seed, fodder and poultry. The purpose of the loans is merely to tide the farmers over a difficult period and the money is to be returned in the autumn plus eight per cent interest. Wherever possible in flood relief work, we are trying to eliminate the element of charity and stimulate the farmers to help themselves. This project is carried on in cooperation with the Methodist Church at Molinkwan, 20 miles south of Nanking, and the Advent Christian Mission at Wukiang, Anhwei.

RURAL SURVEYS IN COOPERATION WITH THE NATIONAL HEALTH ADMINISTRATION

The Department of Agricultural Economics is cooperating with the National Health Administration in making an economic, social and health survey of two rural areas where the National Health Administration is carrying on public health projects. The National Health Administration feels that improvement in agriculture must accompany any public health work so that the economic standard may be raised and thus a surplus become available for public health improvement. Funds for the surveys are supplied by the National Health Administration while the Department of Agricultural Economics supervises the collection of the data and the analysis of the information obtained.

Students left on April 30th for the Hot Spring Health Demonstration area to begin the survey work there under the direction of W. Y. Swen and T. H. Shao. Professor J. Lossing Buck accompanied Dr. P. Z. King of the National Health Administration to Hangchow to assist in locating a typical rural area in Chekiang Province to be used for health and agricultural demonstrations.

FLOOD REFUGEES IN HONAN

Every spring the Department of Horticulture sends one of its men to Honan and Southern Shantung to collect fruits ("seeds") of *Ulmus pumila* (Chinese elm). This year very few "seeds" were to be found because the people had eaten the young shoots to avoid starvation. In many hsiens, this was practically the only food to be found and it will be some time before the new grain crop will be available. In a normal year approximately 400 pounds of "seed" are collected; this year we have only been able to secure about 20 pounds.

ADDITIONAL FARM LAND PURCHASED

The Department of Agronomy has recently purchased 295 mow of land. Of this newly acquired land, 80 mow were added to the First Branch Station of the University farm, 120 mow to the Second Branch Station, and 2 mow to the Third Branch Station. The other 93 mow, purchased at Ka Chia Wan, will constitute a Fourth Branch Station. The total area of the four branch stations now amounts to 1,296 mow.

FIELD EXPERIMENTS IN PLANT DISEASE CONTROL

By the summer of 1932, the Division of Plant Pathology hopes to have results from the the selection and resistance tests for eliminating the loss of crops by disease. The tests carried on during the year 1931-32 include:

1. Flag Smut of Wheat resistance, head selection and special tests. 631 rows
2. Wheat Rust seventh-year resistance and special tests. 568 rows
3. Wheat Loose Smut resistance tests. 1881 rows
4. Wheat Nematode resistance and inoculation tests. 1197 rows
5. Wheat and Barley propagation tests. 81 rows
6. Covered Smut of Barley head selection, susceptible strains, plot, variety, and seed treatment ($CuCO_3$) tests. 1605 rows
7. Hulled and Unhulled Barley Stripe inoculation tests. 319 rows
8. Broad Bean Root Rot resistance tests. 123 rows

Total rows planted---6405 rows
Total area occupied---51,650 square feet

WORLD WHEAT COLLECTION IN UNIVERSITY GREENHOUSE

The National Government of China purchased from Dr. John Percival, Professor of Botany at University College, Reading, England, samples of a collection of 1700 varieties of wheat obtained from all parts of the world. The Agronomy Department is now cooperating with the government by growing these wheat varieties in the new University greenhouse to provide material for the study of inheritance and cross breeding. Some of the earlier varieties have already headed out.

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STATISTICS SHOW TRANSPORTATION BY WATER TO BE MOST ECONOMICAL

Preliminary data from the Land Utilization Project of the Department of Agricultural Economics show the cost of transportation by different methods to be as follows:

Kind of transportation	Number of reports	Cost per ton mile in Chinese silver currency
Carrying by men	13	$ .36
Mule and donkey	8	.36
Cart	30	.26
Wheelbarrow	10	.24
Railroad	20	.08
Boat	45	.05

REGIONAL TESTS OF KAOLIANG

Sixteen of the the best strains of kaoliang developed by our cooperative stations after many years of scientific breeding are being included in the regional tests for 1932 carried on at Peiping, Taiku, Tsinan, Yihsien, Kaifeng, Kweiteh and Nanhsuchow.

VISIT OF THE LAYMEN'S INQUIRY COMMISSION

Dr. H. C. Taylor and Mr. Harper Sibley of the Laymen's Inquiry Commission are particularly interested in agriculture and spent some time at the University of Nanking during the visit of the Commission in China this spring. Dr. Taylor spent a day or two in each department of the College of Agriculture, paying particular attention to the research program. He gave the staff members constructive advice on the practical application of research findings to the needs of the Chinese farmers.

FACULTY CONTRIBUTION TO FLOOD RELIEF

The total contribution of the faculty of the University of Nanking for flood relief, amounting to $1819 was turned over to the Ningshu Branch of the China Flood Relief Commission, with the request that these funds be used for the repair cf the road outside the Taiping Gate from the Taipingmen Railroad Station to the Chiang Miao Road (main road). The University Construction Department was asked by the Commission to supervise the work. The equipment used in repairing the road was loaned by the Flood Relief Commission. The repaired road is 7,079 feet long and 8 feet wide with a two foot shoulder on each side.

STUDY ABROAD

Mr. Heh Ching-ming who has been a member of our Agronomy staff since 1924, left in April for a year at Cornell University. Mr. Heh holds a University fellowship for advanced study.

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Agriculture and Forestry Notes
UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

November, 1932 Number 28

THE FALL TERM OF 1932

The fall term of 1932 is now in full swing. Conditions seem very auspicious for a successful school year with the favorable political horizon and a capacity registration of 205 students in the College. We are equipped to take care of approximately 200 students so we were forced to refuse a large number of applicants who came to us on account of the non-opening of government schools in September.

Our faculty has been strengthened by the return of Mr. Paul C. Hsu (Hsu Chen) and Mr. Chang Chi-wen. Mr. Hsu has spent two years at Cornell University, Ithaca, New York, studying cooperative marketing. He will be acting head of the Department of Agricultural Economics during Mr. Buck's furlough. Mr. Chang spent a year at Cornell where he was engaged in the study of rural education in the United States and has now returned to his position as head of the Department of Rural Education. He is also assisting in the Dean's office.

Our foreign faculty which has been somewhat depleted since 1927, is reenforced by the coming of Professors S. F. Goodsell and Charles H. Riggs. Mr. Goodsell spent the past three years at the University of Missouri doing graduate work and acting as technologist and has now come to assist in the research and teaching program of the Agronomy Department. Mr. Riggs, who has spent fifteen years in Fukien Province and has just returned from a year of advanced study at Cornell University, will inaugurate a program of rural engineering in the College. Up to this time we have had no one in the College especially trained in this field and we are looking forward with anticipation to the development of this branch of agriculture.

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DEAN SIE ACCOMPANIES PARTY OF SPECIALISTS FROM NATIONAL ECONOMIC COUNCIL ON TRIP TO NORTH CHINA

On the recommendation of the League of Nations, the National Economic Council of the Chinese Government invited several foreign specialists to make a survey of the economic situation in China and submit a plan of projects to be undertaken for improving economic conditions. Among this group is Mr. C. T. Dragoni, well-known agricultural economist from Italy. Mr. Dragoni spent some days in Nanking going over the work of the College and showed particular interest in the Land Utilization project being carried on by the Department of Agricultural Economics.

At the request of the National Government, Dean Sie is accompanying Mr. Dragoni and his party on a trip to visit various organizations in North China. On their return, Mr. Dragoni will make his headquarters in Nanking while working on a proposed program to be submitted to the Council. We are proud to know that the Dean of this College has been singled out as the person best qualified to act as guide on this trip.

VISIT OF BIOLOGICAL AND GEOGRAPHICAL EXPLORER

On October 10th, Dr. Joseph F. Rock, biological and geographical explorer of note, visited the University and called upon members of the botanical staff. Dr. Rock's exploration in Burma some ten years ago as a representative of the United States Department of Agriculture cleared the botanical identity of the source of Chaulmoogra Oil which has been used for centuries in the treatment of leprosy and other skin diseases. The ethyl esters of oils from the seeds of Chaulmoogra and Hydnocarpus trees are now being used with great success for the treatment of leprosy in Hawaii and the Philippines. On one of his later expeditions in Yunnan Province, seed of hundreds of species of Rhododendron were collected.

Dr. Rock's work in recent years in Kansu, Tibet and Yunnan under the National Geographic Society has resulted in the mapping of previously unknown mountain ranges and the recording of data on the peoples of those regions. He has a very large and unusual collection of photographs of the scenery, vegetation and people among whom he has lived.

WINTER INSTITUTE OF CROP IMPROVEMENT

The Winter Institute under the Ministry of Industries and the Provincial Governments of Chekiang and Kiangsu Provinces will be carried on with the joint cooperation of Central University and the University of Nanking. The first session will be held on November 28th and an intensive instruction program continued for a period of eight weeks. The Institute is planned especially for the benefit of those who are engaged in crop improvement or in teaching subjects pertaining to agriculture and cannot leave their work except during the winter months when field work is light. The staff will include the following: Dr. H. H.Love, Director; Professor N. F. Chang, Soils; Professor S. F. Goodsell, Crops; Professor C. H. Riggs, Farm Implements; and Dr. T. H. Shen, Genetics and part of Field Technique.

ANNUAL CONFERENCE OF COOPERATORS IN CROP IMPROVEMENT PROGRAM

The annual conference of cooperators in the Crop Improvement Program is scheduled to begin November 28th. It has been intentionally planned that this conference should take place at the same time that the Winter Institute is in session so that those who spend time and money on a trip to Nanking may have the double benefit of the Conference and Institute.

SEED STORAGE

A new scientifically built seed storehouse has been constructed near the Gin House for fumigating and storing seed. This is the best equipped seed storage in China and is one of the few scientific storehouses for seed in the world.

MACHINE SHOP

Besides offering courses in Farm Engineering, Professor C. H. Riggs has established a machine shop in the Gin House to manufacture some of the simpler implements used in repairing farm machinery. The shop will also be used for student practice work.

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EXTENSION CENTER AT WUKIANG

Mr. Chang Fu-liang of the National Christian Council accompanied Messrs. Chang Chi-wen, Hsu Chen, Shao Teh-hsing and students from the Departments of Agricultural Economics and Rural Education on a trip to visit the Extension Center at Wukiang. They were especially interested in rehabilitation societies, cooperative societies and the newly organized winter course for farmers.

Last year the National Christian Council allocated $3,000 of the Flood Relief Funds for the organization of rehabilitation societies in the vicinity of Wukiang. Twenty three societies, including 2,971 farmers in 457 farm families were organized and did splendid work in helping to re-establish the farms and homes which had been affected by the flood.

The Shanghai Commercial and Savings Bank organized twelve cooperative societies including a total of 209 farmers living in the vicinity of Wukiang. Each member may borrow $50. These societies have united in building a warehouse for the storing of rough rice which is taken as security from the farmers receiving loans instead of forcing the farmers to sell their rice when prices are low.

A winter course for farmers beginning November 6th and continuing for a period of one month has been organized in connection with the Wukiang center. Thus far, 40 students between the ages of 15 and 35 have registered. Each one will bring his own rice and fuel so there will be no expenses in connection with the school. The subjects to be taught are general agriculture, "thousand characters", citizenship, and group games.

BOTANY STUDENTS VISIT CHUCHOW

Under the direction of Mr. C. Y. Chiao, the class in Systematic Botany made a trip to Chuchow to familiarize the students with the plants in their natural habitats. They selected Liang Yah Sze, a famous monastery built in the hilly country about three miles northwest of the city. The vegetation in that vicinity has been protected during the last few decades from the ruthless destruction of the people and thus presented a fairly natural appearance. About 70 species of flowering plants and a few freshwater algae were collected. Of greatest interest in the collection is a freshwater alga, *Botrachospermum moniliforme* Roth., found in a springy well. This is probably the first time this particular species has been recorded as occuring in Anhwei Province.

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Agriculture and Forestry Notes

UNIVERSITY OF NANKING

COLLEGE OF AGRICULTURE AND FORESTRY

NANKING, CHINA.

January, 1933 Number 29

DEVELOPMENT OF RURAL COOPERATIVES USING RETURNED REHABILITATION LOANS

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CONFERENCE OF EAST CHINA RURAL SERVICE GROUP

On January 18, 19 and 20th, 1933, a group of those intersted in different lines of rural work in East China will meet to compare notes on the various problems which arise in their efforts to improve rural conditions. A program of short talks, reports and discussions has been planned. The following are to take charge of the program: Messrs. P. C. Hsu, T. H. Shao and L. S. C. Smythe, Agricultural Improvement and Extension; Miss Chen Mei-yin, Dr. Yao and Mr. Sun Fang, Rural Health and Village Improvements; Miss M. Vautrin and Mr. C. W. Chang, Rural Education; Messrs. Frank Price and M. R. Yu, Religious Education and Rural Literature; and Messrs. Chu Ching, Newton Tsiang and O. J. Goulter, Rural Church and Social Welfare.

COOPERATION OF THE COLLEGE WITH THE MASS EDUCATION MOVEMENT AT TINGHSIEN

At the request of Dr. Y. C. James Yen, Director of the Mass Education Movement, Tinghsien, Hopei, the College has agreed to take charge of the crop improvement and animal husbandry projects at that station. These are two phases of a larger program of the Mass Education Movement for relieving poverty by raising the standard of living of the poorer classes.

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Three of our best trained men in crop improvement methods, Dr. T. H. Shen and Messrs. S. T. Shen and T. T. Ong of Yenching, are planning a trip to Tinghsien to survey the agricultural situation and make plans for a future program. The object of these two projects is to discover the best strains of farm crops and farm animals, preferably native, for use in that region.

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At a recent conference attended by representatives of the Shanghai Commercial and Savings Bank and of this College, it was decided that the cooperatives which were organized by the Shanghai Bank in the vicinity of Wukiang should be under the supervision of the College of Agriculture and thus become part of the whole program of rural improvement which was inaugurated by our Extension Department some years ago.

One hundred mow of land have been rented from the Shanghai Bank to be used for the production of improved seeds developed at our experiment stations. This will save transportation costs for shipping such seed to Wukiang.

We are now trying to interest the National Government through the Ministry of Health in starting health work at Wukiang. The whole program at Wukiang, as may be seen from the above mentioned points, aims at practicable methods of improving rural conditions.

SUCCESSFUL CONFERENCE OF COOPERATORS IN CROP IMPROVEMENT PROGRAM

The Annual Conference of Cooperators in the Crop Improvement Program closed on the 14th of January. The activities included four general and six sectional conferences with representatives from Yenching, Taiku, Cheeloo, Nanhsuchow, Kaifeng, Hsuchow and Yihsien Stations. Matters of common interest were discussed in the general meetings and specific problems were brought up in the sectional conferences.

The following are some of the results of the discussion: a standard method of breeding kaoliang was worked out; Chinese standard measurements were adopted; yield calculations were simplified and yet give more accurate comparisons than past methods; and several details of the work at all of our cooperative stations were systematized and unified.

NORTH CHINA CHRISTIAN RURAL SERVICE UNION

Word has come of the organization of the North China Christian Rural Service Union which has secured the approval of five of the major mission organizations interested in rural work in the North. The purpose of the Union is to make special studies of rural problems and render specialized services to Christian churches in rural communities. Present plans include agricultural experimentation, extension, training of leaders and laymen, and the distribution of literature. Our College has been asked to become a cooperating unit of this Union and to appoint one member to sit with Board of Directors. This invitation has been accepted and Mr. S. T. Shen of the Yenching Crop Improvemcnt Station has been appointed to act in this capacity.

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The Winter Intsitute closed on January 15th. Fifty-four students representing ten provinces registered and attended classes regularly. Courses were given in Farm Crops, Soils, Plant Pathology, Farm Machinery, Genetics, Economic Entomology, Plant Breeding, Statistical Methods and Plant Technique. In addition to these regular courses, series of lectures were given on Cooperative Marketing, Crop Reporting, Rice Improvement and Fertilizers for Rice Soils.

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Agriculture and Forestry Notes

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Agriculture and Forestry Notes

UNIVERSITY OF NANKING

COLLEGE OF AGRICULTURE AND FORESTRY

NANKING, CHINA.

March, 1933 Number 30

SHANGHAI COMMERCIAL AND SAVINGS BANK GIVES $63,000 FOR TWO PROFESSORSHIPS AND TEN SCHOLARSHIPS

The Shanghai Commercial and Savings Bank has made a gift of $63,000 Chinese currency toward the strengthening of rural cooperatives in China. Because of the need for well trained men in this field, the plan is to invite two specialists, one from the United States and one from Europe, to come to the University for a period of three years to train students and to give advice and help to organizations engaged in developing rural cooperative societies. Of the full amount of $63,000, $10,000 will go toward the salary and expenses of one specialist for one year, making a total of $60,000 for two professors for three years. This will not be sufficient for the total amount needed and an effort is being made to match the funds from another source, either in China or abroad. The remaining $3,000 is to be used for ten scholarships of $100 each a year for a period of three years. Such scholarships will be available to students majoring in rural cooperative work in this College.

DISTRIBUTION OF PINE SEEDLINGS

During the past half year the Department of Forestry has distributed the following pine seedlings to farmers:-

Species	Age	Number of seedlings
Pinus Massoniana	1 year	1,300,000
Pinus Thunbergii	2 years	140,000
Broad-leaved species		5,000

These were sold to farmers in Kiangsu and Anhwei Provinces at one third to one half the regular commercial price. An added advantage is that the farmers have the assurance of good stock.

PROGRESS OF COOPERATION WITH TINGHSIEN

As part of the cooperative program with the Mass Education Movement at Tinghsien for the improvement of farm crops and farm animals in the North, the authorities at Tinghsien have appointed Messrs. C. P. Tu and C. T. Tsing to their

staff. Mr. Tu worked on cotton experiments with Mr. J. B. Griffing for three years at Nanking and later was connected with the Chekiang Provincial Cotton Improvement Station at Yuyao. Tinghsien is a good cotton center and major emphasis is to be placed on the development of improved strains of cotton under the supervision of Mr. Tu. Experiments on kaoliang, millet, wheat and corn will be under the direction of Mr. Tsing who has had several years experience in crop breeding.

The results obtained from crop improvement work at our cooperative stations at Peiping, Tsinan, Kaifeng and Taiku will be available for the Tinghsien station. Close cooperation between agricultural stations in North China should eliminate unnecessary duplication of experimental work.

BOTANICAL EXPEDITION TO KWANGSI PROVINCE

The expedition under the leadership of Dr. Albert N. Steward of the Botany Department left Nanking about the end of January. After reaching Kwangsi, they spent a few days at Wuchow and Nanning for collections in these localities and have now established headquarters at Poseh. It is expected that the collectors will return with interesting material to supplement the herbarium collection.

THE UNIVERSITY HERBARIUM

The herbarium is steadily growing as shown by the following recent additions:-

United States National Museum	1056 specimens
Lingnan University	1045 ,,
Fan Memorial Institute of Biology	200 ,,
Metropolitan Museum of Academia Sinica	209 ,,

In addition the herbarium has distributed about 2000 duplicate specimens from the Shantung collections made by Mr. Chiao during the summer of 1930 among the following institutions: Cheeloo University; Edinburgh Botanical Garden, Scotland; Fan Memorial Institute of Biology; Kew Gardens, England; Lingnan University; Metropolitan Museum, Nanking; New York Botanical Garden, United States; Science Society of China; Sun Yat Sen University; United States National Museum.

NEW DEVELOPMENTS AT WUKIANG EXTENSION CENTER

Two farms have been leased for the purpose of securing additional land for the production of pure seed of Acala cotton. $3,000 were borrowed from the Shanghai Commercial and

Savings Bank for the rent of these farms and it is expected that the returns from the sale of the improved cotton seed will be sufficient to repay the loan within five years.

Plans have been completed for the organization of four new cooperative credit societies at Wukiang. The one week's training which is usually given to prospective members of cooperatives has just been completed and the societies will soon be ready to operate. Each society consists of about 20 members, each of whom may borrow about $40 for the purchase of seed and fertilizers. Repayment is made after harvest. The interest rate charged by such cooperatives is about one third of that charged by local money lenders.

An ingenious scheme has been devised for the continuation of the primary school which was on the verge of closing for lack of funds. The sum of $250 was borrowed from the Shanghai Commercial and Savings Bank for the purpose of leasing a small farm at Wukiang. Fathers and brothers of the children in the primary school give a certain portion of their time to the cultivation of this farm and the money received for the sale of the products is used for the salary of a teacher for the school.

COOPERATION WITH THE CHEELOO RURAL INSTITUTE

Mr. K. L. Yen, our agricultural extension agent for Shantung, has been stationed at Lungshan which is the center for the rural improvement program which has been undertaken by The Cheeloo Rural Institute. Mr. Yen is acting as chairman of the service center staff and is helping in the problems of reorganization. The program includes meetings for farmers; a night class; cooperative demonstrations with selected farmers, i. e. copper carbonate treatment for the prevention of kaoliang smut; the organization of a credit society and an egg marketing association; and an annual agricultural fair.

RICE IMPROVEMENT IN SOUTH CHINA

Dr. H. H. Love, Agricultural Adviser to the Ministry of Industries, who has his headquarters at the University of Nanking, recently spent about three weeks in Canton conferring with the provincial officials and the authorities of Sun Yat Sen and Lingnan Universities relative to the development of an extensive program of rice improvement in South China. Under the proposed program it is expected that the Province of Kwangtung will be able to increase the production of rice within the province so as to materially decrease its present annual import of this commodity.

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LAND UTILIZATION-POPULATION STUDIES IN KIANGSI

Three localities are being studied in Kiangsi Province: the vicinity of Kaoan and Shangao and the vicinity of Tuchang and Poyang by two staff members from the Department of Agricultural Economics, and the area around Nanchang by an investigator employed by the Kiangsi Provincial Government. The Kiangsi Government is using the same information schedules as the College and is cooperating to the extent of allowing the College to use the schedules collected by its repressntatives.

YIELD COMPARISON OF IMPROVED STRAINS OF WHEAT WITH STANDARD VARIETIES AT NANKING, NANHSUCHOW, KAIFENG AND YIHSIEN, 1926-32

Station	Variety	Average for 1926 - 1932				Remarks
		Bushels per acre		Percentage gain	Percentage gain over farmers' variety	
		Yield	Gain over standard			
Nanking	Chinese selection	30.4	10.1	49.8	56.8	Early
Nanking	Japan Bearded x Early Arcadian	35.5	17.6	98.3	105.3	Good field behavior
Nanking	Japan Bearded x Honor	35.4	16.9	91.3	98.3	
Nanhsuchow	Selected from farmers' fields at Lungtan	32.3	3.7	12.9	33.9	Early; stiff straw; resistant to nematode
Kaifeng	Selected from farmers' fields at Liaoyang	26.6	3.0	12.7	17.7	Good quality; stiff straw
Yihsien	Local selection	18.5	8.0	76.2	15.0	Good stooling

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Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

June, 1933 Number 31

$20,000 GIFT OF GENERAL CHIANG KAI-SHEK FOR AGRICULTURAL IMPROVEMENT

Recently the Kiangsi Provincial Government invited Dr. H. H. Love, Agricultural Adviser to the Ministry of Industries, and Dean K. S. Sie of this College, to survey agricultural conditions in Kiangsi and suggest a general program for improvement. During this trip Dr. Love and Dean Sie had an opportunity to discuss agricultural problems with General Chiang Kai-Shek who showed great interest in the College and in the crop improvement work which is being carried on in the North. General Chiang is interested in the further development of this program in the North, and especially in Shensi where little work of this kind has been carried on.

Mr. Swen Chong-ih of the Agronomy Department has already left for Shensi to survey the agricultural possibilities and to start a collection of wheat varieties. Next month two more representatives of the Department will follow and it is hoped that a 14,000 head selection of wheat can be made.

In a few weeks a representative from the College will go to Shensi to locate a promising site for a new experiment station, preferably near Sianfu, the capital of the Province. The College previously received a request for assistance from a private organization owning about 3000 mow of land at Yung Loh-tien about 40 li north of Sianfu, and it is hoped that some of this land may be made available for crop improvement work, with special emphasis on wheat and cotton.

The gift of $20,000 by General Chiang for the strengthening of the Crop Improvement Program is a clear indication of the interest of China's outstanding leaders in the rural problem.

AGRICULTURAL INDEX

The compilation of the Agricultural Index was started in 1924 and represents ten years' work in indexing all articles pertaining to agriculture which have been published in China in Chinese or English during a period of 75 years up to and including 1931. The index contains articles from more than 300 Chinese and 30 English publications, with a total of 30,000 articles in Chinese and 6,000 in English, all of which have direct

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bearing on agricultural subjects. The index containing about 1000 pages is being printed jointly by the National Library of Peiping and the Library of the University of Nanking with the help of funds granted by the China Foundation.

GOVERNMENT RECOGNITION OF THE NEED FOR AGRICULTURAL TRAINING

The Ministry of Education of the National Government recently passed a regulation stating that, beginning in the fall of 1933, the number of students admitted to courses in Arts, Law, Education and Fine Arts should not exceed the number admitted to Science, Medicine, Engineering and Agriculture. At present about 70 percent of the students in China are in the former group and 30 percent in the latter. The fact that the National Government of China has recognized the need for trained agriculturists, and has put this on a par with the need for scientists, doctors and engineers, promises well for the future of rural China.

CHINA FOUNDATION COOPERATION IN STUDIES ON EXPERIMENTAL METHODS AND INHERITED CHARACTERISTICS OF CROPS

For the past three years the China Foundation has made an annual grant for the furtherance of research carried on by the Department of Agronomy. The work financed by the Foundation has been confined to the development of experimental methods and inheritance studies.

In order to determine the most efficient experimental methods, "blank" tests were carried on with rice, kaoliang and millet. The data secured from such tests include length of row, number of replications and frequency of check rows needed to give the least variability. Other factors taken into consideration are the most efficient use of land and labor. The experiments have not been completed as yet but data thus far analyzed indicate that the following give the most accurate results and have been accepted as standards by many plant breeders in China:

Rice	12	foot	row,	4-9	replications,	check	every	5th row
Kaoliang	30	,,	,,	9	,,	,,	,,	5th ,,
Millet	10-15	,,	,,	4-9	,,	-	-	- -

Kaoliang and millet were selfed by "bagging" the heads and the resulting strains compared with the uncontrolled ones. The results indicate that selfing causes no significant detrimental effect, hence pure line breeding can be adopted in kaoliang and millet improvement.

Inheritance studies are being made on the reaction of wheat to flag smut and nematode, the reaction of rice to stem borer, and the inheritance of hairy leaf and awnedness in wheat. The complexity of inheritance studies of this kind makes it necessary

to continue these studies over a long period of time so that hypotheses may be confirmed by inter-crossing of many varieties. It has been suggested that hairy leaf wheat is drought resisting and crosses are being made between hairy leaf and high yielding varieties.

RICE DISEASE STUDIES—A CHINA FOUNDATION PROJECT

Ten trips have been made by members of the Plant Pathology Division to various places along the Nanking-Shanghai and Shanghai-Hangchow Railroad lines in order to identify and make observations on diseases affecting rice. Of the eighteen diseases identified, the three which seemed to be most destructive and of most common occurrence were Rice Blast, Helminthosporium and Rhizoctonia.

For Rice Blast, studies have been made during the past three years on symptoms, distribution, time of occurrence and environmental conditions. It was estimated that in some cases as much as twenty-five percent of the crop was lost in badly infested Fields. The morphology, physiology and life history of the causal organism have been studied. Last year studies were started on resistant varieties of rice but thus far no completely resistant variety has been found among the five hundred under investigation, although some are less susceptible than others.

Similar tests were made with Helminthosporium and in addition seeds were tested with various fungicides. Uspulum universal and ceresan checked the disease but neither was one hundred percent effective.

In addition to the study of the occurrence and the causal organism of Rhizoctonia, experiments were made on the most effective means of destroying the sclerotium which is the most resistant structure of the fungus and carries the disease over from year to year. Of the three methods suggested by previous workers, the use of formalin was found to be most effective but it is too expensive for general use by farmers. Further studies are needed before conclusive results can be obtained.

BOTANICAL EXPEDITION IN KWANGSI PROVINCE

Dr. Albert N. Steward of the Botany Department has returned after three months with the expedition party in Kwangsi. Messrs. S. Y. Cheo and H. C. Cheo will remain in Kwangsi until November to continue collections. Local conditions are peaceful and the Kwangsi Provincial Government has helped much in facilitating the traveling of the expedition.

Western Kwangsi shows two contrasting types of topography, rocky mountains composed of rugged limestone crags, and higher clay mountains made up of massive ridges naturally covered by evergreen, hardwood forest. The present location of the party, Ling Yuin Hsien near the Kweichow border, is adjacent to both types of mountains and the flora is abundant.

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Both vascular plants and cryptogams are included in the material being gathered this season. The specimens are dried over charcoal fires, carefully packed with napthalene flakes, wrapped in oiled paper, sewed in cloth and shipped by parcel post.

REPRESENTATIVE OF COLLEGE AT FIFTH PACIFIC SCIENCE CONGRESS

Dr. T. H. Shen, Head of the Department of Agronomy, has been appointed by the Government as a delegate to the Fifth Pacific Science Congress to be held at Victoria and Vancouver, Canada, June 1st to 14th. Dr. Shen has decided to take advantage of this trip by continuing across to the east coast of the United States and returning via Europe, thus enabling him to visit the leading crop breeding stations in both America and Europe to secure first hand information on the most up-to-date methods of instruction and research. He will return to Nanking early in September.

FELLOWSHIP AWARDED TO STAFF MEMBER OF BOTANY DEPARTMENT

Mr. C. Y. Chiao of the Department of Botany has been awarded a fellowship by the Rockefeller Foundation for study abroad. He plans to enter the University of Wisconsin for advanced work in Plant Physiology and Plant Morphology. Mr. Chiao has been on the staff of the Department since his graduation in 1924, and from 1926 to 1930 was in charge of the work. His excellent standing in teaching, herbarium and field work qualifies him for advanced study and indicates that he well deserves this opportunity for further study in his chosen field.

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NEW PLANS FOR TRAINING OF RURAL WORKERS

Beginning with the autumn of 1933 the Nanking Theological Seminary will offer a *Rural Church Major Course* which involves a combination of theological and rural training. Graduates of senior middle schools who have completed two years of basic theological work at the seminary may spend the third year at the University of Nanking Rural Leaders' Training School. During this year the Seminary students will live in the dormitories of the Training School and will elect courses pertaining to agriculture and rural problems. Practical field training will be given on the University farm. The Seminary will keep in close touch with students at the University during this year and the fourth year they will return to work at the Seminary and will be eligible for the regular Seminary certificate. The object of this combined theological and agricultural course with emphasis on field training is to develop intelligent and effective Christian leadership in rural parishes and communities.

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ASSOCIATED BOARDS

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

October, 1933 Number 32

ENROLLMENT FOR THE FALL TERM, 1933.

The Number of applicants for admission to the College of Agriculture was so large that only one out of eight could be admitted. A total of 40 students were accepted, 30 by examination and 13 on certificate from the University Middle School. The enrollment for the College is as follows:

Regular College Course	207	students
Rural Leaders Training School	130	,,
Sericultural Training School for Girls	22	,,

Of the 41 graduates of the College last June, all have positions in the agricultural or rural work for which they were trained with two exceptions which are due to health limitations.

FACULTY ADDITIONS

Professor and Mrs. B. A. Slocum have joined the College of Agriculture as representatives of the Baptist Board. Professor Slocum is head of the Division of Economic Entomology through which we hope to reach the serious problems of insect control which face the farmers of China. Professor Slocum is particularly interested in beekeeping and was for several years State Bee Inspector and Extention Bee Specialist connected with the State College of Washington. During the last few years he has been Extension Specialist in Apiculture at Cornell University. The Division of Economic Entomology will now offer sufficient courses to enable students to major or minor in this field.

Dr. A. B. Lewis has joined the staff of the Department of Agricultural Economics as statistician. Dr. Lewis obtained his doctor's degree from Cornell University last June. He served as assistant in the College of Agriculture while making studies for his thesis on the subject of Land Utilization in New York State.

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Mr. Hu Toh of the Central Bureau of Forestry, Ministry of Industries, will do part-time teaching in Silviculture. He received his doctor's degree from the University of Illinois. Dr. Hu is in charge of the reforestation program for the mountains in the vicinity of Nanking.

Faculty members who have returned from advanced study are: J. Lossing Buck, Ph. D. and Chiao Chi-ming, M.S., Agricultural Economics; Chang Teh-ren, M.S., Heh Ching-ming, M. S., and Wang Sheo, M. S., Agronomy; Kwan Chia-chi, Ph. D., Horticulture. All of the above took their advanced work at Cornell University.

RENEWAL OF CHINA FOUNDATION GRANT

Tha annual grant made by the China Foundation for the past three years for experimental work on crops and rice diseases has been renewed for another year. Under the new arrangement, $ 7,500 has been allocated to plant breeding and the same amount to plant pathology.

TSINGHWA SCHOLARSHIPS

Three graduates of the College have been successful in securing Tsinghwa scholarships for 2 to 3 years of advanced study abroad: Wei Ching-tsao, Plant Pathology; Tai Song-en, Plant Breeding; and Sheo Pio, Animal Husbandry. These scholarships are supported by Boxer Indemnity funds.

CONTINUATION OF INSTITUTE OF PACIFIC RELATIONS GRANT

The Institute of Pacific Relations through the International Research Committee has allocated funds to the Department of Agricultural Economics for the years 1934 and 1935 to complete the Land Utilization study. The amount of the grant has been reduced from former years because the International Research Committee has adopted the policy of making projects international by having the same projects carried out simultaneously in each country. The grant for 1934 is $ 5,000 U. S. currency, and for 1935, it is $ 2,500 U. S. currency for publication of the results.

ESTABLISHMENT OF THE NORTHWEST AGRICULTURAL EXPERIMENT STATION

At the request of the Shensi Provincial Government, Messrs. H.H. Love, C.W. Chang and Y.S. Chen made a trip to Shensi to locate a site for a new experiment station and for the

Northwestern Agricultural School. The location finally selected for the station is in the Liang Sun Village, Sian Yan Hsien. The National Defense Council of China has contributed $ 20,000 toward the establishment of this work. Early in the summer Mr. Chang Ching-hwa and Mr. Tsiang Teh-chi made a collection of 13,000 head samples of wheat in Shensi for improvement studies. Mr. Chang remained in Shensi for permanent work at the station and is being temporarily assisted by Mr. Peng Sheo-pang who is working on cotton.

SPECIAL RURAL LEADERS TRAINING COURSE FOR SHENSI STUDENTS

At the request of the Shensi Government, a special three year course is being opened for students from Shensi who cannot meet the requirements of the regular Rural Leaders' Training Course. The Government is providing $ 5,000 a year for this work and the first twenty students will receive scholarships of $ 250 a year. A new two story brick building for classrooms is being constructed to accommodate the Shensi students.

INPROVED SOYBEAN FOR DISTRIBUTION

Yield tests carried on for the past seven years on soybean No. C 332 have shown an average yield of approximately 40% over the standard variety. During the 1933 season the Agronomy Department grew an increased amount of seed and is prepared to distribute from 30 to 40 piculs of this seed for planting in 1934.

TRIP TO SURVEY COTTON GROWING AREAS IN HUPEH

At the invitation of the Cotton Improvement Committee of Hupeh Province, Dean K. S. Sie, Dr. H. H. Love, Mr. Y. S. Chen and Dr. L. F. Chao of the College of Agriculture, National Central University, visited some of the cotton growing areas of Hupeh to study the crop and suggest improvements. The group visited the central experiment station at Hankow and the seed multiplication work at Wufeng and Lochiasan conducted by Wuhan University. This was followed by a three-day automobile trip through the country, making observations of the cotton in the field and comparing Chinese and foreign varieties. It was noted that the quality of the foreign cotton, despite the fact that it had degenerated somewhat, was better than that of the local varieties.

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All cotton sold in Hupeh this year has been taxed by the Government with the idea of using these funds for the purchase of foreign cotton seed. The group from Nanking advised that the funds be used for the establishment of a strong experiment station in order to determine the varieties best suited for cultivation in Hupeh and provide for the multiplication and distribution of seed.

DR. T. H. SHEN ATTENDS FIFTH PAN-PACIFIC SCIENCE CONGRESS

Dr. T. H. Shen was appointed by the Academia Sinica as a representative to the Fifth Pan-Pacific Science Congress held at Vancouver, Canada, from June 1st to 14th, 1933. After attending the Congress, Dr. Shen visited the United States, England, Holland, Germany and Sweden to study recent developments in plant breeding. Dr. Shen was abroad for about four months and returned early in October.

COTTON MARKETING COOPERATIVE AT WUKIANG

A Cotton Marketing Cooperative has been added to the work of the extension center at Wukiang. There are between four and five hundred members in the organization and the first shipment of 42 bales of cotton was made to the Wusih mills this summer. In addition to marketing, the cooperative also provides for the ginning of the cotton. The cotton merchants have attempted to force the cooperative out by offering higher prices to the farmers. However, the mills have found that cotton purchased from merchants is apt to be "watered" and prefer to purchase through the cooperative.

LOOTING OF WUKIANG

On September 28th, the town of Wukiang where the College extension activities are centered, was attacked by some 200 bandits who looted the place very thoroughly. As frequently happens in China, some of the bandits were poor farmers from a nearby district who were aware of the fact that the extension center benefits the rural people. They left the supplies and equipment at our station unharmed and confined their looting to the merchant class within the town.

MR. HEH VISITS COOPERATIVE STATIONS

Mr. Heh Ching-ming who has just returned from a year of advanced study on methods of seed multiplication and distribution will have charge of this phase of the crop improvement program of the Agronomy Department. Soon after his return from the States, he left to inspect the kaoliang and millet crops at Hsuchow, Nanhsuchow, Tsinan, Peiping and Taiku. After visiting these stations, he went to the newly established Northwest Agricultural Station to help in planning a program of plant breeding.

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Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

January, 1934 Number 33

NOTES ON STUDENTS AND NEW FACULTY

The number of majors and minors in the various departments of the College for the term just ending is as follows:

	Majors	Minors
Agronomy	95	47
Agricultural Economics	51	53
Horticulture	34	72
Forestry	26	8
Botany	4	16
Rural Education	-	10
Sericulture	-	3

Of this total of 209 students in the regular college course, 14 are expected to graduate this January: 9 Agronomy majors, 3 Forestry, 1 Horticulture and 1 Agricultural Economics. In addition, 15 students from the Rural Readers Training School will receive diplomas this month.

Mr. Brian Low who holds the degrees of B. A. and M. A. in Economics from Canterbury College, Australia, joined the staff of the Department of Agricultural Economics last fall to assist in editing publications of the Department and abstracting references on economic subjects.

ECONOMIC SURVEY IN COOPERATION WITH FARMERS' BANK OF THE FOUR PROVINCES

The Farmers' Bank of the Four Provinces, Anhwei, Kiangsi, Honan and Hupeh, has agreed to turn over to the Department of Agricultural Economics $100,000 in quarterly installments beginning with November, 1933. This is to be used for an economic survey of these four provinces with special emphasis on an inventory of agricultural resources and special studies in marketing, financing of the farmers, indigenous organizations and farm tenancy problems.

RETURN OF KWANGSI EXPEDITION PARTY

Messrs. Cheo Shuh-yuen and Cheo Hoh-chang of the

Botany Department returned early in November from Kwangsi Province where they had spent eight months in botanical field work. The members of the expedition were shown every consideration by government and hsien officials in Kwangsi and experienced no unpleasant incident during the whole trip, even though the region through which they traveled has been considerably troubled by bandits in past years.

Intensive collections of vascular plants and cellular cryptogams were made in Lin Yuin Hsien, north of Poseh, during the spring and early summer, and in Yung Hsien and San Chiang Hsien, north of Liuchow during the late summer and autumn.

VOCATIONAL AGRICULTURAL SCHOOLS

The Ministry of Education of the National Government requested this College to draw up plans for the curricula, course content and necessary equipment for senior and junior vocational agricultural schools. The plan of the Government is to have separate schools for each branch of agriculture, such as Agronomy, Animal Husbandry, Forestry and Horticulture. The object of the request is to formulate a set of minimum requirements for use in agricultural vocational schools throughout China.

The suggested curricula and lists of necessary equipment were drawn up by the Department of Rural Education with the assistance of other departments of the College.

THE WINTER INSTITUTE OF CROP IMPROVEMENT

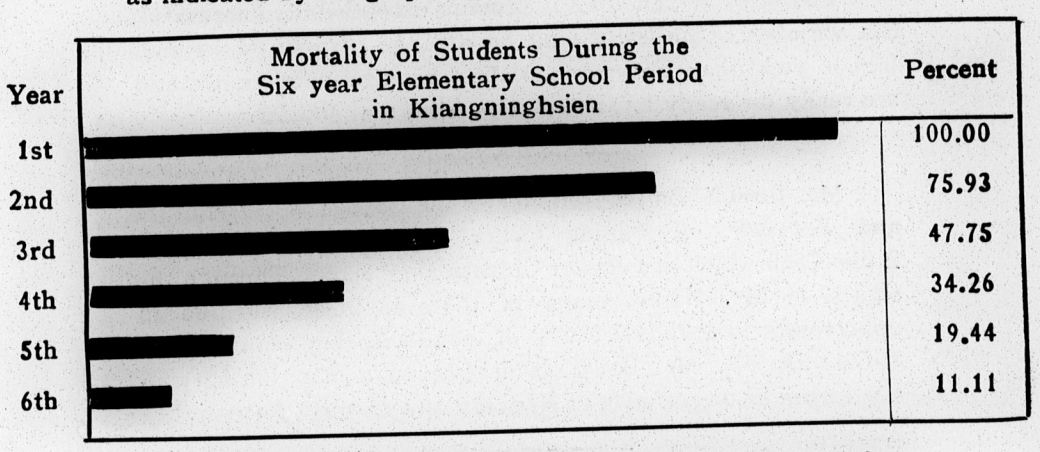
The Winter Institute of Crop Improvement, held under the auspices of the National Agricultural Research Bureau, opened the first week in December for a seven-week period. This is the third Institute of this kind, which is held for the purpose of giving special training to staff members from different experiment stations who are able to leave their work only for a little while. These Institutes were organized by Dr. H. H. Love, Agricultural Adviser to the Ministry of Industries, and constitute an important part of his work. The College of Agriculture of the University of Nanking is cooperating in the work Dr. Love is doing while in China.

The Institute is being conducted at the Bureau headquarters. Dr. T. H. Shen of the Department of Agronomy was invited to become a member of the regular staff of the Institute, teaching a course on special problems of crop

breeding in China, including breeding for heavy yield, early maturity, and disease and insect resistance. Some of our faculty members who have been invited to give special lectures are: Messrs. C. M. Heh, C. C. Hu, C. C. Kwan, S. Wang, T. F. Yu, and P. C. Hsu.

RURAL SCHOOL SURVEY IN KIANGLINGHSIEN

The Department of Rural Education undertook a survey of ten community center schools in Kianglinghsien, Kiangsu, which covers ten political divisions. The elementary educational school system in this district is ranked among the best in China. Data was collected on the training of teachers, course of study, placement of graduates, etc. One of the interesting facts gleaned from this study is the high "mortality" of students during the six-year elementary school period as indicated by the graph below.



Despite the fact that only about 11 percent of an entering class remains through the full course, the major part of the emphasis is put on the training of this small minority. Inasmuch as education means training for living as well as for vocational work after graduation, courses of a polytechnic nature should be introduced into these rural elementary schools so that students who cannot attend for more than a year or two will have gained some knowledge that will be of value when they return to their rural districts.

In view of the fact that all of the schools covered by this survey are in rural districts, it is interesting to note that the teaching of vocational agriculture ranks 16th, or last in

importance. This is probably due to the idea that students have enough contact with agriculture in their homes. However, a good opportunity for rural improvement could be utilized by teaching improved agricultural methods to children who will return to remote rural districts.

DEAN SIE VISITS COOPERATIVE STATIONS IN NORTH

During the fall of 1933, Dean K. S. Sie of this College visited seven of our cooperative stations in North China. The object of the trip, in addition to general supervision, was to investigate the possibilities of closer cooperation between stations in order to avoid duplication of experiments.

The work at Yenching is proving exceptionally successful. Six varieties of millet, giving an average of 5 to 35 percent higher yield than ordinary varieties, have been developed and are ready for ready for distribution from that station.

Mr. Joseph Bailie, founder of the College of Agriculture and Forestry, is visiting China at the invitation of the Bailie Club which consists of Chinese engineers. Through the efforts of Mr. Bailie, many of these engineers secured an opportunity to work and study in manufacturing plants in the United States. Mr. Bailie is developing a plan for agricultural work in the vicinity of Nanking and in north Anhwei.

Dr. L. J. Davis and Dean C. C. Lin of Cheeloo University visited the College in December to make plans for the cooperation between Cheeloo University, the Kiao Tsi Railroad and this College for plant breeding work.

Dean K. S. Sie of this College underwent an operation for appendicitis in December and is now convalescing. We are looking forward to his return to the College at the beginning of the new term.

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SILVER AND THE CHINESE PRICE LEVEL

An article entitled "Silver and the Chinese Price Level" by A. B. Lewis and L. L. Chang, both of the Department of Agricultural Economics, has been published as Bulletin No. 11 (New Series). The authors state that the primary reason for the decline in the general price level in China has been the rising value of silver. Prices received by farmers have been so seriously lowered as a result of the rising value of silver that they are having difficulty in meeting their taxes, debt payments, and other obligations. The authors conclude that the value of silver may continue to rise, and that if this occurs, a more severe depression can be avoided only by some change in the relation of the Chinese currency to silver.

NEW SEED DISTRIBUTION PROGRAM

For the past ten years, the Department of Agronomy has carried on an extensive program of crop improvement in order to find strains which are superior in quality, yield, and disease resistance to the varieties already in use by Chinese farmers. When strains showing superior characteristics are produced at Nanking or at one of our cooperating crop improvement stations, regional tests are made to ascertain the adaptability of the improved strains to the regions where distribution is contemplated.

Since the initiation of the crop improvement program, a number of improved strains have been produced and tested at regional stations, and a large quantity of improved seed has

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already been distributed. However, the growing demand necessitates the working out of an effective seed multiplication and distribution program. Mr. C. M. Heh who has been with the Department for ten years and has studied the methods used in seed work abroad, has been put in charge of this program. The problem of finding sufficient land for seed multiplication has been solved by distributing the improved seed to a group of farmers in a given region with explicit instructions for growing, with an agreement to buy the seed produced if all requirements for inspection and certification are fulfilled. Such a group of farms constitutes a "seed center".

"Sallee" wheat was produced at the Kaifeng Station by breeding the best local varieties with strains having such characters as white grain and stiff straw. The average yield for six years shows an increase of 17.7% over the best local variety. "Seed centers" comprising about 300 mow each have been organized under the Kaifeng Station and under the University of Honan, supervision of both centers to be provided by the Kaifeng Crop Improvement Station. Seed will be purchased by our Kaifeng Station if all requirements are fulfilled.

"Nanhsuchow No. 61" wheat, the average yield for six years showing an increase of 33.9% over the best local variety, is being multiplied on 400 mow of farmers' land in the vicinity of Nanhsuchow.

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In addition to seed multiplication at the Wukiang farm, about 270 piculs of improved "Acala" cotton have been distributed to about 200 farm families in the vicinity of Wukiang. If all farmers observe the regulations for inspection, certification and cooperative marketing of this improved seed, it is estimated that there will be from 1500 to 2000 piculs of improved Acala seed available for further distribution in 1935.

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NANKING, CHINA.

November, 1934 Number 35

ENROLLMENT FOR THE FALL TERM, 1934

The enrollment for the fall term in the various courses offered by the College is as follows:

Regular College Course	223
Rural Leaders Training School	82
Special Course for Shensi Students	36
Cotton Cooperative Training Course	48
Sericultural Training School for Girls	17

Of the 62 freshmen, 31 were admitted last January. The total of 223 in the regular course includes 62 freshmen, 60 sophomores, 54 juniors, 40 seniors, 3 special students, and 2 on probation. There are now two freshmen and two junior women students in the College.

EXPERTS IN COOPERATIVE ORGANIZATION FROM THE UNITED STATES AND ENGLAND

Dr. W. Mackenzie Stevens in one of the cooperative marketing experts whose coming was provided for by funds from the Shanghai Commercial and Savings Bank. Dr. Stevens has had fifteen years of practical experience with various types of cooperatives in the United States and in 1930 held the position of Principal Organization Expert which is the highest civil service technical position in that country. From 1917 to 1924 he was with the Marketing Division of the United States Bureau of Economics and Bureau of Markets. The most recent of his publications is a textbook on "Financial Organization and Administration". He has been released for two years by Louisiana State University where he has been a professor of marketing and financial management since 1928, to undertake cooperative work in China.

Mr. C. F. Strickland has come to China under the auspices of the China Universities Committee of London. The Committee is providing for his salary and the University is

furnishing travel and maintenance expenses from funds given by the Shanghai commercial and Savings Bank for the development of Cooperatives. Mr. Strickland has for twenty three years been registrar for cooperative societies in the Punjab, India, where there are at present 20,000 such societies.

Both Dr. Stevens and Mr. Strickland have been invited to the University to undertake the development of cooperative organization in China with particular reference to teaching courses in the University and carrying out the practical organization of cooperatives in connection with institutions conducting cooperative work. They will also be available for the development of a national program of cooperatives.

COTTON COOPERATIVE TRAINING COURSE

On July first the Department of Agricultural Economics began a nine-month training course in cotton cooperative marketing organization financed by $10,000 provided by the Cotton Control Commission of the National Economic Council. There is no tuition fee but students are required to take care of their living expenses and are charged a ten dollar fee for mimeographed material and twenty dollars for traveling expenses to cover trips to visit cooperative societies. The qualifications for entrance are senior middle school graduation and two years of rural experience. Forty eight students were admitted by competitive examinations. Both of the newly arrived cooperative experts are giving instruction in the course.

OTHER NEW FACULTY

Mr. and Mrs. Ogden King joined the Department of Agricultural Economics in September. Mr. King, M. S. University of California, was for a time instructor in farm management at Cornell University and at Washington State College. He will teach courses in agricultural economics and assist in the statistical procedure of the Four Provinces Survey. Mrs. King, B.A. University of California, is acting as secretary for the Department.

Mr. Chao Shi-ping, M.S. Cornell, is teaching in the Department of Rural Education and acting as registrar for the Rural Leaders Training School. Mr. Chao has been teaching at the University of Szechuan for two years.

RENEWAL OF CHINA FOUNDATION GRANT

The China Foundation grant of $15,000 Chinese currency has been renewed for the year 1934-35 for the continuation of studies in plant breeding and plant pathology. This is the fifth year of the grant. Five bulletins have already been published giving findings from the research undertaken with these funds.

No. 15 Rhizoctonia Sheath Blight of Rice.
(in English) -C. T. Wei

No. 16 Rice Diseases.
(in Chinese) -C. T. Wei

No. 17 Inheritance of Resistance to Flag Smut.
(in English) -T. H. Shen

No. 19 A Preliminary Report on the Inheritance of Nematode Resistance and Length of Beak in a Certain Wheat Cross.
(in English) -T. H. Shen, S. E. Tai. and W. L. Chia

No. 20 Breeding Rice in China for Resistance to the Stem Borer.
(in English) T. H. Shen and H. N. Shen

GRANT FROM THE NATIONAL GEOLOGICAL SURVEY

The National Geological Survey of China has made a grant of $840 for the year 1934-35 to help finance an assistantship in Soils. Mr. S. C. Chang was appointed to this position in September.

STAFF MEMBERS TRAVEL IN NORTHWEST TO STUDY LAND UTILIZATION AND CROPS

Dr. J. L. Buck, Mr. T. H. Shao and Mr. Brian Low traveled in the northwestern provinces for one month during the past summer for the purpose of making observations as a background for the interpretation of the data gathered in the land utilization studies. The chief places visited were, Sian in Shensi, Lanchow in Kansu, Sining in Chinghai, and the Chinghai Lake (Kokonor Lake). Travel was by motor truck beyond Sian. Dr. Buck also took the trip to Ninghsia by plane.

Observations made on the trip revealed that most of the cultivable land in the Northwest is already being utilized and

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in some places land unfit for agriculture is now being cultivated. The problem therefore in general is one of decreasing rather than increasing the land under cultivation. However, in parts of Ninghsia and Suiyuan there are limited areas which could profitably be brought under cultivation.

At the request of the Government, Dr. T. H. Shen and three graduates of the College also traveled in the Northwest last summer to make a survey of crops. East of the Liu-Pan Mountains which form the boundary between Shensi and Kansu, winter wheat is grown, while west of the mountains, wheat, barley, hulled and hulless oats, all of spring sowing, are found. All of the spring wheat varieties found commonly in the Northwest have hairy leaf and hairy sheath. In the mountainous regions where a rye crop from the middle western part of the United States was sown about ten years ago, they found an abundance of wheat-rye hybrids. Dr. Shen brought about 2000 heads of these natural hybrids back to Nanking. Some varieties of *Triticum turgidnm* which yields about a quarter more than the common varieties belonging to *Triticum vulgare*, were found along the Tao River in the southern part of Kansu.

INVESTIGATION OF INSECTS INJURING COTTON

During the past summer the College released Mr. K. F. Chen of the Division of Economic Entomology to undertake an investigation of insects affecting cotton for the Cotton Control Commission. Mr. Chen traveled in the large cotton growing areas of Shantung, Hopei and Honan and found that the most injurious cotton insects in the North differed from those in the South. The cotton aphis causes the seedling plants to wilt and die in large quantities. The Asiatic beetle is very injurious to cotton an well as to fruit trees in Shantung and Hopei. The pink cotton boll worm and the cotton pyralid are common in all cotton regions. The diamond boll worm and cutworm which are so injurious in the South did not seem to affect the crop in the North.

NEW DEVELOPMENTS IN THE SEED DISTRIBUTION PROGRAM

A cooperative agreement has been arranged between the Central Extension Committee, the Bank of China, the Ningshu Agricultural Relief Association, and the College, for the distribution of improved seed in the Ningshu area. Under this agreement the Bank loans money to the Ningshu Association which is responsible for loans to farmers; the Central Committee

provides salary for a number extension workers to instruct the farmers in modern methods of cultivation and keep records of yields; and the College furnishes improved seed, technical advice and periodic inspections. A total of 19,000 catties of wheat No. 2905 and No. 26 has already been distributed.

A similar agreement has been reached between the Pakwachow Mass Education Center and the College, and 2,400 catties of seed of wheat No. 2905 and No. 26 have been distributed.

Improved seed has been distributed from our cooperative stations for some years but accurate records were not kept of the yields obtained by farmers or of the distribution of the seed after further multiplication. The aim of the new seed program is to keep accurate records of yields and distribution over a period of years. In accordance with this plan, 6,500 catties of wheat No. 2905 have been distributed at Wukiang; 55,000 catties of wheat No. 61 at Nanhsuchow; and 3,000 catties of wheat No. 124 (Sallee) at Kaifeng. The Shanghai Commercial and Savings Bank is cooperating at Nanhsuchow and the Tientsin branch of the Bank of China at Kaifeng.

BOTANICAL EXPEDITION POSTPONED

The expedition into Hunan which was announced in the fast number was called off due to new regulations of the Academia Sinica. It is hoped that arrangements can be made for the expedition in 1935.

SUPERIOR VARIETY OF HULLESS BARLEY

A variety of hulless barley which is both disease resistant and high yielding has been found from mass selection. This new variety, known as Number 99, yields about 18 percent more than the standard variety and is very resistant to covered smut of barley. This variety is now ready for regional tests.

REPORT ON THE ACIDITY OF PADDY FIELDS IN RICE REGION

The acidity of forty samples of paddy field soils from Changshou, Kiangsu, was determined by the electrometric method with a hydrogen electrode. The results showed pH values from 6.0 to 8.2 with more than half of the soils above 7.0, which indicates an alkaline soil. Inasmuch as Changshou is one of the best rice growing regions in the province, these

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findings seem to contradict the common belief that a highly acid soil is necessary for the growing of rice. Further studies are needed to determine whether an increase in acidity will increase the yield, and to note effects of other physical and chemical properties on the rice crop.

EXHIBITION AT WUKIANG

The Wukiang Extension Center held a special three-day exhibit from October 20th to 22nd. Farm products, implements, animals, poultry, and handwork were displayed and prizes awarded. Entertainment was furnished by radio, motion pictures, dramatics and games. Representatives from the local government, the Cotton Control Commission and the Central Extension Committee gave short talks. About 6000 people visited the exhibit each day.

Mr. Tang Siang-yu, Agronomy, and Mr. Yang Wei, Agricultural Economics, were successful in receiving Tsinghwa scholarships for study abroad.

Mr. Shen Hsioh-nien is the recipient of a scholarship from the Northwestern Agricultural College in Shensi. He left in June for advanced study in plant breeding at Cornell University.

Professor S. F. Goodsell of the Agronomy Department returned to the United States in June because of ill health. Mr. Goodsell is an excellent teacher and his departure is a great loss to the Agronomy staff.

Messrs. Tai Fan-lan and Wei Ching-tsao of the Plant Pathology Division, left during the summer for advanced study abroad. Mr. Tai will study at the New York Botanica Garden and Columbia University, and Mr. Wei at the University of Wisconsin.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

February, 1935 Number 36

AMERICAN SILVER POLICY AND CHINESE ECONOMIC CONDITIONS

Last year, Dr. J. L. Buck, Dr. A. B. Lewis and Mr. L. L. Chang were asked to be members of the Committee for the Study of Silver Values and Commodity Prices under the Ministry of Industries. In November, Dr. Buck was asked by the United States Treasury Department to go to Washington to confer on the effect of the United States Silver policy on Chinese economic conditions. The evidence thus far collected in China by the Department of Agricultural Economics indicates that the United States policy of raising the price of silver before the prices of other commodities rise, has a depressing effect on prices in China.

Dr. Buck was responsible for the collection of a great deal of data on prices in China over a period of years, and the data from the Land Utilization Population Study has greatly increased the available information. Mr. L. L. Chang did a good deal of original work on Farm Prices in Wuchin. Using the data collected in the Department, Dr. Lewis, in collaboration with Mr. Chang, wrote "Silver and the Chinese Price Level", a bulletin which deals with the effect of changing silver values on the movements of prices in China.

CITY GOVERNMENT INTEREST IN WOOL WEAVING PROJECT

The success of the wool weaving project, described on page 4 of these "Notes", attracted the attention of the Mayor of Nanking, and has resulted in a contribution of $3,920 Chinese currency to be used for instruction in wool weaving. Two thousand six hundred dollars are to be used to cover the cost of a small building which has just been completed, and for equipment for spinning and

weaving wool; the balance of the fund to be used for instruction. The plan is to give six months' instruction to fifteen to twenty persons, preferably to those formerly engaged in the weaving business, selected by the Municipal Government. Four students are to be sent by the Ministry of Industries as part of the College cooperation with the Department of Village Industries, National Agricultural Research Bureau, of which J. B. Taylor is in charge.

For use in the school, Mr. Riggs is building a "Churchill" loom patterned after one used in Berea, Kentucky, from photographs supplied by Dr. Lewis Smythe of the Sociology Department, with the permission of the Churchill weavers.

HORTICULTURAL INTEREST IN FUKIEN

Mr. C. C. Hu, Head of the Horticulture Department, left in January for Foochow to confer with the Reconstruction Bureau of Fukien on the estabilshment of a citrus fruit experiment station and the possibility of cooperation with this College. Inasmuch as Nanking is unsuitable for the growing of citrus fruits, it is of special interest to the Department to cooperate with Fukien for experimental work in citrus culture. From Foochow, Mr. Hu will go to Formosa to study horticultural conditions.

Mr. S. H. Cheng of the same department went to Fukien in December to study the packing, storage and transportation of citrus fruit. He has sent ten boxes of fruit to the University which will be examined for injury during shipping. The good fruit will be used for storage experiments.

COOPERATIVE SPECIALISTS TRAVEL IN NORTH CHINA

Mr. C. F. Strickland traveled in Kiangsu, Shantung, Hopei, Shensi and Hupeh during the fall in order to study cooperative societies in those provinces and to give talks on cooperative organization. The movement was found to be spreading rapidly and enthusiastically. It is possible that more time should be given to the training of organizers and farmers in order to insure the building up of the societies on a firm foundation. Some excellent credit societies, connected for the most part with the China International Famine Relief Commission, were observed in southern Hopei,

and groups of societies in the neighborhood of Tinghsien, Hopei, and Tsaoping, Shantung, were of good quality.

Cotton marketing has been undertaken in Hopei, both by credit unions and by special marketing societies, the latter being promoted by the Agricultural Improvement Association (Hwa Pei Nung Chang Yen Chu Kai Chang She). Shensi cotton marketing societies are larger and somewhat more businesslike, but are in danger of outgrowing their strength.

Mr. Strickland discussed plans with the societies for the formation of an official cooperative bureau and an unofficial cooperative institute in each province.

Dr. W. M. Stevens recently returned from a trip of several weeks into Shensi, Hopei and Shantung, part of the time in company with Professor Paul C. Hsu of this College. Dr. Stevens is also of the opinion that the societies are growing and expanding too rapidly to allow time for the adequate training of leaders. On the other hand, the cooperative movement in China is supported by three very strong factors; first, the enthusiasm and altruism of its leaders; secondly, the financial resources available; and thirdly, the high character and honesty in financial affairs of the large proportion of farmers and villagers.

SURVEY OF FRUIT CULTURE IN NORTH CHINA

Mr. C. C. Hu spent the month of September traveling in North China to study fruit culture. He visited Tinghsien and Paotingfu which are especially noted for pears; Fang San, Hopei, for chestnuts and Chinese persimmons; Sien Hwa, Chahar, for grapes: Hwai Lei, Chahar, for apples and crabapples introduced from Central Asia; Tientsin for the fruit market; Shanhaikwan and Chinchow for their apple region;and Peiping, Tunghsien and Changli for general fruit culture. He brought back to Nanking herbarium specimens, drawings and information on geographical location and growing conditions of varieties of fruit observed.

Mr. Hu also brought back samples of about fifty varieties of fruit, mostly apples, from the experiment station in Yungkuochien,

Fengtien, established by the Southern Manchurian Railway.

WOOL WEAVING PROJECT

In 1933, the Sociology Department of the University undertook to establish a wool weaving center to give employment to a small group of weavers, with the idea that the manufacture of the woolen goods would furnish employment for workers in the declining silk industry. The two most important items to be considered were, first, the need for supplying machinery at the lowest cost possible, and secondly, since different factors have to be taken into consideration than in the weaving of silk, new methods and equipment are required. Mr. S. Dean who had made considerable progress on a similar project in Peiping was responsible for the training of the first weavers and for some equipment. Mr. C. H. Riggs of the Rural Engineering Division, was called upon to assist in improving the machinery.

One of the first needs was for an inexpensive machine for "teaseling", the process of raising the nap, making the material soft and smooth by concealing the threads. The teaseling machine used in the United States is too expensive for use in this project. The hand methods used in China are inclined to turn out uneven material because of the difficulty of holding and moving evenly large pieces of material, such as blankets. Mr. Riggs built a frame which holds and stretches the material to be teaseled, allowing the operator to push the teasel across the cloth with his hand, at the same time moving the entire frame by the use of a foot lever, thus making possible a movement of twice the distance. In other words, the device holds' moves and stretches evenly in one operation; works about three times as fast as the old method, and cost about eight dollars gold to build. Plans are on hand for building an automatic teaseling machine which will cost about fifty dollars. This will be on the same principle as the large machines used in other countries, but much smaller and less expensive.

Mr. Riggs is working on a hand spinning frame on the same principle as a power driven machine, that will spin steadily and evenly. One of the old looms has already been rebuilt and enlarged.

At first the finished material was ironed merely by spreading the cloth on a large table and ironing with an ordinary household iron. Naturally, this is not adequate for newly woven material. Mr. Riggs built an ironing table with rachets and a weight which holds the material firmly and allows for rolling up the material by the use of rachets. He also arranged for the casting of a thirty pound iron and supervised the making of dye vats, firebox and grates.

All of these mechanical devices have greatly improved the finished product and have been largely responsible for putting the project on a profitable basis.

COOPERATION WITH NATIONAL AGRICULTURAL RESEARCH BUREAU

Dr. T. H. Shen has accepted the position of Chief Technician at the National Agricultural Research Bureau, and is now dividing his time between the University and the Bureau. He resigned from the headship of the Department in August, 1934, and Mr. Wang Sheo has been appointed in his place.

Mr. C. C. Kwan of the Horticulture Department spends two days a week at the National Agricultural Research Bureau carrying on experimental work on sweet potatoes and rape. Mr. Kwan teaches courses on vegetable crops at the University and is carrying on research on Brassica improvement.

COOPERATIVES IN SHENSI

The services of Professor Paul C. Hsu who is on the staff of the Department of Agricultural Economics, have been loaned to the Shanghai Commercial and Saving Bank to help promote cooperative organization in which both the University and the Bank are interested. Part of Mr. Hsu's time is spent in Shensi as Head of the Cotton Improvement Bureau of Shensi Province established by the Cotton Industries Commission of the National Economic Council and the Bureau of Reconstruction of Shensi Province.

The purpose of the Bureau is to distribute improved cotton

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seed and stimulate the organization of cooperatives for improving the production, ginning and marketing of cotton. Loans are repaid in seed which is distributed the following year. There are now seventeen cotton marketing cooperatives and a large number of cotton production societies, covering an acreage of about 220,000 mow (approximately 36,500 acres) of cotton.

PLACEMENT OF WINTER GRADUATES

All of the eighteen graduates of the College in January, 1935, have positions as follows:

5 as assistants in the College
4 in Government bureaus or commissions
3 in forestry or crop improvement stations
2 in rural finance
2 as teachers in agricultural schools
1 on a private farm
1 as editor of the College agricultural newspaper

HERBARIUM

From the two expeditions which have been carried on in cooperation with the Arnold Arboretum and the Farlow Herbarium of Harvard University and the New York Botanical Garden, the following numbers have been added to the herbarium.

from Kweichow 1000 numbers of vascular plants
900 numbers of cellular cryptogams
from Kwangsi 1200 numbers of vascular plants
1400 numbers of cellular cryptogams

ACTIVITIES AT WUKIANG EXTENSION CENTER

Two evening schools, including about 90 students from 9 to 25 years of age, were started early in December at Wukiang. Classes are held from 6 to 9 each evening, and include the "thousand characters", use of the abacus, agriculture, hygiene, party principles, songs and games.

Members of cooperative societies stored about ten thousand piculs of rice and some seed cake' which is used as fertilizer' in the storehouse belonging to the extension center. These stored goods are used as security for loans, and enable the farmers to hold their rice until prices are favorable.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

May, 1935 Number 37

APPOINTMENT OF DEAN SIE AS DIRECTOR OF THE NATIONAL AGRICULTURAL RESEARCH BUREAU

Dean K. S. Sie of this College has been appointed Director of the National Agricultural Research Bureau of the Ministry of Industries of the National Government. The appointment became effective in May but Dean Sie will continue to spend full time at the University until July. According to the action of the Board of Directors, Mr. Sie has been granted a year's leave of absence to take up his duties as Director of the Bureau. However, he will retain his official position as Dean of the College but without salary, giving as much time to the deanship as is consistent with his work at the Bureau. The College is justly proud of the honor which has been conferred on the Dean.

Other members of the staff, narrely, Dr. T. H. Shen and Dr. C. C. Kwan, are giving part time service to the Bureau. The appointment of Dean Sie as Director of the Bureau is another link in the cooperation between the two organizations

FORESTRY BULLETIN PUBLISHED

A project on the mechanical properties of indigenous woods was introduced into the forest research program some years ago by Dr. W. C. Lowdermilk, now with the United States Soil Erosion Service. Professor H. F. Chu took up this project, and in cooperation with the forestry staff at Central University, has tested the mechanical properties of about 100 species of Chinese woods. The results thus far obtained have been published in a bulletin in Chinese entitled "Mechanical Properties of Woods Grown in Central China" written by Mr. H. F. Chu of this College and Mr. C. H. Lo of Central University.

COTTON COOPERATIVE TRAINING COURSE COMPLETED

In May, 1934, the Cotton Commission of the National Economic Council asked the College to establish a cooperative training course to train about fifty workers, during a nine-month period beginning July 1st, 1934, and ending March 31, 1935. The Commis-

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sion allocated $10,000 for this purpose. There was no charge for tuition but a ten dollar fee for mimeographed material and twenty dollars for traveling expenses were collected, surplus to be returned at the end of the term. Board and lodging were the students' responsibility.

The training period was divided into two semesters of 19 weeks each, from July 1st to November 11th and from November 21st to March 31st. Courses were given in: Cooperative Cotton Marketing, Cooperative Law, Cooperative Accounting, Cotton Marketing Engineering, Cooperative Documentary Writing, General Agriculture, Cotton Grading and Inspection, Rural Finance, Business Management, Agricultural Investigation and Statistics, Rural Organization and Extension. Field practice and seminar on cooperative problems also formed part of the course.

Qualifications for entrance included: graduation from senior middle or normal school, two years of rural experience, and preliminary and advanced entrance examinations. Forty nine students were admitted, representing nine provinces.

Courses were given by C. F. Strickland, W. M. Stevens, T. S. Li, T. C. Yang, C. H. Riggs, T. S. Shao, Y. L. Chang, P. Eoyang, M. I. Chow, M. C. Yang, and O. King.

Before the final examination, the students spent one week in Shanghai observing cotton ginning and packing, the cotton exchange, and other phases of the cotton industry.

After graduation the students left to take up positions assigned by the Cotton Commission.

BOTANICAL TRIP INTO HUNAN

The Botany Department is planning to send a collecting expedition into Hunan this June. This will be the third in the five year program of collections into the less easily accessible provinces, the first two being into Kweichow and Kwangsi. The Arnold Arboretum and the Farlow Herbarium have contributed to the expenses of these field trips.

BULLETIN ON AGRICULTURAL CREDIT

A thirty-two page paper entitled "Organization and Operation of a Cooperative Agricultural Credit System" has recently been mimeographed and bound by the Agricultural Economics Department. It describes and discusses the organization and operation of each of the four permanent units of the Farm Credit Administration of the United States which is a cooperative agricultural credit system. It also discusses the method of appraising agri-

cultural land for long term loans. Anyone interested in the study of agricultural credit in China may secure a copy from the Agricultural Economics Department.

EXTENSION ACTIVITIES

Under the direction of the Departments of Agricultural Economics and Extension, a four-day training class was held at Molinkwan for officers of newly organized credit societies. There are about fifty such societies and four officers from each attended the class. The purpose of the class was to give the representatives some of the basic principles of the working of cooperative credit societies, and teach them the simplest methods of keeping records and accounts.

The magistrate at Wukiang, the College Extension Center, gave 3000 trees to the center for distribution to farmers. A thirty-li row of shade trees was planted on one of the roads leading out of Wukiang. A member of the Forestry Department at the University was sent to Wukiang to teach the farmers whose land bordered the roads, how to plant and care for the trees.

The cooperative grain storehouse at Wukiang proved unusually worth while this past winter. The Provincial Government of Anhwei set up a tax office on the border between Kiangsu and Anhwei to levy duty on the rice shipped out of the province. Rice was taken in payment and was to be used for famine relief in Anhwei. The result of such action might be to make rice very cheap in Anhwei and very expensive in Kiangsu. Instead of this, the farmers stored their rice, a total of some 10,000 piculs, until the tax office was removed by the National Government. The farmers then were able to obtain a much better price than if they had been forced to sell or pay taxes some months earlier.

DISTRIBUTION OF TREE SEEDLINGS

Because of the efficient and economical methods of nursery practice now employed, the extension nursery of the Forestry Department has been able to sell a large amount of good nursery stock at about half the commercial price. The seedlings have been distributed to individual farmers and to government forest stations within a radius of thirty miles of Nanking. Seedlings distributed this spring are as follows:

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Species	Age	Number of Seedlings
Pinus Massoniana	1 year	450,000
Pinus Thunbergii	1 year	70,000
Broad-leaved species	2-4 years	60,000

CONFERENCE ON COOPERATIVES

From March 10th to 12th a conference on cooperative organization and management, and government policy toward cooperatives was held at the University of Nanking. The Conference was held in English because of the presence of Western experts on cooperatives. Delegates were from the China International Famine Relief Commission, the Ministry of Industries, the National Economic Council, the Nanking Municipal Government, the National Agricultural Research Bureau, the Tinghsien Mass Education Movement, the North China Farm Products Improvement Society, Chekiang University, Central Political Institute, and the University of Nanking.

Talks were given on various phases of the cooperative movement, such as, "The Better Coordination of the Cooperative Movement", emphasizing organization, registration, laws, auditing; "Financing of Societies", including loans for credit and marketing societies, productive and unproductive loans; "Education of Organizers and inspectors", such as grades, duties, training, financing of; "Credit Societies", their functions, relation with other societies, security and rate of interest; 'Marketing Societies", including marketing agreements, pooling, seasonal holding and cooperative warehousing, financing and management; and "Utilization and General Purpose Societies", which involve technical assistance, social and health functions, etc.

Following this, another conference was held at the National Economic Council under the auspices of the Council, the Ministry of Industries and the Executive Yuan. This was conducted in Chinese in order that a larger group might take part.

In February, the College assisted in conducting a week's series of lectures in Shanghai on cooperative credit and cooperative marketing to a group of bankers, about seventy five in all, from various parts of China. The course was under the auspices of the Shanghai Commercial and Savings Bank.

Dr. J. Lossing Buck who has been in Washington, D. C. at the invitation of the United States Treasury Department since last November, returned to Nanking this month for a short period.

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UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

October, 1935 Number 38

ENROLLMENT FOR THE FALL TERM OF 1935

This fall there are 54 new students in the College and 61 in the Rural Leaders Training School. Total enrollments are:

Regular College Course	258
Rural Leaders' Training Course	122

There are now five girls regularly enrolled in the Agricultural College. Five of the men in the Training School are Nanking Theological Seminary students who are taking one year of agricultural work as special preparation for the rural ministry.

C. W. CHANG APPOINTED ACTING DEAN

Mr. Chang Chi-wen was appointed acting dean following the granting of a year's leave of absence to Dean K. S. Sie to take up the position of Director of the National Agricultural Research Bureau. Mr. Chang retains his position as Head of the Department of Rural Education.

CHINA FOUNDATION GRANT

The China Foundation made a grant of $5,000 for the continuation of studies in plant breeding and pathology. This is the sixth consecutive year that the Foundation has contributed toward these two phases of the College work and. while the amount is less this year than it has been in preceding years, it is doubly appreciated because of the general financial stress.

Of the $5,000 granted, $4,000 is to be used for rice disease experiments and $1,000 for experiments on the inheritance of disease resistance in crops.

BOTANICAL EXPEDITION INTO HUNAN

The third expedition of the Botany Department's five-year collecting program is now at work in southern Hunan. The party located first in Changning Hsien, an area of managed forests of Cunninghamia (Chinese Fir) used for poles, and of bamboo for paper. Though the slopes are periodically cleared in the process of forest management, it is interesting to note that the streams are mostly clear and there is very little erosion. The party has now

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moved its base of operations to a new center between Sinning and Wukan. Dr. Steward, Head of the Department, visited the party during the first three weeks of August.

SEED MULTIPLICATION AND DISTRIBUTION

This fall, 39,000 catties of wheat seed No. 2905 and 1,000 catties of No. 26 are being distributed. However, even this quantity does not take care of the demand. The corn crop was unusually good this fall and it is expected that after threshing there will be a large quantity of seed of "Chinese Yellow", a selected local variety, for distribution.

The seed laboratory equipment ordered from the United States has arrived. This facilitates the development of the seed multiplication and distribution program.

A new variety of barley, No. 99, which has shown promising results during the last five years' experiments, is to be multiplied for distribution.

POSTGRADUATE WORK IN AGRICULTURAL ECONOMICS

The Ministry of Education has authorized postgraduate study and the conferring of a master's degree in Agricultural Economics to be given after two years of advanced work have been completed and a thesis submitted. Preparations are being made this year and it is hoped that the Department will be ready to accept advanced students in the fall of 1936.

CURRICULUM CHANGES IN RURAL LEADERS TRAINING SCHOOL

The Training School has changed its curriculum for the second year with the idea of introducing some specialization. In the past all students took the same course. In the future they will have a choice of emphasizing Plant Production or Agricultural Economics.

Plant Production will include plant breeding, economic entomology, pathology, pomology, horticulture, and plane surveying. Agricultural Economics will include farm management, marketing of farm products, rural finance, and cooperative organization and administration.

FACULTY AND STUDENTS TAKING ADVANCED STUDY ABROAD

A unusually large number of students and faculty left during the past summer for graduate study in America or Europe.

Name	School or Country	Subject	Special Fund
Chang Wen-tsai	London University	Horticulture	British Boxer Indemnity Fund
Chang Yuen-wei	U. of Minnesota	Agr. Education	
Chen En-feng	Germany	Soils	
Cheo Kwoh-hwa	U. of Minnesota	Forestry	
Chia Wei-liang	Cornell University	PIant Breeding	
Hwang Liang	U. of California	Plant Pathology	
Hwang Shui-tsai	U. of California	Forestry	
Kwan Cheh-liang	Cornell University	Plant Breeding	Hupeh Scholarship
Li Feng-swen	U. of Minnesota	Entomology	
Ling Yuen-yang	U. of California	Animal Husbandry	
Pao Wan-ming	U. of Minnesota	Plant Breeding	
Peh Sih-chiu	Cornell University	Plant Breeding	
Swen Chong-i	Germany	Plant Breeding	Anhwei Scholarship
Tang Siang-yu	Cornell University	Tobacco Breeding	Chinghwa Scholarship
Tsu-Shao-ping	England	Animal Husbandry	British Boxer Indemnity Fund
Yang Wei	Cornell University	Cooperatives	Chinghwa Scholarship
Yuen Chia-hsien	U. of Minnesota	Entomology	

HEAD OF THE DEPARTMENT OF RURAL EDUCATION VISITS KWANGSI

At the invitation of the Provincial Government of Kwangsi, Mr. Chang Chi-wen spent two months during the past summer as adviser to the Commissioner of Education, working on the organization of vocational agricultural schools for the province. During the period of Mr. Chang's stay in Kwangsi, two schools of senior middle school standing were opened for the training of teachers of agriculture in rural primary schools. A farm for practical training is run in connection with each school.

Mr. Chang reports that Kwangsi is apparently one of the most peaceful and progressive provinces in China at the present time. The Provincial Government has already instituted many reforms in administration, taxation, road-building and education. Twenty graduates of our College and Training School are employed in the new program and there is room for a larger number.

FRUIT STORAGE

At the request of the Hwang Yuen Hsien Government of Chekiang, the Department of Horticulture is cooperating in a study on the storage of oranges. Professor S. H. Chen is spending a few weeks in Chekiang to gather materials for experiment.

LIST OF NEW SERIES BULLETINS TO DATE

The bulletins in this list are all of a technical nature and represent reports on experimental work carried on by the faculty of the College. Numbers 1 to 12 were listed in Number 34 of this

publication.

13. Pythium Damping Off of Cucumber.
14. Seed Treatment Experiments for Controlling Kernel Smut of Millet. (Chinese)
15. Rhizoctonia Sheath Blight of Rice.
16. Rice Diseases. (Chinese)
17. The Inheritance of Resistance to Flag Smut in Ten Wheat Crosses.
18. Report of Soybean Improvement Work of the Department of Agronomy, University of Nanking. (Chinese)
19. A Preliminary Report on the Inheritance of Nematode Resistance and Length of Beak in a Certain Wheat Cross.
20. Breeding Rice in China for Resistance to the Stem Borer.
21. A Study of Methods of Certification and Distribution of Seed of Improved Strains. (Chinese)
22. A Study on the Dates of Unfolding and Shedding of the Leaves of Deciduous Trees in Relation to Transplanting. (Chinese)
23. A Study of Shunhwachen Rural Community Interests. (Chinese)
24. Studies of Some Remedies for the Missing Plants in Kaoliang Experiments. (Chinese)
25. Study of Natural Crossing in Kaoliang. (Chinese)
26. Regional Tests of Promising Varieties of Wheat. (Chinese)
27. Inheritance of Some Plant Characters in Cabbage.
28. Storage of Citrus Fruits. (Chinese)
29. Notes on the Storage and Market Diseases of Fruits.
30. A Dry Rot of Pomegranate Fruit Caused by *Zythia Versoniana*.
31. The History and Distribution of Citrus Fruit in China. (Chinese)
32. Effect of the Length of Row, Number of Replications and Frequency of Checks on the Accuracy of Soybean Experiments under the Environmental Conditions of Nanking, China.
33. A Preliminary Study on Bacterial Soft Rot of *Brassica pekinensis* and other Vegetables in China.
34. A Preliminary Study of the Resistance of Sorghums to Stem Borer. (Chinese)
35. A Preliminary Report of Studies on Littoral Vegetation in the Vicinity of Amoy.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

January, 1936 Number 39

GRANT FROM THE ROCKEFELLER FOUNDATION

The Rockefeller Foundation has made a grant of $5,500 U.S. currency and Yuan 55,000 (Chinese currency) for special projects in agricultural economics from October 1st, 1935 to September 30, 1936. The Foundation is also providing five fellowships for graduate work in Agricultural Economics which is scheduled to begin next fall. A detailed account of the special projects is given on page four.

MUNICIPAL GOVERNMENT INTEREST IN IMPROVEMENT OF SUBURBS

The Municipal Government of Nanking has organized a committee to work toward the betterment of the large semi-rural population living outside the walls of Nanking. Unlike western cities, the inhabitants of these suburbs are largely small-scale farmers.

On the 15th and 16th of January the committee made a tour of inspection and decided to establish a training center in each of the three largest districts to instruct such local leaders as teachers in primary schools, village heads and officers of cooperative societies. Present plans are that the National Agricultural Research Bureau will be responsible for the Shao Ling Wei district where the buildings of the Bureau are located; National Central University will be in charge of the Shan Sing Ho district where it has an experimental farm; and the University of Nanking will take care of the Yien Tze Chi area which is near the University farms.

RETURN OF BOTANICAL EXPEDITION FROM HUNAN

The last member of the Department of Botany's Hunan expedition returned safely with all specimens and equipment intact at the end of December. This is particularly gratifying as the communists returned to the area around Sinning about the time the work was finished, causing some delay in moving out the equipment and

specimens, and involving some anxiety as to the safety of the expedition. The party was in the field somewhat over five months though it was not possible for all members to be present for the full time. Over 600 numbers of cellular cryptogams and about 750 numbers of vascular plants were collected. The work was done from two centers, one in Changning Hsien and one in Sinning Hsien. The work in southern Hunan was expedited by the recent rapid development in modern means of transportation. Bus service is regular and railway connections are nearing completion so that through trains from Wuchang to Canton will be running in the near future.

WUKIANG EXTENSION CENTER BUDGETS

Expenditures for 1934-35	Yuan 11,832.74
Received from sale of products and outside aid	4,202.01
From University budget.....	7,631.73
Wukiang budget for 1935-36	9,628.65
Expected amount from sale of farm products	2,850.00
From University budget.....	6,778.65

There are five branches of extension work at Wukiang, rural education, health, farm production, social organization and co-operatives. Beginning January first of this year it is expected that the cooperative work will be on a self supporting basis. Beginning with the new fiscal year, it is hoped that the sale of products from the school farm will support the school. The school is of primary grade with about 70 students. Parents of children attending the school cooperate in working on the farm instead of paying tuition directly in cash.

It is the aim of the University to work gradually toward making Wukiang a self-supporting center to serve as an example of what can be done in rural districts. The establishment of the cooperative branch of the work on a self-supporting basis is one of the first big steps toward the realization of this aim.

KINCHENG BANK AIDS CROP WORK IN NORTH CHINA

Through the activity of the Society for the Improvement of Agricultural Products in North China, the Kincheng Bank gave $10,000 for crop improvement in the North. The responsibility for the use of the funds was entrusted to the University of Nanking. The crop work carried on with this grant was done at Yenching Crop Improvement Station which is the largest cooperative station of the College in the North, in the period between July and December, 1935.

COTTON VARIETIES TESTED

A new strain of cotton, known as Acala 481, obtained by selection, has given a higher yield and shown better fiber strength than the common Acala variety in recent tests.

Of the foreign cotton varieties tested, Delfos No. 531 yielded 196.2 catties per mow in 1935 which is a gain over the check of 82.3 catties. Stoneville No. 4 yielded 133.2 catties per mow in 1935 which is about 6 catties less than the check but shows other desirable characters. Further experimentation is needed before definite conclusions can be drawn.

WOOL WEAVING PROJECT

Fifteen students were admitted to the special six-months training course for wool weaving which was started on December 9th. The new building constructed for this project with funds given by the city government is now in use, with looms on the first floor and the second floor serving as a dormitory.

Under the leadership of Dr. Lewis S. C. Smythe, the "Nanking Weaving and Tailoring Cooperative Society, Limited" has been organized with the idea of putting the wool weaving project on a commercial paying basis. There are now eight producer and forty consumer members in the Society.

TENTH ANNUAL CONFERENCE ON CROP IMPROVEMENT

It has been decided that, beginning with this year, the annual conference of cooperating crop improvement centers will be held in turn at the various stations. The object of this is to familiarize all stations with the work being done in other parts of the country, and also to stimulate the interest of the local people in the crop program. The Conference this year will open on January 20th at Kaifeng, Honan, with representatives from the Provincial Government of Honan and the Bank of China in addition to one or two men from each station.

Honan is one of the large wheat producing areas of the country and particular attention will be given to the extension of improved wheat No. 124 in that province.

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SPECIAL PROJECTS UNDER ROCKEFELLER FOUNDATION GRANT

An Agricultural Prices project includes the compilation and comparison of current data on money and prices in China. Daily quotations have been tabulated beginning with August 1st, 1934, and are being kept up to date. On the basis of the original data, comparative indexes have been compiled and are being kept up to date and charts constructed. It is planned to use these data as the basis for periodical mimeographed releases on the subject of prices, money, and economic conditions in China, especially as they relate to the welfare of the agricultural population. The project also includes a compilation of index of prices received by farmers and prices paid by farmers in the Nan Men Market, Nanking, and similar studies for Nanhsuchow, Anhwei, and Wuchin, Kiangsu.

A second project is the Farm Business Organization project which has the twofold purpose of (1) studying farm business to ascertain the recommendable features of an individual farm, and (2) determining whether the opening up of uncultivated hill land is profitable. Wukiang, Molinkwan, and Nanhsuchow are the three regions chosen for the farm business survey, and from the data obtained it is planned to work out a suitable farm organization for each region studied. The opening up of hill land for cultivation will be studied in five provinces, Kiangsu, Chekiang, Anhwei, Kiangsi, and Hupeh.

A study of farm implements is now being made in connection with the Farm Business Organization project. During the summer student workers filled 1528 field records. Extensions and calculations on the records are now being made. A large collection of pictures of farm implements were taken in various parts of China, and these are now being catalogued and indexed for permanent record.

Another study deals with the diet of farm families. Two phases of the work are now in progress: (1) collection of information on kind and amount of food consumed, and (2) the chemical analysis of food products consumed, including raw, processsed and cooked foods. The results of this survey will be used in a third phase of the project which is to improve the diet of farm families by encouraging them to grow proper foods for home consumption.

Special training in cooperative organization was given this semester and will be continued next term. Twenty-four students from various sections of China are enrolled. Their course includes field practice as well as lectures in rural sociology, farm management, cooperative organization, and agricultural statistics.

ASSOCIATED BOARDS

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

May, 1936 Number 40

CHINA FOUNDATION CONTINUES TO ASSIST IN PLANT DISEASE CONTROL

The China Foundation recently voted a grant of $6,000 for the continuation of research in plant disease control. This is the seventh consecutive year that the Foundation has helped to support this phase of agricultural improvement and the College is very grateful for this continued interest.

TSINGLUNGSHAN COOPERATIVE FOREST

Among the projects inaugurated by Joseph Bailie, the Founder of the College, was the colonization of Tsinglung Mountain covering an area of about 2,000 mow within half an hour's drive from Nanking. Through Mr. Bailie's efforts a Famine Colonization Association was formed which took charge of the colonization and reforestation of the mountain. When the Association dissolved, the land reverted to the Kiangsu Provincial Government and forestation was continued so that now about a quarter of the whole area is covered with trees. The Government has asked the College to cooperate in reforesting the entire area, and a thirty year agreement has been signed whereby the Provincial Government provides the land and the College takes care of reforestation. Proceeds from the forest will be used to repay the investment made by the College in nursery stock, labor and implements.

This area will serve as a summer practice station for forestry students who in the past have been compelled to scatter to a number of distant government forestry stations.

JOSEPH BAILIE, FOUNDER OF THE COLLEGE

The Bailie Club formed in honor of Joseph Bailie, Founder of the College of Agriculture and Forestry of the University of Nanking, is planning to place a bust of Mr. Bailie in the building which bears

his name, and to obtain Government recognition of Mr. Bailie's services to China.

Mr. Bailie came to China in 1890 as a Presbyterian missionary and from the day of his arrival worked to reduce the poverty which he found. One of his big projects was the organization of the Nanking Branch of the Colonization Association on the slopes of Purple Mountain, enabling flood refugees to support themselves on a small plot of land and at the same time reforest the mountain. In the same year other colonies were started giving homes to about five hundred people, and a number of wooded hillsides in China today are concrete evidence of this early interest in refugee relief. The need for trained men to instruct farmers gave rise to the establishment of an agricultural department in the University which later developed into the College.

In 1919, Mr. Bailie left Nanking to start colonization work in Manchuria. While there, he suffered serious injury from a bandit attack and for a number of years was prevented from doing his usual strenuous work.

Another of his large projects was the organization of the China Industrial Institute in connection with which, at great expenditure of time and money, he arranged for about eight hundred young Chinese engineers to work in factories in the United States, and it is from among these men that the Bailie Club has sprung up.

At the invitation of the Club Mr. Bailie returned to China a few years ago and continued his work for flood and drought sufferers, and even after he was compelled to leave China in 1934 because of failing health, he continued to show his interest by sending back seeds which he thought might be of value in combating drought conditions. He died in the United States in 1935 at the age of 75.

For more than forty years Mr. Bailie devoted his life to service in China, and while the work he started will be a permanent memorial to him, his many students and friends wish to have Government recognition for his untiring devotion and service to the people of China.

VOCATIONAL COURSE IN SERICULTURE FOR GIRLS

The two-year course in sericulture opened this spring with a registration of 22 girls. A class of 16 graduated from this course last summer.

Students in this special course are required to pay board but no tuition or fees. The sale of silkworm eggs which are cared for by the students takes care of the expenses of the course. During the busiest season these students receive remuneration for their work in taking care of silkworm eggs.

WOOL WEAVING IN NINGHSIA

Following the example of the University in inaugurating a wool weaving industry in Nanking, the Commissioner of Education of Ninghsia province has sent $1,000 Chinese currency for equipment for wool weaving and has asked that the College send two skilled laborers and one short course graduate to Ninghsia to help build up the industry. Mr. Riggs of the Rural Engineering Division has constructed machinery for the wool weaving project in Nanking and will be responsible for making similar but lighter equipment for Ninghsia. The machinery will be ready by the end of May.

ANHWEI INTEREST IN RURAL EDUCATION

Mr. C. W. Chang, Acting Dean of the College, has just returned from his third trip to Anking, the capital of Anhwei Province, in the interest of rural education. His first trip, made in 1934, was to help organize the Agricultural College of Anhwei University. In 1935 he was asked by the Governor to attend a conference of educational and reconstruction organizations in the province. This year Mr. Chang and Mr. M. I. Chow were asked by Commissioner Yang of Education to organize two vocational agricultural middle schools and make suggestions for improvement in rural education. There has been a conspicuous growth of interest in rural improvement in Anhwei in recent years.

FRUIT GROWING IN WEIHAIWEI

The city government of Weihaiwei in North China has asked the Department of Horticulture to survey and make suggestions for the improvement of fruit growing in the vicinity of Weihaiwei. Mr. C. C. Hu, head of the Department, is planning to spend the month of August in this task.

MULTIPLICATION OF IMPROVED SEED

This year 46 improved varieties of wheat, cotton, kaoliang, millet, rice and barley are being grown on increase plots at the various crop improvement stations of this College. These improved varieties have been tested for a number of years and have given suf-

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ficient evidence of their desirability in yield, quality and disease resistance to warrant the multiplication of seed for distribution. In addition there are thirteen improved varieties which have been under distribution for a number of years.

Throughout China 118 varieties of various crops are under improvement at government and private plant breeding stations. In spite of the rapid growth of crop improvement in China, there is still only a small percentage of the land planted to improved varieties, as shown by the following data on three important crops :

7 improved varieties of cotton planted on 1,700,000 mow - only 5% of total cotton area
19 improved varieties of wheat planted on 94,000 mow - only .03% of total wheat area
20 improved varieties of rice planted on 17,000 mow - only .005% of total rice area

NEW ACTIVITIES IN RURAL LEADERS TRAINING SCHOOL

The Training School has purchased equipment for preserving foods such as asparagus, peas, tomatoes, strawberries, etc. for local supplies. Food will be preserved in tins, or in glass jars provided by individuals.

This spring a hoghouse has been added to the school equipment to house the animals used in teaching students about the raising of swine. Special emphasis will be given to the use of hog cholera serum injections and to the butchering of hogs.

Mr. Ching Tze-chung, a member of the staff at the Yenching Crop Improvement Station, is the recipient of a scholarship from the Shantung Provincial Government. He is expecting to leave shortly for Europe to study soils.

Mr. Hwang Liang, formerly on our Plant Pathology staff, has been granted a scholarship of U. S. $960 for a second year to continue his study at the University of California.

Dr. James Thorp, Chief Soil Technologist of the National Geoloogical Survey of China, has agreed to give a course of lectures for a month at the College on soils, fertilizer practices, and land classification.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

October, 1936. Number 41

GRANTS IN AID

The Rockefeller Foundation continues to help the Department of Agricultural Economics for this year for studies in Administration, Agricultural Prices, and Farm Business Organizations. The Foundation gives us $60,000 local currency and U. S. $9,000 for the year from October 1, 1936 to September 30, 1937. This grant is of great help to us as it enables us to get more facts about the agricultural conditions in China which are necessary for effective training and practical extension work.

The Ministry of Education, of the National Government, gives a chair of Plant Pathology in the Department of Botany. Owing to the fact that very few men are trained in Pathology we have not as yet been able to get anyone to fill the chair.

The Trustees of the British Boxer Indemnity Fund is helping the Division of Soils and Fertilizers and the Division of Farm Machinery in the Department of Agronomy to the extent of $10,000 local currency per year for the next three years.

The Chincheng Bank continues for another year to help our Crop Improvement Station at Peiping. This station has a few improved strains of millet and wheat which are being grown for distribution.

The China Foundation continues for the seventh consecutive year its help toward research in Plant Disease Control.

These grants in aid strengthen greatly our instruction, research and extension work.

COOPERATION WITH THE NATIONAL RICE AND WHEAT IMPROVEMENT BUREAU

For the past ten years or so this College has run a number of Crop Improvement Stations and Cooperative Stations in several provinces in North and Central China. Most of them have already begun to distribute improved strains of pure seed such as Kaifeng

wheat No. 124 and Nanhsuchow wheat No. 61. On the average they out-yield the best local varieties by 17.7% and 34% respectively. Seeing the result of our extension work the newly organized National Rice and Wheat Improvement Bureau is cooperating with us in our extension work. By contract with the Bureau the College stations are to concentrate their work on the breeding and multiplying of pure seed while the Bureau is to distribute the pure seed thus multiplied to the farmers. At Kaifeng and Nanhsuchow stations alone the Bureau is planning to distribute pure seed sufficient for the planting of some 200,000 mow of land.

A TRAINING COURSE IN AGRICULTURAL ECONOMICS FOR THE BUREAU OF AGRICULTURAL FINANCE

The Bureau of Finance, recently organized by the Ministry of Industries, asked the Department to conduct a training course in Agricultural Economics. The training course consists of two classes, the upper with 33 students and the beginning with 55 students. This course began September 11th and will last for half a year. Upon completing their training students are to be placed in different parts of the country by the Bureau.

POST GRADUATE WORK IN AGRICULTURAL ECONOMICS

The Ministry of Education authorized the College to offer post graduate work in Agricultural Economics beginning this year. Four graduate students are admitted and they all hold scholarships granted by the Rockefeller Foundation. One is majoring in Rural Sociology, one in Rural Finance and Cooperation, and two in Farm Management.

COOPERATIVE COMMITTEE ON EXTENSION SERVICE TO RURAL CHURCHES.

The College, since its founding in 1914, has held several conferences and institutes for Christian rural workers. Its Extension Department has for many years rendered service to rural churches. Many of its resources have been available for Christian rural workers. In order to be of greater service to rural churches the College has entered into an agreement with the Nanking Theological Seminary to do extension work on a much larger scale. We have released Mr. M. I. Chow, for several years the head of our Extension Department, to serve as a living link between these two institutions in undertaking extension service to rural churches.

Mr. Chow is at present accompanying Dr. R. A. Felton, a

visiting professor of Rural Sociology from Drew University, who is at the Seminary for a year, in visiting all churches in the vicinity of Nanking. They will later visit many of the churches in the interior. It is our desire to help rural churches in their reconstruction program whenever possible.

In order to better prepare rural pastors the Theological Seminary has arrangements with our College whereby some of their students study in our Rural Leader's Training School for one year. This year there are two of them in the Training School. With a year of training in practical agriculture they will be better prepared to undertake rural church work.

SUMMER ACTIVITIES

The Ministry of Education conducted a summer school for the first time here in Nanking, with the cooperation of the College and other agricultural institutions, for teachers of agricultural vocations in secondary schools throughout China. Fifteen of our faculty taught in this school. This is the first important attempt on the part of the National Government to improve vocational schools in agriculture. The College has a Department of Rural Education which aims to prepare prospective teachers of vocational agriculture. Without the adequate training of teachers we cannot expect much improvement in vocational schools in agriculture.

The Nanking City Municipal Government, with the cooperation of the College, conducted a summer school for teachers of rural schools in this municipality. Five members of our College taught in this school.

The Department of Agricultural Economics, in cooperation with the Nanking Christian Council, conducted a summer school for cooperative organizers in rural churches for a period of four weeks. There were 40 students in this school. Besides class work they were given the chance to do actual practice at our extension centers at Wuchang, Anhwei and Molingkwan, Kiangsu. With this training they will be in a better position to do cooperative work.

Dean C. W. Chang, at the invitation of the newly organized Provincial Rural Reconstruction Institute of Shantung, went up to help plan the program of the Institute. This Institute aims to train rural workers in the field of Civil Service, Agricultural Economics and Agricultural Production, and Rural Education.

Mr. C. C. Hu, head of the Department of Horticulture, took an extended trip in north China from July 20th to October, 3rd going through Honan, Shansi, Peiping, Tientsin, Weihaiwei,

Chefoo, Tsingtao and coming back by way of Tsinan. On this trip he made a thorough study of apple growing in these areas and also obtained valuable information about grapes, walnuts, peaches and jujube. He prepared more than eighty waxed leaf specimens, collected over one hundred kinds of fruit, made one hundred drawings and took fifty pictures. During the trip he was asked to assist one Provincial Experiment Station in Honan and attended a Provinical Conference on fruit improvement in Shantung. Mr. Hu, as well as the College, is very grateful to the organizations that made it feasible for him to secure these valuable materials.

Dr. C. C. Kwan and Dr. T. F. Yu were invited during the summer by the Provincial Tobacco Leaf Experiment Station in Shantung, to study tobacco breeding and disease control in that province.

Mr. Chen Kan-fan reports a very successful trip to Tien Moi Shan, Chekiang Province, and Hwang Shan, Anhwei Province, where he studied Cicadas and collected insects from July 19th to August 19th. Upon his return he made a very interesting report on the songs of the Cicadas and demonstrated the songs of each species he observed. The Division of Entomology is able to report that it now has more species of Cicadas in it's collection than any other institution in the country.

During the past summer field collections have been carried on for the Herbarium under the leadership of Mr. C. S. Fan in Tien Shan Hsien, Anhwei. Studies of vegetation and collections have been made in the region of Meng Shan, Shantung by A. N. Steward, S. Y. Cheo, C. S. Fan and T. Y. Cheo. In addition to the work done in these localities collections of fungi were made by Mr. S. Y. Cheo at Lao Shan, near Tsingtao, and by Mr. C. S. Fan near Wusih, Kiangsu. One collector is soon expected to return from Meng Shan with specimens of seeds and fruits of trees and shrubs found in that locality.

LAST YEAR'S GRADUATES

During 1935-36 there were 52 graduates from the College and 51 from the Rural Leader's Training School, totaling 103, this being the largest number for a single year since the establishment of the college. All of these graduates have been placed in positions for which they are trained.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

November, 1936. Number 42

THIRD ANNUAL EXHIBITION AT WUKIANG EXTENSION CENTER

Wukiang, a market town in Anhwei Province about twenty miles up the Yangtze river from Nanking, is noted for its cotton production. It was selected by the College in 1923 as a center for the distribution of improved cotton seed. In 1930 the scope of extension activities was very much increased because of cooperation with the Central Agricultural Extension Committee of the National Government. This Committee helped to finance the work to the extent of $500 per month for about a year. The purpose of conducting this Extension Center is three fold:-

1. To bring the results of our research work to average farmers and to see whether or not these results are applicable to their needs.

2. To serve as a center where our students may obtain practical experience in Rural Reconstruction Work.

3. To demonstrate to the people how Rural Reconstruction Work should be undertaken.

Of the five divisions of work that we have at the Center, Agricultural Finance, Rural Health and Rural Education are already self supporting. We believe that in all Rural Reconstruction we should aim to work with the local people, or rather "to help to remove removable hinderances to their doing things for themselves," so at our Extension Center we strive to improve the financial status of the people and distribute improved seeds, organize cooperative societies, stamp out their illiteracy and organize them into groups. With these improvements the rural people can undertake the reconstruction work on their own resources. Any rural reconstruction work initiated on this basis will take root and grow.

This last year there were 3,774 mow of land planted to improved cotton and 3,591 mow to improved wheat. Our Extension Worker visited the farmers at definite intervals, giving instructions as to the methods of cultivation, planting and harvesting. Before harvest time the Extension Worker visited every field of improved crops to see whether or not the seed were to be saved from them. The cotton

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seed was further examined when ginned, thus attempting to eliminate as much poor seed as possible. The demand for improved cotton seed is always in excess of what we can supply. There are now 74 Credit Societies, with a membership of 1,092, and one Cooperative Marketing Society. The annual loans made to the members total about $200,000. The farmers have organized themselves into a group known as "Nun Hwei" (Farmer's Union) with 2,306 members. This organization is planning to sponsor all the extension activities at the Center when the College withdraws. At present we are concentrating our effort to strengthen this organization.

The third annual exhibition was held at Wukiang during the three days, October 31st to November 2nd. On November 1st there were about 150 students from this College and from Ginling College, and 30 representatives from government institutions who attended the exhibit. The College provided a special boat for them so they could go and return the same day. A very good impression of the exhibition was made in the minds of visitors, especially in the section known as "special exhibition". There was demonstrated the whole process involved in the extension of improved seeds of cotton and wheat from the time of planting through harvesting and marketing. This was to show how much a farmer can gain by growing and marketing improved crops. Thousands of farmers from nearby districts came to see the exhibition. Certainly it was a great time for them.

NORTH CHINA COUNCIL FOR RURAL RECONSTRUCTION EXTENDS INVITATION TO OUR COLLEGE TO JOIN THEM

For the purpose of developing a correlated program of rural reconstruction in North China, such institutions as Nankai University, Yenching University, Peiping Union Medical College, Tsinghua University, and the Chinese National Association of the Mass Education Movement, formed the North China Council for Rural Reconstruction with their field work in Tinghsien, Hopei and Tsining, Shantung. In the future the Council plans to provide adequate facilities for undertaking rural reconstruction work and for training students of the participating institutions in one of these stations. The Council has extended an invitation to this College to join it in agricultural work. In this connection Dean C. W. Chang will soon visit these stations and study the situation to see what our College can do to help the Council.

BAILIE EXTENSION

Owing to the congested conditions in Bailie Hall because of increased student enrollment and research activities, the College is planning to build an annex to this hall. This has been approved by

the Board of Directors of the University. The annex is to be used largely to house the Division of Plant Pathology, releasing space for other Divisions of the Department of Botany. During the past six years the China Foundation has been helping to build up adequate equipment in the Division of Plant Pathology. At present this Division has its equipment scattered on three different floors in Bailie Hall, thus making it difficult to secure efficient management and adequate use of the equipment. With this annex to Bailie Hall practically all units of our plant production work will be housed in one place.

TEA CULTURE

"Tea Culture", a new course in the Department of Forestry, was offered and well attended last spring. Leave of absence was granted by the College to the instructor, Mr. Liu Tsen, so that he might make an investigation of cultural methods and manufacture as well as tea trade in Japan and Formosa during the summer vacation. Mr. Liu spent two months in the National Tea Experiment Station in Hukuoka, South Japan, and then he visited several tea production centers in Formosa. He also made a comparative study of tea culture and manufacture in South China, when he was on the way back to Nanking. Although Mr. Liu was away only a few months, much material was gathered and an adequate report has been made.

WELCOME TO OUR NEW STAFF MEMBERS

We are glad to welcome two of our colleagues who have recently returned from their study in the States:-

Dr. C. Y. Chiao, Department of Botany
Mr. Y. W. Chang, Department of Rural Education

Both these men taught in the College several years before their study abroad and their return will strengthen very materially our instructional work.

We also welcome a number of staff members who have joined our institution for the first time:-

Department of Agricultural Economics

Dr. J. R. Raeburn	Cornell University	Statistics
Dr. G. W. Hedlund	Cornell University	Cooperatives & Farm Management
Dr. Wang Lien	Munich University	Prices & Transportation
Dr. Li Shi-son	University of Illinois (Part time)	Land Economics
Mr. Hwang Sih-chuin	Yenching Graduate School	Agricultural History

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Mr. Hu Kuoh-hwa.....B. S. Nanking

Department of Agronomy
D. Chen Wei.....Cornell University...Soils
Mr. Wang Chi-mei.....B.S. Nanking.....Farm Machinery
Mr. Pao Lu-ming.....B.S. Nanking.....Plant Breeding
Mr. Feng Chao-lin.....B.S. Nanking .....Soils
Mr. Liu Chang-leo.....B.S. Nanking.....Plant Preeding
Mr. Li Ching-chuin....B.S. Nanking.....Plant Breeding
Mr. Yung Hai-yong....Rural Leader's Training School...Plant Breeding
Mr. Sing Wei-cheng...Rural Leader's Training School...Plant Breeding

Department of Botany
Mr. Cheng Nai-tao.....B.S. Nanking.....Plant Pathology
Mr. Tsi Chao-seng.....B.S. Nanking.....Economic Entomology
Miss Hwang Shuh-wei.B.S. Nanking.....Plant Pathology

Department of Horticulture
Mr. Wang Chu-yuen...B.S. Nanking.....Horticulture

Department of Rural Education
Mr. Tsu Peh-sheng.....M. A. Missouri.....Rural Education
Mr. Yao Ih-ruh .....Rural Leader's Training School...Canning
Mr. Lu Shan-i.....Rural Leader's Training School...Gardening

Sericulture
Miss Sheo Mo-lien

ECONOMIC FACTS

The Department of Agricultural Economics of the College is publishing a monthly bulletin, in both English and Chinese, known as "Economic Facts" beginning with September of this year. The subscription is $20.00 Local Currency per year. In the first two bulletins the following articles appear:-

Changes in Currency and Prices in China
Birth and Death Rates in Kianglin Registration Area
Farm Price Relationship in Wuchin, Kiangsu
Wholesale Prices in Different Cities in China and in Hongkong
Some Principles Governing the Success and Failure of Cotton Commission Merchants and Cotton Wholesalers
Landlord's Capital Investment in Farm Land
Daily Prices of Seven-commodities in Shanghai

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA.

April, 1937. Number 43

GRADUATES

The fall term of 1936 closed with 19 graduates from the college; 11 in Agricultural Economics, 6 in Agronomy, 1 in Botany and 1 in Forestry. They are all placed in work for which they have been trained.

ENROLLMENT

The spring term of 1937 opened with an enrollment of 412 students for the College. They are distributed as follows:-

273 in the College proper (4 graduate students - 259 regular students and 10 special students)
106 in the Rural Leader's Training School
27 in the Training Course for Women Students in Sericulture
6 in the Correspondence School of Forestry

STAFF CHANGES

The following members have left the institution:-

Agricultural Economics - Wang Lien and Chen Tsong-ching (part time)
Rural Education - Sing Rwen-tang
Botany - Cheng Nai-tao (died)
Agronomy - Chang Sih-chang (successful candidate for Tsing-hwa Fellowship)

The follwing members have joined our institution:-

Agricultural Economics - Hsu Tao-fu, Oxford Diploma
Ko Fuh-ting, Nanking B. S.
Liu Fang-wei, Nanking B. S.
Swen Tsu-ying, Nanking B. S.

Agronomy - Hwang Shui-tsai, St. Paul, Minnesota M. S.
Li Hwang-chang, Nanking B. S.
Ying Tsu-chang, Rural Leader's Training School graduate
Peng Shu-hsuin, Typist

Botany - Ling Chwang-kwang, Nanking B. S.
Rural Education - Pao Wan-min, St. Paul, Minnesota M. S.
Chang Chi-sien, Central University B. S. (part time)

Sericulture - Chu Tao-chang, Assistant

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THE TRAINING COURSE FOR THE FARM CREDIT ADMINISTRATION BUREAU OF THE MINISTRY OF INDUSTRIES

The College was asked by the Ministry of Industries to conduct a training course in Agricultural Economics for the Farm Credit Administration Bureau. The upper class had 33 students, while the lower class had 50, making a total of 83. The training course began in September, 1936 and closed in March, 1937. We are glad that we can render such service to the Government.

COOPERATION WITH THE NATIONAL RICE AND WHEAT IMPROVEMENT INSTITUTE

At the suggestion of the visiting professor, H. K. Hayes, of Minnesota, the wheat production of the University and the National Rice and Wheat Improvement Institute has become a joint project whereby the facilities of the two institutions will be used jointly to advance, as rapidly as possible, the wheat breeding program. When a new variety is obtained from this joint program it is to be considered as a result of the cooperation between the two institutions and so referred to in publications.

NORTH CHINA COUNCIL FOR RURAL RECONSTRUCTION

On the invitation of the North China Council for Rural Reconstruction the College is participating in the Council field in Shantung for the improvement of agriculture. In order to do the work properly we have arranged for Mr. Y. W. Chang, Head of the Department of Rural Education, and Mr. S. T. Hwang, Professor of Soils and Fertilizers, to stay in the field with a group of our graduates, and take full charge of the work. Our work is financed by the Government of Shantung and the Rockefeller Foundation. It consists in seed multiplication and extension, and agricultural instruction. We are trying to make our seed farm of 500 mow self-supporting in the course of two or three years while demonstrating to the people how a seed farm should be managed. This coming summer we plan to send a group of fifty students from the College for two months of practice in the field. Should this prove satisfactory we will use the field to a greater extent for student practice in the future.

C. W. CHANG INVITED BY THE MINISTRY OF EDUCATION TO BE A MEMBER OF THE COMMITTEE ON AGRICULTURAL EDUCATION

The Ministry of Education of the National Government has organized a Committee of Agricultural Education. This Committee is composed of two members from the Ministry of Education, two from the Ministry of Industries, and five to nine specialists. Dean C. W. Chang is one of the specialists invited. The functions of this Committee are two-fold. First, from time to time to inspect

agricultural schools; and second, to make recommendations to the Ministry of Education for their improvement. At the initial meeting of the Committee it was suggested that Dean S. W. Tsou, of the Agricultural College, Central University, and Dean C. W. Chang, of this College, inspect agricultural schools in nine or ten provinces sometime before the end of this term.

There are now fourteen agricultural colleges in the country, seven national, four provincial, and three private. The annual budget for these colleges is estimated at $2,500,000.00, with an enrollment of 1500 students. About one-fourth of them are in our College. There are about 120 middle schools of vocational agriculture.

A summer school is being planned this year for the training of teachers of agriculture in the secondary schools. This will be the second one held by the Ministry of Education. The first was conducted last summer with an attendance of 90 students.

FARM MACHINERY

The Division of Farm Marchinery of the College has been in operation for five years, under the direction of Professor C. H. Riggs. Since last year we have been cooperating with the National Institute for the Improvement of Rice and Wheat, in a project for the improvement of the harvester, thresher, and fanning mill used for wheat crops. The experimentation has been very successful. This year the Institute has ordered five threshers for stations in North China, each costing $500 local currency for construction. Recently the Farm Credit Administration Bureau of the Ministry of Industries, ordered from us two sets of machinery, each set at a cost of $4,000 local currency, for the purpose of fanning, grading and elevating small grain crops in connection with the granaries to be put up by the Bureau. The Mass Education Movement, at Tinghsien, has also ordered from us six cotton saw gins, each with fifty sets of saws, at a cost of $600 local currency per gin. All these orders simply indicate that there is need in China for improved farm machinery. So far ours is the only College of Agriculture that has a farm shop for student practice and experimentation in farm machinery. For the advancement of Chinese agriculture consideration must be given to the importance of improving farm implements.

IMPROVED SEED DISTRIBUTION

Aside from the main station of some 1500 mow of land for crop improvement outside the city of Nanking, the College has a number of sub-stations and cooperative stations in different parts of China. Most of the stations have been in operation over ten years and are making rapid distribution of improved strains of crops. In the year 1935-1936 there were 13,988 mow planted to improved cotton, 2,200 mow to improved millet, 220 mow to improved kaoliang and

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50 mow to improved corn. In the year 1936-1937 there were 313,404.5 mow planted to improved wheat. All these crops were grown on the farmers' land, under the strict supervision of our stations. The farmers were taught the improved methods of planting and cultivation, and before harvesting our men inspected the fields and made selections for seed. By using the farmers' land for the multiplication of improved crops under careful supervision, in due course of time the acreage planted to improved crops will be considerably increased.

THE ELEVENTH ANNUAL WINTER INSTITUTE FOR CROP IMPROVEMENT HELD IN NANKING

It has been a regular practice of the College to hold an annual conference of station workers to compare their notes on field observations, and to discuss their problems with the school authorities. This conference is held either in Nanking or at one of the substations. The Eleventh Annual Conference was held from January 11 to 16, 1937. More than 30 persons attended. Professor H. K. Hayes, of Minnesota, gave an address at the opening session, and a few lectures on subjects pertaining to field operations were given by professors of the College during the conference. A conference of this kind will help school authorities to understand the problems of the stations and to orient station workers in the recent advance of field techniques.

PROFESSOR H. F. CHU LOCATES LAND FOR REFORESTATION FOR THE GOVERNMENT

At the request of the Ministry of War, Professor Hwei-fang Chu, of Forestry, recently took a trip to Honan, Hupeh, and Hunan to search for large tracts of suitable land for the planting of walnut trees in connection with their storages of ammunition, because the walnut tree is largely used for the making of the wooden parts of guns. Professor Chu spent over a month's time on the trip and has found acceptable sites for this purpose.

MR. C. C. LI OF WUKIANG IS GIVEN A YEAR FOR STUDY IN THE COLLEGE

Mr. Chi-chai Li has been working in the Wukiang Extension Center since 1923, first as an extension worker for the distribution of improved cotton and as a school teacher, and recently as a technical worker in charge of cooperative work. He is a hard and steady worker, much loved by the farmers in the community. He is a graduate of the first class of the Rural Leader's Training School of the College. Because he has been in the field for such a long time we are giving him a year of leave from Wukiang for further study in the College. After this period of study he will return to Wukiang to take charge of the whole Extension Center.

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AGRICULTURE AND FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

October, 1938 Chengtu, No. 1.

NEW LOCATION—CHENGTU, WEST CHINA

In the fall of 1937, when the siege of Nanking made the continuation of school there impossible, the University moved to the West China University campus in Chengtu, Szechwan. The task of moving staff, students and equipment on the long, slow trip up the Yangtze River, through the swiftly flowing gorges navigable only by small boats during the low-water season, with transshipment at Hankow and Chungking, proved to be a very expensive and time-consuming process. Professors C. H. Riggs and Chen Yung of this College with a few assistants remained on the Nanking campus to help protect the property. We are deeply grateful to West China for their invitation, and for the buildings and other facilities which they have put at our disposal.

The spring term opened March first on the Chengtu campus with an enrollment of 120 students in the College proper, a little less than half the usual peace-time number; and 49 in the Rural Leaders Training School, also approximately half the normal. Considering the distance and difficulties of the trip, this is a very high percentage. The spring term closed July 15th, about a month later than usual, to compensate for the late opening.

We are indebted to West China Union University, the Szechwan Provincial Government and the Radio Station for the use of about 100 mow of land for experimental work. The Department of Agronomy have brought with them some of the improved strains of crops with which they have been working for the past ten to twenty years, and every effort is being made to preserve the continuity of the research work.

Since the arrival of the College in Szechwan, we have been asked to cooperate with a number of government and private institutions. The next issue of the "Notes" will deal with the cooperative projects in which the College has a part. This issue contains information on the activities of the College since its opening in Szechwan. Unfortunately, publication of the "Notes" had to be suspended during the past year.

RURAL LEADERS TRAINING SCHOOL AT JENSHOW

The two-year Rural Leaders Training School moved to Chengtu with the University, but due to the scarcity of buildings, it was found advisable to move it to a rural district. Through the courtesy of the Canadian Church Mission, the Training School is now occupying a middle school building at Jenshow, about 70 miles from Chengtu. The locality is a fairly representative rural district, growing both upland and lowland crops, thus affording a good opportunity for student practice. A plan is under way to make the school a center of agricultural extension for the whole district.

AGRICULTURAL ECONOMICS SURVEYS COTTON IN HUPEH

The Department of Agricultural Economics cooperated with the Hupeh Cotton Market Administration and the Bureau of Cotton Anti-adulteration in Hupeh in making a study of cotton production on a small scale. The survey covered the period from November 1937 to January 1938, with data collected from 150 cotton farms in Kwanghwa, Singyang and Tsaoyang. Statistical data for the first area have already appeared in "Economic Facts". Data for the other two will appear later.

SOIL AND EROSION SURVEY

Last April, Dr. H. Chen and Professor S. T. Hwang of the Soils Division joined Dr. H. L. Richardson and Mr. K. K. Yao of the National Agricultural Research Bureau in visiting the Neikiang district to make a rapid survey of soil and agricultural conditions there. Places visited included the Sugar Cane Research Station at Neikiang, Pehmuchen and Tseliutsing, the salt center.

At Neikiang the salt is obtained from brine wells and its manufacture is interesting because the heat for evaporating the brine is secured by burning natural gas which comes from openings drilled near the brine wells.

At Tzeliutsing the sugar is manufactured from sugar cane which is found here further from the tropics than usual. Along the valley slopes of the To Kiang, cane is the predominating summer crop and it is also grown on the sandy alluvial soils by the river. Sugar is made in small mills by primitive processes. The cane is crushed between vertical stone rollers and the juice evaporated in open pans; a sticky mass of crystals and molasses results, which is transferred to a series of earthenware funnels; the molasses drains slowly

from the crystals, leaving the dark brown sugar that one sees in Chengtu shops. Refining is done by adding earth!

The local research station is studying improved varieties of cane and improved methods of manufacture; manuring for heavier yields, and the relationship of the quality of the juice to soils and manuring are also under examination. Large increases in the yield of sugar should be possible, but to make the most of them improved manufacturing methods will be necessary.

Mr. Hwang took advantage of the trip to study soil erosion and the control measures practiced by the local farmers. Because of the dense population and the favorable climatic conditions, the farmers have found it worth while to carry earth from the foothills to the upper slopes in order to compensate for the great annual loss of top soil by erosion. Various measures for combating erosion were in use, such as masonry terrace outlets, spillways, drainage ditches, earthen check dams and sloping terraces, showing clearly that the farmers are aware of the menace. Moreover, the local farmers, realizing that up-and-down slope plowing accelerates soil erosion, use the contour line method.

Further investigations will be made on the topographic and petrographic relationships to soil erosion in this region, and farming practice in relation to control measures.

TEA SURVEY IN WESTERN SZECHWAN

Last spring the Forestry Department made an extensive survey on tea growing in four districts in western Szechwan, Yaan, Chungking West, Mingshan and Kiunglai, and the complete report was published by the Provincial Government of Szechwan. It was estimated that the annual production of tea in the province ranged from 200,000 to 250,000 tan (tan equivalent to 110 pounds approx.), worth about five million dollars.

SUMMER OF 1938—COLLEGE ACTIVITIES

RICE AND WHEAT SELECTIONS

Although the crop improvement work of the Agronomy Department was sadly interrupted last year by the move to Szechwan, every effort is being made to reestablish the crop selection work in the new area. In order to get a thoroughly representative selection of the wheat and rice varieties grown by farmers in a given area, a number of teams are sent out

and assigned to different localities, each covering about 12 hsien. Travel is usually by rickshaw, occasionally by bus. Each team stays in the field two weeks or more, covering about 120 li (li equals 1/3 mile approx.) each day.

During the latter part of May and early June, three teams went out for wheat head selections. They covered 34 hsien and returned with about 7,000 individual heads. Four teams went out for rice from mid-August to mid-September and covered 48 hsien with a total of some 50,000 selected heads. Rice is the primary crop on the Chengtu plain which accounts for the larger selection than in the case of wheat which is secondary in this area.

After the selected heads are brought back to the University, the seeds from each head are counted, bagged and labelled in preparation for sowing in separate plots.

SUMMER TRAINING IN COOPERATIVES

In cooperation with the National Christian Council, the third summer training course on cooperatives for rural workers was held for a period of three weeks this past summer. The enrollment numbered 94, the largest to date.

The Department of Agricultural Economics offered three courses in the Cooperative Institute offered by the Szechwan Provincial Cooperative Commission.

PARTICIPATION IN RECLAMATION SURVEY BY THE PROVINCIAL GOVERNMENT

At the invitation of the Provincial Government of Szechwan, Professor Pao Wen-ming was one of a party which investigated the reclamation possibilities in three districts, Tungkiang, Nankiang and Paochung in northeastern Szechwan.

ORNAMENTAL PLANTS

Mr. Wang Chu-yien of the Horticulture Department has not yet returned from a summer field trip on Mt. Omei where he is collecting seeds of ornamental plants.

MUSHROOMS AND OTHER FUNGI

Messrs. T.F. Yu, C.T. Wei, C.Y. Yieh and Miss S.W. Hwang spent a month during the summer making collections at Kiating and Mt. Omei. The main emphasis was on parasitic fungi which are fairly abundant in these regions; about 1,000 specimens were obtained.

Mr. W. F. Chiu made a trip to northern Szechwan to study local methods of cultivating the mushrooms known as "Silver ear" (*Tremella fusciformis* Berk.) and "Jew's ear" [*Auricularia polytricha* (Mont.) Pat.]. Wild species of edible mushrooms were also collected. Another collection was made on Mt. Omei from which more than 70 genera of saprophytic fungi, including mushrooms, toadstools and woody fungi, were obtained.

RURAL EDUCATION AT WENKIANG

The Department of Rural Education made a survey of rural education in the Wenkiang district, using the faculty and student body of the Rural Leaders Training School for collecting data. A detailed report will be published later.

BOTANICAL COLLECTION ON MT. OMEI

A special appropriation of $520 was made to finance a botanical collecting trip on Mt. Omei during the summer of 1938. The party, composed of Dr. C. Y. Chiao, Mr. C. S. Fan, Mr. P. Y. Tang, two students majoring in Botany, and three local helpers, left Chengtu on July 20th and established headquarters at Wan Nien Sze, a temple of the Ming Dynasty situated at an elevation about 1300 meters above sea level, and about one day's journey from the city of Omei. Collecting trips were made to the surrounding localities, while the drying and sorting of all specimens were done at Wan Nien Sze.

The sacred mountain is unique in its floral characteristics, presenting all gradations of plants ranging from tropical tree ferns to alpine Abies. Liverworts and mosses are unusually rich in form and variation. A further attraction is the many varieties of medicinal plants, both cultivated and wild, which constitute a regular revenue for the mountaineers. Of the drug plants, special mention should be made of 'Hwang Nien' used in modern medicine for its principal constituent, berberine. Hwang Nien is harvested five years after planting, and is grown only once in 60 years on a given piece of land, apparently because of a fungus which causes root rot of the plant.

The party stayed in the field for nearly two months, acquiring 1,100 field numbers, amounting to 5,000 herbarium

specimens. Of the living specimens brought back for cultivation, there were orchids, tree ferns and young seedlings of Davidii, a highly ornamental shrub. Arrangements were made with local collectors for more Davidii because the plant is much in demand for landscape gardening.

GRADUATES AND THEIR PLACEMENT

At the completion of the much-interrupted fall term in February, 1938, there were 19 graduates from the College: 12 in Agricultural Economics, 4 in Agronomy, 3 in Forestry; and in the spring term there were 18 graduates: 5 in Agricultural Economics, 7 in Agronomy, 3 in Horticulture, 3 in Botany, totalling 37 for the year. Nineteen men completed the Rural Leaders Training Course. For the first time in the history of the College 3 students were awarded M. S. degrees in Agricultural Economics:

Li Hwei-chien - Thesis "A Study on the Organization and Management of Rural Credit Societies with Special Reference to Effects on Members."

Chen Tsai-chang - Thesis "A Study of Chinese Population Movements."

Tsu Chwang-hwai - Thesis "A Study of the Prices and Purchasing Power of Wheat and Cotton."

AGRICULTURAL NEWSPAPER

The agricultural newspaper in Chinese, "Nung Ling Sin Pao", published for the past 14 years in Nanking, has started publication in Chengtu. The paper is issued once in ten days; regular subscription price $1.00 local currency per year. Subscriptions should be addressed to the College of Agriculture and Forestry, University of Nanking, Chengtu.

AGRICULTURE AND FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

December, 1938 Chengtu No. 2

This issue of "Agriculture and Forestry Notes" gives information in brief on the various projects in which the College is cooperating with other organizations, both government and private, during the year 1938-39. Projects are listed according to the departments responsible.

AGRICULTURAL ECONOMICS

Rockefeller Foundation - Economic studies.

This marks the fourth year that the Department of Agricultural Economics has carried on research with grants from the Rockefeller Foundation. Last year there were two major projects, each covering a wide field. (1) Currency and Prices, including the currency of China, seasonal variation of prices of farm products and profitability of storage, change of prices in Chinese rural market towns, and flexibility of prices in China. Some of the results of these studies have already appeared in "Economic Facts" and further findings will appear in later issues. (2) Farm Business Organization covering four branches: (a) Feasibility of farming uncultivated land, (b) Farm implement study, (c) Farmers' diet study, and (d) Farm management study of eight representative localities in North China.

The Farm Business project will be completed this year, while the Currency and Prices project will be carried over and three additional projects started. The 1938 grant from the Rockefeller Foundation, amounting to $25,000 Chinese currency and $6,000 U. S. currency, will be used for the following studies:

1. Currency and prices in China.
2. The wood oil industry in Szechuan.
3. The marketing of farm produets in Szechuan.
4. Local government in Szechuan.

Provincial Food Control Commission of Szechuan - Agricultural prices.

The Commission has established 26 centers with a reporter at each center. The Department is responsible for

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the training of the reporters who will send in statistics on agricultural prices.

Commission of Reconstruction of Szechuan - Prices and cost of living.

The Commission is making two studies in cooperation with the Department: 1) The cost of living in Chengtu, and 2) Wholesale prices in Chungking.

Szechuan Provincial Cotton Experiment Station - Cotton production and marketing.

The Department staff is helping to organize and direct cotton production and marketing associations in the province.

Commission of Foreign Trade, Ministry of Finance - Export commodities.

The Commission of Foreign Trade asked the Department to study the cost of production of export commodities in Kwangtung, Kwangsi, Chekiang, Kiangsi, Hunan, Hupeh and Szechuan over a period of three months during the summer. Expenses were met by the Commission, and the results are the property of the Commission, to by used at its discretion.

AGRONOMY

British Boxer Indemnity - Fertilizers and rural engineering.

The British Boxer Indemnity Control Commission has renewed its grant of $10,000 a year for the third year to continue work in fertilizers and rural engineering. Experiments on the use of commercial and natural fertilizers for wheat, cotton and rice were started in Nanking under this project. Farm machinery from abroad, such as the wheat thresher, harvester and cotton gin, is being adapted to Chinese conditions and local farm implements are being improved for greater efficiency.

Crop Experiment Stations - Continuity under war conditions.

Although the cooperative stations and sub-stations of the College have suffered considerably since the beginning of the war, such stations as Taiku in Shansi, Kaifeng in Honan, Yenching in Hopei, Wukiang and Nanhsuchow in Anhwei, are still running on a reduced program, largely on Mission property which is out of the control of the Japanese. The continuity of the work is being kept so that the many years of building up of these stations will not be wasted.

Improved Seed Program - Emphasizing Nanking wheat No. 2905.

The improved variety developed by the Department, known as Nanking wheat No. 2905, has been under experiment by the Szechuan Government for the past two years, and has proven highly successful in this climate.

The Department is cooperating with the Daikao Experimental Farm at Anhsien, 80 miles north of Chengtu, in conducting regional tests of wheat and barley. Demonstrations of wheat 2905 are being arranged for the local farmers.

The Wenkiang Rural Reconstruction Council received 3500 catties of wheat No. 2905 for distribution to farmers in that area. Cultivation, field inspection and seed certification are being supervised by the Agronomy staff. This serves as a method of pure seed multiplication because the farmers, after harvest, return a certain proportion of the seeds to the Department to be used in further distribution.

National Agricultural Research Bureau - Irrigation and fertilizer tests at Sian.

The cooperative station at Sian has agreed to cooperate with the Bureau by conducting fertilizer tests in conjunction with the irrigation projects of the Bureau in that area.

PLANT PATHOLOGY

China Foundation - Rice diseases.

In cooperation with the China Foundation for the Promotion of Education and Culture, the Department is carrying on a project involving: (a) a comprehensive survey of rice diseases occurring in Szechuan, including kind, severity, and environmental relations; (b) special studies on the sclerotial diseases of rice; and (c) variety tests on the reactions to rice blast and helminthosporiose. This project leads toward the breeding of rice varieties resistant to the more important diseases. The Foundation has made an allowance of $4,000 national currency to support the work.

National Agricultural Research Bureau - Wheat diseases.

Financed by the National Agricultural Research Bureau, a survey of wheat diseases in Szechuan is in progress in order to record the kinds, relative importance and environmental relations of wheat diseases. In addition to the survey, special experiments are being carried on to discover the reaction of various wheat varieties to flag smut, and the biological specialization of the pathogen. The project aims at the production of wheat varieties resistant to smut. The grant for this project is $2,000 Chinese currency.

National Agricultural Research Bureau - Mushroom culture.

An allowance of $2,600 Chinese currency has been granted by the Bureau for studies on mushroom culture.

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The study includes: (a) a survey of cultivated and wild edible mushrooms in China; (b) a comparative study of the economic value of these mushrooms and methods of cultivation, and (c) the isolation and culture of the chosen varieties and the preparation of spawn of same. The purpose of this program is to select for the use of the farmers the most suitable and profitable mushrooms for cultivation, and suggest cheap and dependable methods of cultivation. In addition, the laboratory will attempt to keep on hand a supply of pure cultures of these mushrooms.

Ministry of Education - Professorship.

The Ministry of Education has extended its grant of $4,000 a year for half a year for a chair in the Department of Plant Pathology and Economic Entomology. This extension is made because of the change in the Ministry's policy in which the fiscal year will coincide with the calendar year.

HORTICULTURE

Rockefeller Foundation - Citrus fruit selections.

The Foundation has made a grant of $2,600 Chinese currency for work on citrus fruit improvement in Szechuan. A western expert on fruit production has pronounced Szechuan the best citrus fruit center in the world. The purpose of the study is to discover the best varieties of fruit, with reference to flavor, storage qualities, and other characteristics for propagation and distribution.

Farm Credit Administration Bureau—Citrus fruit storage and marketing.

In order to take advantage of the extraordinary quality and cheapness of citrus fruit produced in Szechuan (in ordinary times oranges may be purchased for less than a cent apiece), the Farm Credit Administration Bureau of the Ministry of Economics, with headquarters at Chungking, has set aside $10,000 Chinese currency for improving the picking, packing, storage and marketing of citrus fruits. Part of the sum is to be used to build a storage at Chiangtsing, one of the best fruit districts, and purchase 150,000 oranges for storage experimentation. The running expenses are also to be provided from this fund. Professor Chen Si-hsing who has specialized in horticultural utilization is in charge of this project.

EXTENSION

National Agricultural Production Promotion Commission— Rural extension activities.

The above-named Commission of the Executive Yuan of

the National Government has made an appropriation of $5,500 national currency for experimentation in setting up extension machinery and carrying out extension activities in two hsien in Szechuan, Wenkiang and Jenshow. The object is to put into working order a system which can be applied to other rural communities. Two types of organization are to be used, one from "within" and one from "without".

At Wenkiang a committee has been organized with representatives of the hsien government, the hsien party, the local people's organization and this College. This committee is to promote the organization of farmers' associations for agricultural improvement, i. e. purchasing and marketing cooperatives and credit and loan societies. The work was started in July and is now well under way. In this case the task is being done largely by the local people with directions and help from the College.

At Jenshow where the Rural Leaders Training School has been set up, the students are organizing the farmers' societies, community center, schools and general rural work. The students will be responsible for most of the activities.

The Commission has also entrusted to the College the intensive training of ten workers for a four-month period at the extension centers of Wenkiang and Jenshow. Candidates must be graduates of an agricultural college or the Rural Leaders Training School, and have at least two years of extension experience to their credit. During the period of training the men will be paid $40 to $50 a month, according to whether they are college or training school graduates. Those who complete this period of training will receive an extension certificate from the College, and the Commission and are assured employment by the latter in the extension field.

Rockefeller Foundation—Sintu Experimental Hsien.

The Foundation has granted $5,000 Chinese currency for work at Sintu, an experimental hsien about 40 li from Chengtu. The hsien has been divided into five sections, but to date only two of these have supervisors. The Foundation fund will be used to pay the salaries of three additional supervisors and help to pay for the extension activities in those sections.

Provincial Government of Szechuan—Extension bureaus.

The Provincial Government of Szechuan is planning to set up extension bureaus in 80 hsien, among which both Wenkiang and Jenshow are included. It has been agreed

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that our extension men now in the field at these two centers will be in charge of the bureaus for these sections.

Chungking Y.M.C.A. and the Methodist Church—Extension service.

The Chungking Young Men's Christian Association and the Methodist Church, in cooperation with the Ministry of Education, run a regular truck for extension service in the villages between Chungking and Chengtu. At their request, the College is assisting in the agricultural side of this service.

FORESTRY

Commercial lumber company—Sawmill locations.

At the request of a lumber company, several members of the Forestry Department, including Professor Chu Hwei fang, Mr. Chu Tzi and several students, are now on a field trip surveying four districts in southwestern Szechuan, namely, Hanyuan, Tienchuan, Paohsing, and Yiehsi, with reference to suitable locations for the establishment of sawmills.

BOTANY

Herbarium Exchanges—In China and abroad.

The Botany Department will continue in Chengtu the exchange program which it has carried on for the past ten years in Nanking. Approximately 25,000 specimens have been distributed from the Department since 1925 on an exchange basis. Among the institutions in China which received materials are the Science Society of China, Fan Memorial Biological Institute, Lingnan and National Central Universities. Institutions in America include the New York Botanical Garden, the Gray Herbarium and Arnold Arboretum of Harvard University, the Universities of California, Chicago, Wisconsin and Montreal, Kew Garden, Edinburgh Botanical Garden, Paris Museum, Berlin Botanical Garden, University Museum in Denmark, and the Bureau of Science and Exchanges in Manila.

This year the Arnold Arboretum and the Gray Herbarium have made grants to help finance collecting trips in Szechuan.

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AGRICULTURE AND FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

March, 1939 Chengtu, No. 3

This issue of the "Notes" marks one year of our stay in Chengtu during which period the College has witnessed the steady growth of its work and an increasing demand for its services by both government and private institutions. Since the province of Szechuan is rich in agricultural resources, the opportunities for giving service in instruction, research and extension are great.

DEAN ATTENDS CONFERENCE ON SOCIAL EDUCATION

A three-day conference was held under the auspices of the Ministry of Education of the National Government in early January at Chungking to discuss social education. The purpose of this discussion was to formulate policies and work out a program for consideration and adoption by the Ministry for the promotion of social or adult education throughout all educational institutions. The Unique feature of the conference was that teachers of primary schools in cities and rural districts from three provinces were invited to participate in discussing with government officials and college professors in order to make the recommendations as practical as possible for all schools under all conditions.

DEATH TOLL OF EXTENSION SERVICE

Mr. Tai Keh-chih, a native of Mukden, who graduated from our Rural Leaders Training School in 1932, joined the extension staff at Sintu to serve in the rural community. Three days after his arrival at Sintu, he was mistaken for one of the government officials during a mob uprising against the local government and shot while working in his office in a rural district near the city of Sintu.

Mr. Liu An-hwei of Shantung, also a graduate of our Rural Leaders Training School, lost his life while engaged in extension work in Tingfan Hsien, Kweichow, for the National Council for Rural Education.

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PROGRESS IN CITRUS FRUIT IMPROVEMENT

Rockefeller Foundation Project

From extensive surveys three centers of citrus fruit production have been located in this province, Chingtang Hsien, Kiangching Hsien and Nanchung Hsien. Because of limitations of time and money, intensive studies are being confined to the first two named. In Chingtang Hsien, more than 2,000 trees have been studied and 23 strains selected for laboratory study, while in Kiangching Hsien, 50 groves were visited and 27 strains selected for study, including such qualities as form, size, weight, color, thickness of skin and acid and sugar content. Arrangements have been made to use two private orchards in Chengtu and one in Chingtang for propagation of selected strains. In Chengtu we have a small nursery growing some of the best strains.

Farm Credit Administration Bureau Project.

Because prices of commodities are steadily rising, the Bureau has increased its grant from $10,000 to $14,000. The newly built orange storehouse at Kiangching has been in use for about three months. After careful washing and grading, 110,000 oranges were stored there. Professor Chen Si-hsing has been in Kiangching for about six months in charge of the project.

AGRICULTURAL EXHIBIT AT WENKIANG

An agricultural exhibit was held at Wenkiang from Feb. 5th to 7th by the Rural Reconstruction Committee of the district, in which organization the College participates. The exhibit included a display of improved seeds of crops grown in that area, silkworm eggs and cocoons, products of home industry, forest products, etcetera. It was estimated that three to four thousand visited the exhibit each day, largely rural people, but also including government officials, teachers and students from Chengtu and neighboring towns. Exhibits of this kind are intended to demonstrate the possibilities of agricultural improvement to the local people.

FARMERS' WEEK

The College held a "Farmers' Week" from February 22nd to 26th in cooperation with the National Agricultural Production Promotion Commission. Participants, totalling 268, came from the College's three extension districts, Jenshow, Wenkiang and Sintu and included selected representatives from various rural groups, i.e.

78 students from part time schools for rural youth
40 farmers who have agreed to use their farms for demonstrations

44 members of 4-H Clubs
34 representatives of Farmers' Associations
36 students from agricultural schools in Sintu
20 apprentice extension workers
16 extension staff members

During the mornings, mass meetings were held which featured such prominent speakers as General Ho Kweh-gwang of the Generalissimo's Headquarters in Chengtu; Field Marshall Den Hsi-heo who is well known in Szechuan; Mr. Chen Cheo-san, Secretary General of the Provincial Government; Dr. Chen Tien-feng, President of Szechuan University; and Mr. Hwang Tze-han of the Chuugking Y.M.C.A.

The group was divided into three sections for discussion, (1) for adult farmers, (2) for rural youth, and (3) for apprentices and extension workers. Visits were made to the Provincial Agriculture Improvement Bureau to see the exhibit, and to the various agricultural colleges and government offices in Chengtu.

It is interesting to note that some of these men walked as much as 80 miles in order to attend the sessions.

PROGRESS IN EXTENSION

Sintu Center (cooperation with Rockefeller Foundation)

The extension work at Sintu was interrupted by the reorganization of the hsien government which resulted from the Sintu incident that occurred in November of last year. After the uprising the whole district was in disorder for some weeks and improvement projects of all kinds had to be suspended. We recalled all our workers and sent them to other districts temporarily. In the latter part of January a satisfactory arrangement was reached with the hsien government and the district vocational school in agriculture for the continuation of our extension service. The former appropriated $500 and the latter $600 for extension services in addition to what the College has already budgeted for the project. There are now three extension workers and a few assistants there using the vocational school as their headquarters. The men are now engaged in trying to duplicate the records which were destroyed during the November incident.

Last fall more than 2,000 mow of land were planted to Nanking improved wheat No. 2905 in the Sintu area, and the fields are already showing a sturdy crop. During the past two years this improved variety has yielded 20 percent higher than the local strains..... On February 14th the vocational school had a mass meeting for parents of students and farmers whose farms are being used for demonstration purposes..... Sixty classes of Farmers' Training Courses began instruction on February 23rd.

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Wenkiang Center

During the past six months great progress has been made in extension activities in Wenkiang due to the wholehearted support of the local government and the people. Some of the accomplishments are enumerated below.

Production. Thirteen thousand catties of Nanking improved wheat No. 2905 have been distributed and planted to 1,500 mow of land. For demonstration of improved methods of wheat growing, ten farms were selected and six 4-H clubs with 240 members are using wheat as their production project ..... A paper manufacturing cooperative was inaugurated with a capital of $1,000, producing 1,000 sheets of paper per day. The paper is made from waste paper and rice straw.

Financial Cooperatives. There are now 150 credit societies with 4,200 members and 70 mutual aid societies with 707 members at Wenkiang. The amount of loans has reached $300,000 as compared with $50,000 before last summer.

Education. There are now three part-time schools for rural youth, enrolling 80 students, conducted by the farmers' associations..... A traveling library has been organized by the farmers' associations, supported by 50 rural school teachers, each of whom pays one dollar a year.

Health Center. A health center has been opened with a budget of $3,000 a year from the local people. They have one doctor who is a graduate of the Shanghai Medical College, and two nurses.

Organizations. There are now seven farmers associations with 3,800 members and eight 4-H clubs with 320 members.

Jenshow Center

The Jenshow Center reports the following accomplishments:

Improved Seed. 1,607.7 catties of Nanking wheat No. 2905 have been distributed and planted to 191.7 mow.

Tung Oil. 300,000 tung oil tree seedlings have been distributed.

Demonstration farms. 87 farms have been organized for demonstration purposes.

Education. Four part-time schools for rural youth have been opened, enrolling 97 students..... The extension workers helped to teach agricultural subjects in six elementary schools to 20 classes, totalling 1,123 students, teaching two hours a week in each school. In all extension activities, special attention is put on the teaching of youth so that the newly "planted" ideas have fertile soil in which to grow.

4-H Clubs. Five 4-H clubs for boys with a total of 397 members and one for girls with 85 members have been organized.

SEED DISTRIBUTION AT NORTHWEST CROP IMPROVEMENT STATION

The Northwest Crop Improvement Station at Chingyang Hsien near Sian was established in 1932 at the request of the Generalissimo, and has done continuous improvement experimentation on wheat and cotton. Recently the National Agricultural Production Promotion Commission appropriated $8,000 Chinese currency to help extend the improved seed program in Chingyang Hsien, and to establish a new station in Nancheng Hsien, also in Shensi Province. In case hostilities break out around Sian, the staff and work will be moved from Chingyang to Nancheng.

AGRICULTURAL ECONOMICS AND NEW GOVERNMENT COOPERATION

During the present hostilities with the Japanese, the quickest way for the Government to help the farm population is through economic channels. In order to be of the greatest possible assistance to the people in their economic stress, the College has acceded to the Government's request to permit Professor C. M. Chiao to act concurrently as Chief of the Extension Department of the N.A.P.P.C. A similar arrangement has been made for Dr. Yang Wei to act as Head of the Survey Division of the Foreign Trade Commission of the Ministry of Economics, and for Professor Eoyang Ping to head up the Chengtu depot of the Chinese Industrial Cooperatives.

The Department is cooperating with the Land Registration Bureau of the Provincial Government of Szechuan in land classification in ten hsien. The Department helped to train the personnel and has arranged for Professor Yin Lien-ken and Mr. Tsui Ru-tsuin to stay in the field with the investigators.

FORESTRY

Survey of Tatu River area. Last summer the Forestry Department surveyed the forest conditions along the upstream area of the Tatu River, part of the boundary between Szechuan and Sikong. A preliminary report in China has been put out dealing with forest growth, utilization and reforestation.

Timber and fuel demand and supply in Chengtu. The Department is starting an investigation of the available timber and fuel supply in Chengtu because of the tremendous rise in prices of such commodities during the past year with the consequent hardship it has brought to the middle and lower classes.

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IMPROVED RICE VARIETY FOR SZECHUAN

Comparative tests of improved rice varieties carried on last season indicated that Rice No. 1386 gives a much higher yield than any of the best five local varieties. Yield results were as follows:

Variety	Average yield (catties per mow)	Gain of No. 1386 over local varieties
No. 1386	332	
from Szechuan University	320	12
from West Chengtu	220	112
from South Chengtu	219	113
Tamaohsiao	210	122
Tamatsai	169	163

No. 1386 yields 104 catties per mow more than the average of the five varieties. Further experiments on disease resistance must be carried out before distribution of the improved seed can be undertaken.

HERBARIUM AND COLLECTION

The herbarium received specimens of Szechuan plants from the National Szechuan University on an exchange basis. Specimens from Hainan Island were exchanged for material from Mt. Omei with Lingnan University. A sending of 873 numbers, excluding the cryptogamic forms, was dispatched to Dr. Merrill of Harvard University for identification.

The Botany staff is planning extensive collections in Western Szechuan, especially on the Szechuan-Tibetan border, with support from the Arnold Arboretum and the Gray Herbarium.

STUDIES ON ECONOMIC PLANTS

While engaged in collections on Mt. Omei last summer, the Botany staff made a special study of the gallnut and Hwang Nien industries. Reports have been published in the "Agricultural News" and reprints are now available.

Tung oil tree productivity was studied on the same trip and Professor C. Y. Chiao's report published by the Provincial Government.

WHEAT SEED DETERIORATION

Wheat seeds brought from Nanking were found to lose their germinating power with great rapidity. The plant physiologist is experimenting with heteroauxins of various concentrations to induce germination in wheat seeds which have apparently lost their viability in the new environment. Studies are being made to find the underlying causative factor so that effective measures may be taken to keep seeds viable.

AGRICULTURE AND FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

May, 1939 Chengtu, No. 4

EXTENSION OF IMPROVED VEGETABLE SEEDS AND TREE SEEDLINGS

The Extension Department of the National Agricultural Production Promotion Commission has contributed $4,000 local currency towards the distribution of improved vegetable seeds and tree seedlings on the Chengtu plain. The new project includes the selection and multiplication of superior strains of vegetables from farmers' fields, and a demonstration nursery for the propagation of good varieties of fruit trees. After multiplication, tree seedlings and vegetable seeds will be distributed to farmers on the Chengtu plain to improve the quality and quantity of their produce. The combination of good strains plus the natural fertility of the Chengtu plain should result in an increased income for the farming population.

GRANT FOR EXTENSION FROM THE MINISTRY OF EDUCATION

A letter has just been received from the Head of the Social Education Department of the Ministry of Education, Mr. Cheng Li-chiang, stating that in recognition of the excellent work which this institution has done in extension, particularly in the field of agriculture, over a period of years, the Ministry of Education has approved a recommendation from the Social Education Department to grant $1,000 local currency toward the support of the extension program.

FIGHTING STORAGE DISEASES OF CITRUS

The Department of Horticulture has been experimenting this past winter on cheap and effective methods of reducing losses of citrus fruit from disease while in storage. Szechuan's citrus production may be compared favorably with practically any citrus center in the world, but the inadequacy of storage facilities, plus the loss from disease during storage, has prevented the citrus industry from being very profitable to the growers.

The climate in Szechuan is favorable to the development of certain storage disease organisms, such as *Penicillium* and

Phomopsis which start while the fruit is still in the orchard. Since small growers cannot afford elaborate packing and storage facilities, generally from fifty to seventy percent 'wastage' is experienced in the common storage 'pit' within three months.

A simple experiment conducted in the attic of our present temporary quarters in cooperation with the Plant Pathology department gave surprising results. Sweet oranges from four selected trees were treated with various concentrations of hot and cold borax solutions and stored in sawdust. This treatment proved very efficacious even without refrigeration as indicated by the low percentage of rotted fruits shown in the table below. It has the added advantage of being cheap, costing only about one cent for 50 fruits. The cheapness and simplicity of this method should make it easily usable by small growers, and it may well turn the small margin of profit under which most of the farmers work into a really tangible income.

Treatment	Time	%Sound fruit	%Rotted fruit	%Pitted and shrunken fruit
None		28	50	22
3% borax - cold	3 min.	70	26	4
3% borax - hot	3 "	60	30	10
5% borax - cold	3 "	70	16	14
5% borax - hot	3 "	76	18	6
3% borax - cold	5 "	74	20	6
3% borax - hot	5 "	88	12	0
5% borax - cold	5 "	68	24	8
5% borax - hot	5 "	74	24	2

FELLOWSHIPS IN HORTICULTURE

The Rockefeller Foundation recently authorized two fellowships in Horticulture for special work on citrus, the fellowships to cover a period of nine months. One of the fellows is Mr. Chia Lin-heo, a graduate of the College in 1935, who has since been working at the Oberlin Memorial School in Taiku, doing special work in horticulture. Since the war forced the removal of that institution, Mr. Chia has returned to take up research work with this College, on the special subject "Studies on the Pollination and Setting of Sweet Oranges". The other fellow is Mr. Yang Chia-yung who graduated from this College in 1936 and has since been teaching in the Short Course. His subject will be "Studies on Propagation Problems of Citrus Culture in Szechuan".

NATIONAL CONFERENCE ON PRODUCTION

The National Conference on Production will open in Chungking on May fifth under the chairmanship of Dr. H.H. Kung, Head of the Executive Yuan. The purpose of this conference is to critically review past production in agriculture, industry and mining and make plans for increasing qualitative and quantitative output in these three fields. Conferees will include representatives from the Ministries of Economics, Finance, Education and War, Relief Committees, National Agricultural Production Promotion Commission, Chinese Industrial Cooperative Union, National Agricultural Research Bureau, Farm Credit Administration, Commission on Natural Resources, deans of agricultural colleges, representatives of designated productive enterprises and forty specialists in the fields concerned.

This College will be represented by the Dean, Mr. C.W. Chang, and the Head of the Department of Agricultural Economics, Mr. C. M. Chiao, who is acting concurrently as Chief of the Extension Department of the N.A.P.P.C.

SUPERVISION OF VOCATIONAL AGRICULTURAL SCHOOLS

At the recent conference of the Provincial Government on Vocational Education in Agriculture, this College was asked to give supervision to 10 out of the 33 vocational agricultural schools in this province. The College has thus undertaken supervisory duties for ten schools located on the Chengtu plain and in the southern part of the province, all of which are within a reasonable distance of either the College or the Training School.

GRADUATES OF THE RURAL LEADERS TRAINING SCHOOL

Thirty nine men graduated from the Training School in April. Because of the many demands for trained workers, the year's work at the School was intensified and shortened so that the men could start in their new positions in May. During April the students were allowed free rein in working up a program of vital extension activities, including the improvement of agricultural production; social activities such as dramatics clubs, etcetera; and propaganda against Japanese aggression.

Early in April the entire graduating class walked from Jenshow to Chengtu, a distance of about 70 miles, stopping at two of the extension sub-stations along the highway for a practical application of some of the activities enumerated above. After arriving at Chengtu, they spent two weeks at

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the College where special lectures on cooperatives, insect control, pathology, and other special subjects were given in the mornings and discussions were held in the afternoons to give the men an opportuuity to talk to specialists in the various agricultural fields. From Chengtu the class traveled to the College Extension Center at Wenkiang for practical demonstrations of extension activities under the local workers.

After graduation ten of the men will be employed by the Cooperative Bank of Szechuan while most of the remainder will take up positions under the N.A.P.P.C. The number of graduates is far from adequate to fill the demands for agricultural workers from the various government organizations.

"Tsa Tsai" - A SALTED VEGETABLE OF SZECHUAN

A well-known product of Szechuan which has found favor in all parts of China and has also been exported abroad is known as "tsa tsai", the salted stem portion of mustard plant. The special variety of mustard used has an anusually thick stem, the inside of which is processed and preserved for shipment. Although the local people have been treating this vegetable in a more or less similar manner for hundreds of years, there is no information as to the actual changes taking place during processing, nor is the resultant product in any way standardized. The Department of Horticulture has been studying and photographing the various processes involved with a view to improving the method and providing for a standardized product. Results of the survey have been reported to the Government.

The product is important because of its cheapness, it concentrated food value, and the fact the it will keep without refrigeration, three factors which are essential at all times, but particularly so in this time of stress. It is also useful as food for the army. Last but not least is the fact that it represents an industry with a turnover of two million dollars a year at present, and hence is an item to be reckoned with in the economic prosperity of the province.

IMPROVED VARIETIES DEVELOPED AT THE AGRICULTURAL EXPERIMENT STATIONS OF THE UNIVERSITY OF NANKING

Since 1924, the crop improvement program on a large scale has been well under way. Considering the population and area of China, and the fact that 85 percent of the population is rural and hence directly connected with agricultural production, crop improvement may well be considered of the

utmost importance to the economic and physical well-being of the people.

Because of the great variation in environmental conditions throughout the vast area of China, experimental stations were established in nine provinces in cooperation with government, mission and private institutions. The Central Station is at Nanking with more than 2,000 mow (about 330 acres) of land for experimental and multiplication purposes. Four sub-stations, the Yenching Sub-station near Peiping, the Kaifeng Sub-station carried on in cooperation with the Southern Baptist Mission in Honan, the Northwestern Sub-station near Sian in Shensi, and the Wukiang Sub-station in Anhwei, carry on similar experimental and multiplication work in their respective areas. In addition there are eight cooperative stations at: Nanhsuchow in Anhwei; Liuho near Shanghai and Hsuchowfu in Kiangsu; Tsinan, Chowchwen and Chingchow in Shantung; Oberlin, Taiku in Shansi; the Mass Education Movement, Tinhsien in Hopei. Five regional test stations and seven improved seed distribution centers complete the list.

The crop improvement work is confined to the eight main crops in China, seven of which are used for food and the eighth for clothing. For the combined eight crops 36 varieties have been improved, and of these 27 have been distributed to farmers while the remaining are still in the stage of multiplication.

Almost all of the crop stations are located in areas now temporarily occupied by Japanese, but fortunately many of the cooperating organizations are mission institutions so that the work is still going on in spite of the war situation, although in some cases the activities have had to be somewhat curtailed.

For the sake of brevity, yields and some special characteristics of the 36 improved varieties are given in tabular form below.

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IMPROVED CROP VARIETIES

From the University of Nanking Agricultural Experiment Stations

Improved of varieties		Yield in catties per mow	Gain over check (%)	Gain over farmers' varieties (%)	Remarks
WHEAT					
*U.N. 2905		226.0	25.0	32.0	Early, stiff straw, smut resistant
*U.N. 26		208.1	7.0	7.0	Early, good stooling power
*U.N. Kaifeng		238.6	12.5	17.7	Stiff straw, good quality
*U.N. Nanhsuchow 61		284.0	33.9	34.0	Early, resistant to nematode
†U.N. Nanhsuchow 1419		264.0	23.0	56.9	Stiff straw, good quality
*U.N. Yenching Standard				19.0	White kernel, resistant to cold
*U.N. N-W Blue-awn		185.0		19.0	
*Oberlin, 169	dry land	370.0	13.5		White kernel
	irrigated	226.0	9.2		White kernel
*Tinghsien 72		267.5	15.0		White kernel
*Tinghsien 73914		255.8	18.3		Good quality
*Hsuchow 1438		245.9	16.5	22.5	Resistant to cold and drought
*Hsuchow 1405		251.9	21.2	27.2	Resistant to cold and drought
†Tsinan 1195		303.5	32.4		Resistant to flag smut
COTTON					
*U.N. Trice		180.0			Wide adaptation
*U.N. Acala		180.0			Fine fiber
*U.N. Million Dollar		150.0			
†U.N. Acala 481		187.0	8.5		
†U.N. Acala 949		220.0	18.5		
Stoneville 4		200.0			Early maturity
*Delfos 531		200.0	35.5		
RICE					
†U.N. 1386	Direct planting	361.2	9.0		Stem borer resistance
	Transplanting	394.8	12.9		
SOYBEAN					
*U.N. 332		133.0	44.9	82.7 90.8	High yield
MILLET					
*U.N. Yenching 811		303.0	26.8	17.8	Resistant to downy mildew
*U.N. Nansuchow 373		353.0	13.0	50.0	
*U.N. Kaifeng 48		370.5	31.0		
*U.N.C.H. Millet		424.3	34.9		Somewhat resistant to kernel smut and downy mildrew
*Tinghsien-Yenching 22		417.0	7.8		
†Tsinan U. N. Path. 8		479.7	53.4		Resistant to kernel smut
KAOLIANG					
*U.N. Kaifeng 2612		284.1	21.2	13.4	
*U.N. Nanhsuchow 2624		328.0	18.0	39.0	
*Tinghsien 33		250.9	28.0		
BARLEY					
*U.N. 99		211.8	17.9	17.9	Resistant to covered smut
†U.N. Kaifeng 313		266.6	7.3	21.9	
†U N. Nanhsuchow 1963		358.0	18.0		
†U.N. Nanhsuchow 718		224.0	13.0		
CORN					
*Oberlin Golden Queen		554.0	21.0		Fairly resistant to corn borer

†Seeds being multiplied, not yet under extension.

*Seeds under extension.

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AGRICULTURE AND FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

July, 1939 Chengtu, No. 5

JAPANESE PLANES RAID CHENGTU

On June 11th, 27 Japanese planes flew over Chengtu, dropping incendiary and demolition bombs on the city where fires blazed all night. Four bombs landed on the West China Union University campus which is outside the city across a small river. One bomb hit the building next to the annex now occupied by the University of Nanking. Only a few people received minor injuries, but windows, ceilings and equipment suffered severely. A second bomb struck very near the home of the University President, bruising the inhabitants and damaging the house so badly that it is now unfit for use. The remaining two bombs were very fortunately "duds", fortunate because both hit near the library and Ginling College dormitory.

The raid was entirely unjustified from a military standpoint since all the damage occurred in a district inhabited by small merchants in the city and to the educational institutions outside the city.

SUMMER TRAINING IN COOPERATIVES

The fourth summer institute on rural cooperatives conducted by the Department of Agricultural Economics with funds provided by the National Christian Council will be held from August 12th to September 9th at Wenkiang where the facilities for practical demonstrations in a market town are better than in Chengtu.

Rural workers with the equivalent of middle school education, and over 20 years of age, are qualified candidates. Applicants must be recommended by their respective churches. The course will deal with all phases of rural cooperation, including industrial, agricultural and credit cooperatives and their organization and administration. The object of the institute is to help fill the urgent need for qualified leaders in cooperative work.

SUMMER CONFERENCE FOR EXTENSION WORKERS

Our first formal summer conference for extension workers will be held on the Chengtu campus from August 3rd to

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8th. About 30 conferees are expected from our three extension centers in Szechwan and two centers in Shensi. Reports, discussions and lectures will deal with special problems of extension work in these western provinces.

CHINA FOUNDATION RENEWS GRANT FOR NINTH YEAR

The China Foundation is continuing its support of the rice disease investigations for the ninth year with a grant of $7,000 Chinese currency. The College is very grateful for this assistance which has enabled the Plant Pathology Division to build up a fairly well-equipped laboratory for plant disease studies.

Varietal tests on the resistance to *Helminthosporium* proved 21 varieties out of 495 to be strongly resistant. Studies on the morphology of sclerotia found on rice have been completed and pathogenicity tests are in progress. Studies on the mode of infection of two smuts are also well under way.

WHEAT DISEASE STUDIES—NATIONAL AGRICULTURAL RESEARCH BUREAU

The Bureau has renewed its grant of $2,000 for studies on the flag smut of wheat and an additional grant for a similar amount has been made for studies on stripe rust of wheat. Last month a survey was made on damage done by stripe rust and the disease was found extremely destructive in regions north of the Yangtze River. Another survey is in progress in the spring-wheat regions in the Northwest.

In the varietal tests on the resistance of wheat to stripe rust, three varieties were found promising both in resistance and agronomical characters. Varieties of wheat for differentiation of various biologic forms of the stripe rust fungus have been sent from the United States and Germany.

GENERAL PAN PROVIDES LAND FOR EXPERIMENTAL WORK AT JENSHOW

General Pan Wen-hwa, a native of Jenshow, has rented about 100 mow of land near the present location of the Rural Leaders Training School at Jenshow and has put it at the disposal of the school for field work. This brings the total amount of land available for student field practice up to 120 mow, and greatly facilitates the work of the school which is primarily of a practical nature.

LAND CLASSIFICATION AND SOIL SURVEYS IN SZECHWAN

The Department of Agricultural Economics has been cooperating with the Szechwan Provincial Government on

land classification and soil surveys in 10 hsien, and this program is now being extended to include 20 additional hsien. Twenty-one surveyers, at present being trained at Pihsien, are to be supplied by the Government. The Department will provide three survey directors, probably from among the new graduates. The cost of the survey will be met by the Government but the salaries of the directors will be paid by the Department. Cost of soil analyses will be shared equally by Government and Department.

COOPERATIVE STORAGE AND MARKETING OF SWEET ORANGES AT CHIANGTSING

The citrus fruit storage and marketing project at Chiangtsing financed by the Farm Credit Administration Bureau, with technical assistance from our Department of Horticulture, was carried on by the organization of a cooperative among citrus growers at Chiangtsing. Storage quarters were built with funds provided by the Bureau and 120,000 pieces of fruit were stored for four moths with periodic inspections. The total loss was 17 percent from disease and theft.

The market price after storage was approximately three times the price at the time of picking. Sixty percent of the profit was distributed among the members of the cooperative while the remaining 40 percent was set aside for a similar cooperative in the future.

Prof. S. S. Chen who was in charge of the project has returned to the College with the experimental data and records for future reference. As a further record of the work, we have an educational moving picture of the picking, grading, packing and storage of fruit taken by the Science College of the University.

COOPERATION WITH THE NATIONAL COUNCIL FOR RURAL RECONSTRUCTION

After a year of reorganization, the National Council for Rural Reconstruction has asked the College to resume responsibility for the agricultural work of the Council, and the College has expressed its willingness to take up this task again. Professor Y. W. Chang who represents the College in this cooperation, has been with the Council since its beginning in 1936 in the Department of Agriculture which now has a staff of approximately fifty persons. The Council's present headquarters are at Tingfan, Kweichow.

MINISTRY OF EDUCATION GRANTS CHAIR IN PATHOLOGY

The Ministry of Education has renewed its grant of $3,430 Chinese currency for the third year for a professorship

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and equipment in Plant Pathology. The appointment for the first year went to Dr. Yu Ta-fu and for the second year to Dr. Wei Ching-tsao who will continue to hold the chair next year.

REORGANIZATION OF DEPARTMENTS OF BOTANY AND RURAL EDUCATION

In compliance with instructions issued by the Ministry of Education of the National Government, the Department of Botany has been changed to the "Department of Applied Biology", including the Divisions of Botany, Economic Entomology and Plant Pathology; while the Department of Rural Education is now to be known as the "Department of Agricultural Education, including Divisions of Teacher Training and Supervision of Secondary Schools in Agriculture. This is the first Department of Agicultural Education to be set up in any university in China.

VEGETABLES IN WESTERN SZECHWAN

Vegetable gardening is well developed in this region because the warm moist climate is especially suitable for growing a variety of vegetables. A survey was made to (1) work out botanical classification of the vegetables grown, (2) select native varieties with special food and preservation values, and (3) remedy cultural practices. A collection has been made for cultivation on our experimental farm under close observation for botanical characteristics and growth habits. Most of the stock was found to have degenerated seriously from lack of selection and breeding, and great loss is suffered from disease and insect damage. Breeding and control measures are much needed.

The fleshy-stemmed and root vegetables are especially suited to this region and the native varieties are well worth cultivating. Among the outstanding ones are mustard *(Brassica juncea)*. asparagus lettuce *(Latuca sativa)*, radish *(Raphanus sativus)*, cucumber (*Cucumis sativus*), Chinese squash *(Cucurbita maxima)* and carrot (*Daucus carota*).

MUSHROOM CULTURE

The mushroom culture studies will be continued next year with a renewal of the grant from the National Agricultural Research Bureau. Experiments during the past year have shown that the "coin" mushroom which has a high food value can be successfully grown in sawdust during the winter months when fresh mushrooms are very scarce. Sawdust from "shamu" *(Cunninghamia)* and "nanmu" *(Phoebe)* has been found most successful for this purpose.

A comprehensive survey on edible mushrooms grown in southern Szechwan, Kweichow, Kwangsi and Yunnan is now in progress. The exchange of spawn of precious strains of edible mushrooms has been made with workers in other parts of the country as well as in England and France.

ORNAMENTAL PLANTS FROM MT. OMEI

The ornamental plants collected on Mt. Omei last summer by Mr. C. Y. Wang were planted in the garden in Chengtu and some at least have shown themselves well adapted to their new location. *Rhododendron Sheltonae* with its lovely pinkish flowers and *Rhododendron strigillosum* with its dark red flowers were very striking. *Aesculus Wilsonii*, a promising species of avenue tree, was sown in April and by June had grown a foot and a half, thus indicating its fitness for the Chengtu plain. Another species of avenue tree, *Euptelea pleiosperma*, is also growing well. The Sargent lily *(Lilium Sargentae)* is now in bloom and adds another beautiful perfumed flower to the ornametal plants of Chengtu.

TRIPS FOR SURVEY AND INVESTIGATION

Botany

Dr. Chiao Chi-yuen, Head of the Department, made a short trip to Mt. Omei to observe (1) the development of gallnuts on sumac, (2) the culture of China wax insects on *Fraxinus*, and (3) the growth of the drug plant, Hwang Nien, *(Coptis)* on the higher regions of the mountain.

Mr. Fan Ching-seng made a second trip to Ching-Cheng-Shan near Kwanhsien for an ecological study of the mountain vegetation, and brought back 150 specimens of woody plants.

Agronomy

Messrs. P. C. Ching and C. H. Yien made a two-week trip for barley head selections in Penshan, Meishan, Loshan, Omei, Chiakiang, Singchin, Minshan, Yaan, etcetera. Three thousand heads were collected.

Forestry

The tea area surveys of last summer were continued in May at Omei, Chiachiang and Haoshan in western Szechwan and Yaan in eastern Sikong. During some of the old dynasties these regions were famous for tea production but the industry has fallen off in recent years. If Government interest and support can be secured, the tea industry may become extremly profitable.

GRADUATES FOR THE YEAR 1939

Sixteen students will receive degrees from the College in July with majors as follows: 11 in Agricultural Economics, 2 in Forestry, 1 in Agronomy and 1 in Horticulture. Seventeen received degrees in February making a total of 33 graduates for the year. This is about one half the number graduating from the College in normal years. Considering the present hostilities in China, the long westward trek of the University, the loss of homes and businesses which affect the educational prospects of children, this is a surprisingly large graduating class.

SUMMER EXPEDITIONS

A grant of $250 U. S. currency has been received from the Arnold Arboretum of Harvard University for botanical collections in West China. An additional $100 U. S. currency has been given for a collection of fungous plants. Trips will be made in Szechwan and Sikong, western provinces of China bordering on Tibet.

We regret to report the death of Mr. Chang Ih-chen on June 11th as a result of the raid by enemy planes. Mr. Chang graduated from the College in 1938 and served during the past year on the staff of the Plant Pathology Division. The College mourns the loss of a brilliant student, a member of the honorary scholastic society, and a conscientious worker.

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AGRICULTURE AND FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

November, 1939. Chengtu, No. 6

A WORD OF APPRECIATION

We would like to take this opportunity of expressing our appreciation to the twenty-odd organizations, both governmental and private, in China and abroad, who are now cooperating with this College in 33 research and improvement projects.

Recently the Rockefeller Foundation has renewed its annual grant to the College, totalling $108,000 for projects in Agricultural Economics, Horticulture and Extension, and for local fellowships. The Agricultural Production Promotion Commission of the Executive Yuan of the National Government has made an additional appropriation of three thousand dollars for extension work in Jenshow and Sintu. All these projects that are undertaken by the College will not only throw light on the problems of agricultural improvement in China, but will also help to make instruction practical and substantial.

THE COLLEGE ORGANIZATION AND ITS WORKING PROGRAM

In spite of the present Sino-Japanese hostilities, the College has enjoyed a steady growth in recent years. It now comprises twelve administrative units, each again being sub-divided into divisions or sections for the sake of efficiency in administration. They are as follows:—Dean's and publication office, Agricultural Economics, Agronomy, Horticulture, Forestry, Applied Biology, Sericulture, Agricultural Education, Rural Leaders Training School, Teacher Training Course in Horticulture, Extension, and Post Graduate work in Agricultural Economics. A bulletin in Chinese is now in the press and will soon be ready for distribution, giving details of the college organization and its working program. In each of the twelve administrative units, descriptions are given under such headings as staff names, organization, instruction, reseach projects and extension activities. With more than 120 regular staff members and some forty odd technical and clerical assistants, a clear-cut organization and a definite program of work is obviously necessary.

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A TEACHERS' TRAINING COURSE IN HORTICULTURE.

The Ministry of Education of the National Government has recently asked the College to conduct a Training Course for prospective teachers of horticulture. This course will admit a class of thirty students of senior middle school graduates and give them training for four regular years. For this one class of students, the Ministry is making an annual grant of $15,000 to the College. This is the first time that the National Government has undertaken the task of training teachers of agriculture for secondary schools. It is an epoch—making event. We feel it a great privilege to be able to cooperate with the National Government in such an undertaking.

MORE WORK ON SWEET ORANGES

Ten strains of sweet oranges were selected in the well—known orange producing district of Chin-tang and five in Chiang-ching last year. Those selected from Chin-tang were propagated by top-working on ten year old orange trees in the spring. During the summer, each strain was propagated in hundreds by budding.

Owing to the inadequate means of storing oranges in Szechwan, a great loss is always experienced by every orange grower in this province, due to the exceedingly high percentage of rotted fruits in storage. A model storage was therefore suggested to a private orange corporation which was organized by the University faculty members, orange growers and the local official leaders. This model storage was designed by the Dept. of Horticulture with a capacity for storing 200,000 oranges with the cost of construction accessible to a common farmers' cooperative. The construction is to be finished about the end of November. At that time, the oranges will be sorted, graded, washed, packed and stored according to modern scientific methods under the supervision of the Dept. of Horticulture. Most of the oranges will be handled by students majoring in the department.

Several fungicides of local production and some standardized washing chemicals are being experimented with for their effectiveness, and the proper concentration and environments required for their use as a prestorage washing of sweet oranges.

STORAGE EXPERIMENT WITH GRIMES GOLDEN APPLES

Grimes Golden apples are being grown widely among farmers around Chengtu since their introduction about 15 years ago. Owing to the excessive humidity here, as well as the warn climate; and inadequate means for insect and disease

control in the orchards, the supply is usually exhausted in a few days after packing.

A preliminary experiment was conducted last summer to store in ordinary room temperature a picul of apples. After careful sorting they were washed in a diluted hydrochloric acid solution. They were stored from Aug. 15 to Oct. 18. About 80% kept in very good condition after these three months in storage. The bright golden apples after storage are exceedingly good in flavor and quality.

The major part of the wastage in storage was caused by maggots of a certain curculio, and of several kinds of rots determined as caused by Gleosporium, Dotheorella and Macrophonia.

WORK ON VEGETABLE CROPS

Immediately after the transfer of the University we were unable to carry on our work in nursery and seed selection. But owing to the pressing need at present for good seed and nursery stock, the work has again been resumed, being aided with a grant from the Agricultural Production Promotion Commission of the National Government. Altho there are abundant vegetable crops in Szechwan, we still feel there is call for improved varieties, so accordingly part of a 17 mow piece of waste land, obtained in Wen-kiang, has been planted with selected varieties of cabbages, cauliflowers, onions, chai-tsai, tomatoes and other economic vegetables to be used for breeding purposes. The resulting seeds from this experiment will be distributed to local farmers and institutions for more and better vegetable production. Several institutions are already receiving a part of the selected stocks of seeds for rural extension work, such as the National Y.W.C.A., the Provincial Experiment Farm at Hsikong, the Rural Construction Committee at Wen-kiang, etc.

A good share of the above 17 mow of land was usedto propagate better strains of fruit varieties, especially Citrus, Peaches, Pears, and Apples.

A NEW BARLEY STRAIN READY FOR EXTENSION

In addition to the rapid extension of our improved wheat, known as "Wheat 2905", by the College and the Provincial Agricultural Improvement Bureau of Szechwan, we have fouud a new barley strain which has proved to be very good in Anhsien, Szechwan, 80 miles from Chengtu. In a regional test during 1938-39, this new barley strain (known asNo. 1) was compared with three famous local varieties. The improved variety No 1, proved to be superior over the local ones, yield-

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ing more catties per mow than the average of the three local varieties. Because An-hsien is a barley region, it has been decided to use the improved seed on a large scale next season for extension work.

STUDIES ON LIFE HISTORIES OF INJURIOUS INSECTS.

Studies on the life histories of the following insects were started last summer: mole cricket, citrus fruit fly, melon fruit fly and the pea leaf miner. One cycle of the citrus fruit fly has been completed. When the studies have been made vrious control measures will be attempted. Fifty varieties of pea seeds were collected for the purpose of testing varietal resistance of peas to the pea leaf miner.

LAND CLASSIFICATION PROJECT EXTENDED

The Department of Agricultural Economics cooperated with the Land Registration Bureau of the Szechwan Provincial Government in land classification in ten hsien last year. Another 20 hsien will be surveyed this year. The purpose of this survey is to determine the grades of soil and thereby to make a just land assessment.

DIRECTION OF COOPERATION IN WEN-KIANG DISTRICT.

An arrangement was made with the Szechwan Provincial Cooperative Commission whereby the Dept. of Agricultural Economics is responsible for the direction of organization and practice of cooperatives in the Wen-kiang District. At first there were only about 50 credit cooperatives but by the end of Aug. 1939 there were 120 registered credit cooperatives with a membership of 5706 farmers, and 4 credit unions. Meanwhile, the outstanding loans granted by the Wenkiang Cooperative Bank amounted to $300,000 national currency. Whereas formerly, many societies were without adequate records, they have now gained the knowledge of a system of book-keeping, whereby they may determine the success or farlure of their projects.

A STUDY OF THE COST OF LIVING IN CHENGTU.

The Department has also completed a study of the cost of living in Chengtu. Four indices have been compiled for this study, viz: (1) an index for the laborer-pedlar class, (2) one for the military-official-educational class, (3) another for the merchant-storkeeper class, and (4) finally one for the average of these three classes.

Since the habits of consumption and the standard of living of these three classes are markedly different, the behavior of

their cost indices during the war has been widely divergent. Among the different groups of living costs, clothing materials increased the most, averaging 3 times that of pre-war days. Food shows an increase of 30 to 75 %, fuel and lighting by 70 to 90%, while the only group showing a decline is rent, due to indiscriminate air raiding by the Japanese.

On the average, the purchasing power of the yuan in the hand of an average Chengtu resident is worth about 62% of the same yuan in pre-war days.

INCREASED PLANTATION OF TUNG OIL TREES IN SZECHWAN

Since the supply of Chinese wood oil has been of great significance to the international markets for a long period of years, and in recent years, it has led in China's foreign exports, it is of great interest to note the resulting figures procured in a recent study of the wood oil industry in Szechwan. It is found that 65% of the total trees are less than nine years old, 24% fall into the group of from 9 to 18 years, and only 11% of the trees are more than 18 years old. Judging from the fact that the normal life of a wood oil tree is usually over 20 years, the high percentage of the lower age group insures an increasing trend of production for the contemporary period of years.

"ECONOMIC FACTS"

In spite of printing difficulties, there will be an issue of "Economic Facts" ready in Nov. 1939. It will contain such articles of interest as: Cost of Living in Chengtu; Size of Farm in Relation to the Successfulness of a Year's Business on 93 Farms in Hopei, 1936; Price Development in China during the War; Feasibility of Farming Uncultivated Land.

NANKING INDEX NUMBER

Dr. W. Y. Yang and his associates in Dept. of Agricultural Economics is compiling in one volume all index numbers. This compilation has been approved by the Research Committee of the College of Agriculture and Forestry and is in the hands of the printer in Shanghai. We expect that this publication will be ready for circulation in about one month's time.

ACTIVITIES OF EXPERIMENT STATIONS

The Agronomy Experiment Stations of the University which are mostly located in the war area are s till making considerable progress in spite of many difficulties. During 1939 in

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Nanking, Ku. 9000 catties of Wheat 2905 were distributed, app. 1000 mow planted.
Nanking, Ku. 10000 catties of Cotton were distributed, app. 800 mow planted.
Chengtu, Sze. 6000 catties of Wheat 2905 were distributed, app. 500 mow planted.
Nanhsuchow, An. 5500 catties of Wheat 1417 (new) were distributed app 600 mow planted.
Tsinan, Shan 6000 catties of Wheat 1195 were distributed, app. 700 mow planted.
Tsinan, Shan 3000 catties of Millet 8 were distributed app. 1000 mow planted.
Yenching Station 9100 catties of Wheat (Paiwanpai) were distributed app. 1000 mow planted.
Yenching Station. 8908 catties of Millet 811 were distributed, app. 4000 mow planted.
Sian Station 92050 catties of Wheat, Blueawn were distributed app. 10744 mow planted.
Sian Station 300000 catties of Cotton, Stoneville were distributed, app. 30000 mow planted.

The Extension centers at Jenshow, Singtu and Wenkiang have come along very well with their programs. Chinese reports of their work have been completed and will be ready for distribution. The two centers in Shensi have been opened less than a year, however, in Chin-yan the field inspection of 30,000 mow of best "Stoneville" cotton has already been made. The second station at Nancheng was opened last spring under the direction of Mr. Kiang Ying-swen who has had long years of experience at Wu-kiang. They are completing a farmers' association with 1800 farmers as members.

EXTENSION TEACHING.

The Fourth Summer Cooperative Institute was held during the summer of 1939 at Wen-kiang under the auspices of the National Christian Council, by the Dept. of Agricultural Economics. 73 students came together to discuss cooperative problems and learn what they could of new methods of cooperation. On request, a large number of our teaching staff gave courses to the Industrial Cooperative Training Class under direction of the Chinese Industrial Cooperatives, the Summer school for Teachers of Vocational Agriculture under asupices of the Ministry of Education, and the Summer School for workers on Social Education, also under the Ministry of Education, and an Extension Training Class of the Provincial Agricultural Improvement Bureau of Szechwan.

SOME SUMMER TRIPS

For Surveys: Several survey trips were made by various members of different departments during the last summer. Among them was one into Ch'en-yang District of native pears, wher-24 varieties were found. Prof. H. F. Chu of Forestry madee

a survey of forest resources in Si-kang in cooperation with Si-ning county He was also asked to suggest improved methods of timber transportation.
There were also surveys made of Citrus Fruit Pests and crop diseases in Szechwan and northern Shensi A comparison of rice diseases in Nanking and Szechwan was studied by the Pathology Division and the fruit diseases common in Chengtu. Trips for the surveying of edible mush rooms in Kwangsi and Yunnan were conducted, and also for industrial plants in West China. Reports on research progress in Szechwan wood-oil plant, rape seed oil, walnut oil and walnut trees and the drug plant, Huang-lien have already been published.
For collection: This new location offers new impetus to the collecting opportunities of the various departments of the coll ege. Several such trips were organized during the past summer, including one for the collection of vegetable seeds for regional tests, one by the Dept. of Botany for specimen collecting into Si-kang. These specimens are now being sorted and labeled after which they will be distributed to cooperative institutions, including those abroad.

STUDENT ENROLLMENT

This Fall Term there are 6 graduate students, 10 research fellows, 164 college students and 67 students in the Rural Leaders Training School, totaling 247 students for the College of Agriculture and Forestry.

STAFF CHANCES

Miss Hilda M. Anderson, who has been serving as English Secretary to the College for the past seven years, has just resigned. We regret very much losing one who has become so familiar with our work. Her work is now being taken up by Mrs. Charles Riggs, who has just returned from America with her husband Professor of Agricultural Engineering in the College.

Beginning with this school year, we have added five professors, one instructor, twelve associates, and four assistants to our staff list. Among these are Dr T. L. Kwan and Prof. Paul C. Hsu, having had their advanced work at Cornell. Mrs. Kwan joins the Ginling College staff as professor of music. We rejoice in the fresh blood and new enthusiasm which they will bring to the work that we are undertaking. Resignations were accepted from one professor, seven associates and five assistants, either for advanced training, or for greater service with government institutions.

TRAINING PROGRAMME AND FACILITIES FOR TRAINING

COLLEGE OF AGRICULTURE AND FORESTRY UNIVERSITY OF NANKING

I. *Training Programme.*

The training programme of the College falls into the following categories, covering the whole field of agricultural training from the highly specialized post-graduate course for technical agricultural workers, through the Rural Leader's Training School for agricultural extension agents and down to the extension schools for present and prospective farmers for proficiency in farming.

1. *Post-Graduate Course.* Since 1936 the College has offered post-graduate work in Agricultural Economics. Three students graduated, receiving the M. S. degree granted by the Ministry of Education of the National Government. They are all engaged by government institutions for work in which they are specialized. Now there are six students in the graduate work of Agricultural Economics and seventeen research fellows engaged in research work in several departments of the College. In view of the need for advanced training for students of agriculture for rural reconstruction and the unfavorable rate of exchange of Chinese currency preventing many of them from obtaining advanced training abroad, preparation is being made to offer post graduate work in Agronomy, Horticulture, Forestry and Applied Biology in the College, all in the field of plant production.

2. *Under-graduate Courses:* At present the College is offering seven major courses:—Agricultural Economics, Agronomy, Horticulture, Forestry, Entomology and Plant Pathology, Applied Botany and Agricultural Education. In addition the Department of Sericulture and Agricultural Extension also offer a few courses of study, although they do not receive major students. Up to the end of last summer, 1939, graduates of the College total 555, about 120 of them having received advanced training in foreign countries. Many of them are holding positions of importance in governmental institutions, for the advancement of agricultural improvement. At present we have 162 regular students, aside from many irregular ones from other institutions on the campus taking a few courses of study in the College.

3. *Teacher Training Course in Horticulture:* At the request of the Ministry of Education of the National Government, the College is conducting a training course in Horticul-

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ture for prospective teachers in secondary schools of Agriculture. It is a four-year course, admitting thirty students, graduates of senior middle school. For this course, the Ministry makes an annual appropriation of a sum of $15,000.00 to the College. This is the first time that the Ministry has ever undertaken the task of providing regular training to prospective teachers of agriculture. Centainly it is an epoch-making event.

4. *Rural Leaders Training School:* This is a two year's course, admitting graduates of senior middle schools. It has been in operation for seventeen years, graduating 548 students. Its training is of a practical nature, a half day is spent in class work and a half day in field practice, throughout the two years course. The students are especially fitted for agricultural extension work which is to be developed on a nation-wide basis. The school is now located in Jenshao, about seventy miles from Chengtu, out in a rural environment, good for their extension training. The enrollment of students for this term is 73.

5. *Short Term Training Courses.* To meet public needs, the College has frequently offered short term training courses. Notable are those conducted in cooperation with the National Economic Council, the Farm Credit Administration Bureau, and the National Agricultural Production Commission. Students graduating from these courses total 353.

6. *Extension Courses:* Aside from resident instruction, the College is conducting several extension schools. They are as follows:

a. Correspondence School in Forestry. This is for those who are already engaged or interested in forestry work but cannot go to school for full time study. 75 students have finished the prescribed courses of study in the correspondence school. There are now 15 students registered in it.

b. Extension School for Farmers. Several extension schools for farmers have been conducted in our extension centers in Szechuan Province. The school buildings are either temples or ancestral halls provided by the local people, who also furnish a part of the equipment for the school. The school is run as a community enterprise. Some of the Agricultural Extension Agents are either stationed in the school or make frequent visits at definite intervals from the county seat. They require farmers of the locality to attend the school for lectures and demonstrations and to translate them into action in their homes and on their farms. At first the agents visit the homes of the farmers who fail to come, and usually after getting acquainted, the farmers are glad to attend the school. After they have attended for a minimum

time, put improved methods into practice, and have passed an oral test, they are given a certificate, stating they are "modern farmers." These farmers then become key men, working with the extension agents for agricultural improvement in their own localities. In due course of time, all the farmers of the district may thus be trained and become modern in their methods of farming.

c. Part time school for Rural Youth. A part time school for rural youth has just come into existence in the Jenshao district. This school is for a selected group of "modern farmers" between the ages of sixteen and twenty-five. There are already 60 enrolled in this school. They are required to attend the school during the slack season of the year for three years. During the busy season they return to their own farms and work under the supervision of their teachers who are then extension workers, paying them farm-to-farm visits. After three years of practical training, they are expected to be local leaders for rural betterment.

"Extension schools for Farmers" is extensive in nature, trying to reach the mass of the farm population, while the "part time school for rural youth" is intensive, aiming at local leadership training. It is only through the active participation of the farmers that we can possibly hope for any substantial improvement in agriculture. Hence this training is a task of tremendous importance.

II. *Facilities for Training.*

Because of its long existence and its many opportunities for cooperation with other institutions, the College has built up facilities for training in many respects unsurpassed by sister institutions in this country. They are briefly summarized as follows:

1. *In the field of plant production:* In the field of plant production, there are now in the College, four departments, each again divided into divisions. They are the Departments of Agronomy, Horticulture, Forestry and Applied Biology. The farm crops improvement pragram of the College is one of great importance. In this the College has established a main crop improvement station in Nanking, four sub-stations in Anhwei, Honan, Hopei and Shensi provinces, and about a dozen cooperative stations in North and Central China. All of them have been in operation from seven to twenty years, hardly with any interruption. Thirty six strains of eight major crops have been improved and twenty-six of them have long been in extension. Many governmental and

private institutions have helped in the distribution for wide application. Nanking wheat No. 2905 has proved adaptable to the Province of Szechuan, yieding 10-30% higher than the best local variety. The Provincial Government is making every effort to get it widely distributed.

The citrus fruit improvement program of the College merits a word of explanation. At present the improvement is centered around the sweet oranges, aiming at the improvement of the whole industry. Effort has been directed to the selection and propagation of the best strains, to the study of insect and disease control, and to the improvement of handling, storage and marketing. In the past year and half, much progress has been made in these directions. In due course of time the sweet orange will be greatly improved and its cultivation will become an industry of economic importance.

Along with the farm crops, and citrus fruit improvement program, there are in the College such divisions of learning as Applied Botany, Entomology, Plant Pathology, Soil and Fertilizers, and Agricultural Engineering, all with good laboratory facilities for research work to facilitate the improvement of economic plants and their production.

2. *In the field of Agricultural Economics.* In the field of Agricultural Economics, the College has a separate department consisting of six divisions, namely Agricultural Policy, Rural Finance and Cooperation, Agricultural Prices and Statistics, Farm Management and Agricultural Marketing, Rural Sociology and Organizations, and Agricultural History. As a result of their surveys and studies, this department has published such books as "Chinese Farm Economy" and "Land Utilization in China" in three volumes and many bulletins. It also publishes "Economic Facts", containing articles on their findings. Recently the "Economic Weekly" has been added to their publication list for the interest of the public. The Shanghai Commerical and Savings Bank has donated a sum of $9,000.00 for books for the Department. Hence the Department has built its own library facilities and worked out methods for approach to many problems of Agricultural Economics.

3. *In the field of Agricultural Engineering.* The Division of Agricultural Engineering of the Department of Agronomy has a very good laboratory set up, which has had to be largely left in Nanking. In Chengtu, an arrangement has been made for the Division to take charge of the machine shop of the West China Union University as a cooperative enterprise. The Division is now helping to develop the wool weaving project which is entrusted to the University by

government institutions. Preparation is being made for students to major in Agricultural Enginering, as instructed by the Ministry of Education of the National Government.

4. *In the field of Agricultural Education and Agricultural Extension.* There are three hsien in the vicinity of Chengtu in which the college has been experimenting with the system and methods of extension on a hsien-wide basis. The work of these three centers has so far advanced that they are being used for training purposes. At the request of the Provincial Government, the College has provided supervision for eight secondary schools in agriculture. A few of them are quite close to Chengtu and can be used as practice schools for the teacher training course.

5. *Staff members and the Spirit of Service.* The most important assets that the college has for its training programme, are its staff members and its spirit of service. On the staff there are 33 professors, 25 instructors, 34 associates, 83 assistants, totalling 175. Most of them have been serving for from five to ten years, and quite a number of them for over ten years. They have set a pattern for the institution in hard work and service; no matter what may happen to the school buildings and equipment, wherever they go, the school goes with them, and can go on under any circumstances. This is evidenced by the fact that the college has been doing a great deal more in its new environment in Szechuan than it used to do in Nanking.

In conclusion, the College as a training institution, has at its disposal many facilities which have been built up in the last quarter of a century since its establishment in 1913. It has trained 1456 graduates, from the College, the Rural Leaders Training School and Short Courses. Before the war, about 95% of them were engaged in work for which they were trained, constituting about two-fifths of the total force then engaged in agricultural improvement in China. The demand for our graduates is always in excess of the supply.

C. W. CHANG, DEAN
Nov. 1939

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AGRICULTURE AND FORESTRY NOTES
COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

April 1940 Chengtu, No. 7

AGRICULTURAL WORK AT TINGFAN, KWEICHOW.

The Department of Agriculture of the National Council for Rural Reconstruction at Tingfan, Kweichow, which in supported by the Rockefeller Foundation, is under the supervision of the College. Dean C. W. Chang is the head of the department, with Prof. Y. W. Chang, as a deputy head. Prof. Chang has been in the Council's field ever since our participation in this organization in order to insure a continuity of the work. The total number of staff members of the department for its whole field of activities is over thirty. Besides, there are nine research fellows, who are all college graduates. Dean Chang, together with Dr. W. T. Chang, Prof. of Pomology of the College, recently made a visit to the field where each gave a series of lectures.

The present program of the Council for agricultural improvement at Tingfan may be summarized as follows:-

1. To work out a system of agricultural extension on a hsien-unit basis with the expectation of its adoption by the government. This is done in cooperation with the National Agricultural Production Promotion Commission.

2. To train a group of local leaders for the improvement of agriculture so that the work will take root and grow. This is done in cooperation with the local government whereby the Council takes full charge of the Vocational School of Agriculture. A short term course for selected farmers is now under way.

3. To run a seed farm for testing and propagating improved seeds for extension, This is done in cooperation with the Agricultural Improvement Bureau of the Province, whereby the Council takes full charge of the regional farm of the Bureau.

4. To experiment with the methods of fruit storage and control of plant disease and insect pests for local adoption.

5. To provide facilities for the training of research fellows in the field of agriculture.

SOIL EROSION CONTROL STUDIES

At the request of Mr. D. Y. Lin, former Professor of Forestry of the College, and now a member of the Committee on the Yellow River Conservancy, the College has recently entered into cooperation with the Committee on Soil Erosion Control Studies, in the Northwest of the country. In 1924 the College undertook such a study under the leadership of D. W. C. Lowdermilk, then Professor of the College. Mr. Ren Chen-tung, one of our own graduates of the class of 1924, is now on his way to the Northwest to conduct field studies, while Prof. Hwang Shui-tsai is to make abstracts from literature related to the subject of study for the use of the field workers and to carry out experimentation of field technique on the campus.

NANKSOY 332 READY FOR MULTIPLICATION IN SZECHUAN

Nanksoy 332 is a high yielding soybean variety improved by the Department of Agronomy while at Nanking. Regional tests were conducted at Chengtu, An-hsien, and Wenkiang in Szechuan last year. The results of these tests are very promising, with Nanksoy 332 outyielding all local varieties under tests from 6% in poor soil, as at An-hsien, to more than 100% in good fertile soil, as at Wenkiang. The yield of Nanksoy 332 per mow at Wenkiang was 294.2 catties. This year the Department plans to have the improved seed multiplicated for wide distribution.

NANKING BEING THE FIRST IN COOPERATIVE WORK IN CHINA.

According to the paper prepared by the Department of Agricultural Economics, on its contributions and activities in Agricultural finance and cooperation, the cooperative society which was organized in Fun Run Hsiang, Nanking, by the College in 1923 in cooperation with the China International Famine Relief Commission, was considered the earliest credit society ever organized in China. The paper adds that the first cooperative marketing society was also organized by the College at Wukiang, Anhwei in 1926. This was for the cotton growers of the district who shipped their cotton to Wusih, Kiangsu, and sold directly to a cotton mill in that city at a net premium of $6 per picul over the local market price.

AN EXHIBITION ON ORANGE IMPROVEMENT.

The Province of Szechuan is noted for its orange production. In the last two years the Department of Horticulture

of the College with the financial aids from the Rockefeller Foundation and the National Agricultural Production Promotion Commission of the Executive Yuan, has done a considerable smount of work on orange improvement. Over 300,000 sweet oranges and a amaller number of tangerines were carefully handled and stored for experiment. Preparation is being made to hold an exhibition on orange improvement on April 24th and 25th in the Hart College building on the campus. The exhibition shall include the following : -

1. Map of the world showing centers of orange production by countries.
2. Map of China ahowing centers of orange production by Provinces.
3. Map of Szechuan Province showing centers of orange production by districts.
4. The world standard for oranges of good qualities.
5. Samples of oranges from our best selections in Szechuan.
6. Improved methods of propagation.
7. A chart illustrating an ideal orchard.
8. Ways and means of insect and disease control.
9. Improved methods of picking, washing, packing, storing, grading and marketing.
10. Products made from oranges.
11. Sales of oranges from our storage.

FARM MACHINE SHOP

The machine shop of the West China Union University, is now cooperatively run by several institutions on the campus under the management of Mr. C.H. Riggs, Professor of Agricultural Engineering of the College. Recently the National Agricultural Production Promotion Commission has granted NC $10,000.00 to the College for its Agricultural Engineering research program and the construction of a new building which will also include a wood-work laboratory for our students. Because of the rising price of all metals and the impossibility of obtaining some kinds at all, the emphasis of the present program is the construction of such tools and equipment as can be made chiefly of wood, and still be efficient enough to be of permanent value in the reconstruction program.

STUDIES ON PRICES.

Prices of both imported and local good sadvanced rapidly in the fall of 1939. The general index of wholesale prices in Chnhgking, hence, rose by leaps and bounds. Considering average for 1937 as 100, the general index rose from 314.8 in November 1939, to 330.7 in December and again to a high record level of 344.9 in January, 1940. This indicates an increase of 120 percent over the same month in 1939, and 17 percent over October, 1939. The general index in Shanghai shows the same trend, and in January, 1940, it was 131 percent higher than in the same month, 1939, and 17 percent higher than October, 1939.

The group index which represents the sharpest rise is for metals and electric materials. In Jan. 1940, it was more than eight times the average level of 1937. Prices for fuels and lighting came next, the index number for this group was 644 in Jan. 1940. Prices for the clothing group increased to 472 and for building materials to 307. Even though the index for food prices advanced by 80 percent from the 1937 level, it was still by far the lowest among all the six group indices.

In Chengtu there has been a corresponding advance in all costs, with a decrease in the purchasing power of the yuan for laboring class from 61.7 in Nov. 1939 to 47.9 in Feb. 1940; and from 49.7 to 41.5 for the military-official-educational class. In Nanking the index number of retail prices in Dec. 1939 was 233.3 compared to Jan. to June, 1937, with the greatest advance for foods, being 34.0 %.

HERBARIUM COLLECTIONS.

The Botany Department has been busy collecting specimens from Mt. Omei and Sikong for our purposes, as well-as for exchange with other institutions, such as Arnold Arboretum of Harvard University, Harlow Herbarium, Lingnan University, Chung-san University and the University of Montreal. The work will be continued by various groups this coming summer.

The Horticulture Department has stressed the collection of local ornamental plant varieties, including chrysanthemum, peony, moutan, camillae and Prunus mume. There is a new project for the study of the Chinese sacred lily with the view of increased exportation.

BOYS' AGRICULTURAL CLUBS.

A Progess Report on the Extension Work in Singtu, Szechuan Province, from September to December, 1939,

tells of the Club work for farm boys. The primary purpose of this movement is to capitalize on the opportunities provided for the development of better rural young people. This is accomplished by enrolling boys to conduct farm projects along improved lines. For purposes of instruction, inspiration and recreation, local club groups are organized under the guidance of volunteer local leaders. Clubs usually have a sponsoring committee of higher primary teachers, while extension workers visit different clubs every week to reinforce the efforts of the local leaders.

The main objectives of these clubs are: - to help the members develop the habit of achievement by carrying through to successful completion the club projects; to instill in them the spirit of cooperation, to develop leadership ability, and to demonstrate better farm practices.

For the above period there are 14 clubs with a membership of 529 boys. Aside from their practical work in vegetable gardens where seeds, soils and cultural practices as well as control of garden insects and disease are learned, they hope soon to branch out into flower garden work, and simple poultry experiments. In all of their work they keep their own expense accounts, and other records, thus adding a knowledge of simple bookkeeping to their accomplishments.

TRAINING COURSE FOR EXTENSION SUPERVISORS.

For the promotion of Agricultural Extension work. the national Agricultural Production Promotion Commission has recently entrusted the College to conduct a training course for extension supervisors, beginning from Aprill lst. The enrollment is twenty-four students. They are all carefully selected by Provinccial Governments through entrance examinations. There are 2 from Szechuan, 3 from Yunnan, 3 from Kweichow, 2 from Hunan, 3 from Honan, 2 from Hupeh, 1 from Kiangsi, 1 from Shensi, 2 from Fukien, and 2 from Kwangsi.

The training course shall last for six months. The first three months are for class instruction, the next two months for field practice in our three nearby extension centers, and the last month for discussions and a summing up of their reports and laying plans for their work after returning to their own provinces.

FINANCIAL AIDS.

We feel very grateful to the National Agricultural Production Promotion Commission for renewing its annual grant

to the College for the second year. The amount of grant for this calender year is $19,448.00 for four Extension Centers, $10,000.00 for Machine Shop, $15,000.00 for orange improvement, $6,492.00 for research fellows in Horticultures and $4,800.00 for one chair of Horticulture, totalling $55.740.00.

FELLOWSHIP FOR GRADUATE STUENTS.

The Rockefeller Foundation has granted twenty fellowships for graduate students in the College, beginning with the fall term of this year. This is rather a timely grant, when the unfavorable rate of exchange prevents many students from obtaining advanced training abroad.

PROF PAO HEADS "CULTURAL MISSION" FOR AGRICULTURAL EXTENSION.

The National Agricultural Production Promotion Commission has recently organized a group of extension supervisors to travel from county to county to assist the county agents in Agricultural Extension work in the Province of Szechuan, with Mr. W. M. Pao, Professor of Agricultural Education of the College, to head it up. This group is the first of its kind country, and is very similar to the "Cultural Mission" found in the New Mexico. It consists of six divisions: namely, agricultural Extension Agricultural Economics, Agricultural Production, Plant Patholgy and Entomology, Veterinary Science and Animal Husbandry, and Home Economics each having one or two specialists.

GRADUATES AND THEIR PLACEMENT

The Fall term of 1939 graduated twenty-six students from the College, nine of them from Agricultural Economics, nine from Agronomy, town from Pathology, one from Applied Botany, three from Forestry, and two from Horticulture. They are all properly placed.

STAFF CHANGES

The Division of Entomology has become the Division of Entomology and Veterinary Science. Dr. Chu Ren-pao recently joined the Division, holding the chair granted to the College by the British Boxer Indemnity Fund Control Commission. Dr. Chu received his PhD. in Animal Physiology at Edinburgh.

Dr. Chin Tsze-chung, one of our own graduates, recently returned to the College from Cambridge, England, where he received his Ph.D. in Plant Breeding. He takes charge of the wheat improvement project of the College.

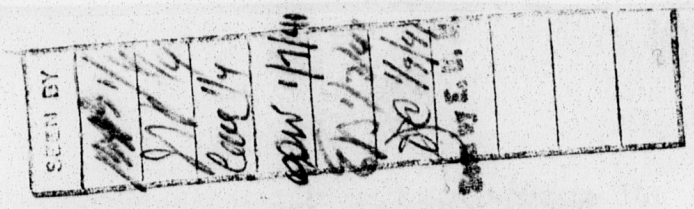
Prof. Ku Wei-ching, former Dean of Studies of the University of Communications, is a part time professor of Agricultural Engineering in the College this Spring.

Messrs Han Lin-feng, Wu Hsiang-kan, Chen Shu-tai, Sie Chi-ChOng, Sie Hsien-tah Hu Ren-tung, Yen Shao-hsien and Chen Chiun-yu, all of our own graduates, are added to our staff.

Prof. Hsu Peh-shen, Messrs Fu Ruh-ling, Ho Ching-chen, Tao Wen-yu, Hwang Hsiun-yu, Cheo Chia-chi, Feng Chia-ling, and Miss Chen Shi-chung and Miss Liu ming-hwan have left the institution.

STUDENT ENROLLMENT.

The total enrollment of the College for the Spring term, of 1940 is 211. They are classified as:- 84 Agricultural Economics, 53 Agronomy, 4 Plant Pathology, 2 Entomology 3 Applied Botany, 15 Forestry, 21 Horticulture, 23 Teacher Training Course in Horticulture, and 6 Post Graduate Course. Besides, there are 54 students in the Rural Leaders Training school and 24 students in the Training Course for Extension Supervisers.



AGRICULTURE AND FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

June, 1940 Chengtu, No. 8

MR. C. K. LIN'S ACADEMIC ACHIEVEMENT.

Mr. C. K. Lin, a graduate of the College, 1933, is now studying at Cornell University on the Rockefeller Foundation Scholarship. This summer he will finish his doctorate requirements and then return to the College. Recently a letter was received from Dr. M. C. Balfour, of Rockefeller Foundation enclosing a statement which Prof. H. H. Whitzel of Cornell University wrote to D. F. B. Hanson, concerning Mr. Lin's work. It reads, "We are all very much pleased and impressed with the work which Mr. Lin has been doing. Dr. Massey, with whom Mr. Lin has been taking advanced pathology this term, regards him as one of the most brilliant and able students he has had in a long time. He is a real investigator. It is only too bad that we could not keep him in this country." We feel proud of Mr. Lin's academic achievement and will see that he shall have an opportunity in the college to continue the work that he has been doing at Cornell.

TWO MORE FOREIGN SCHOLARSHIPS.

Recently Rockefeller Foundation has granted two more foreign scholarships, to Mr. Chen Kan-fan and Mr. Fan Ching-sen of the Department of Applied Biology of the College. Mr. Chen of the class of 1930 is going to study Insect Ecology and Insectary Methods in the University of Minnesota, while Mr. Fan of 1933, is going to study Agricultural Bacteriology in the University of Wisconsin. They both have been serving in the College since their graduation, first as associates and lately as instructors. They will all return to the College after their advanced training abroad.

At present there are over fifty college graduates in the College, many of them have been working for from five to ten years with good records. We should like to see a number of them have this opportunity for advanced training in the near future so that we may have more qualified people for instruction and research.

SUMMER TRAINING COURSE IN COOPERATIVES.

In cooperation with the National Christian Council, the College will conduct the third summer Training Course in Cooperatives since its coming to West China. The course which will begin on July 4th, lasting till July 26, will be held at Wenkiang, about 12 miles west of Chengtu, where the College has been doing extension work for the past two years. The following subjects will be taught:- (1) General Agriculture, (2) Rural Problems, (3) Cooperative Credit, (4) Cooperative Marketing, (5) Cooperative Accounting, (6) Bank Accounting, (7) Practice and Visits.

TWO MINISTRY INSPECTORS AT THE COLLEGE.

Mr. Hsu Long-ming and Mr. Chen Pan-tsao were recently with us, going over the work of the College, on the behalf of the Ministry of Education of the National Government. They were very much pleased and impressed with the work the College has been doing in West China.

DR. BATES PAYS US A VISIT.

Dr. S. Bates, Prof. of History and Vice-President of the University, who has remained in Nanking since the war with Japan, laboring under difficulties to maintain the University properties and to help in the refugee work, has just paid us a short visit from Nanking. While here he was very busy interviewing members of the University and took a great deal of interest in what we are doing.

A NEW FIELD CENTER FOR NATIONAL COUNCIL FOR RURAL RECONSTRUCTION.

The National Council for Rural Reconstruction has recently chosen Pei-pei, near Chungking, for the Institute of Rural Research and Training, utilizing the field facilities to be provided by the Mass Education Movement. The Institute has a Governing Board with Dean C. W. Cheng, Dr. C. C. Chen, Dr. S. Y. Chu, Dr. H. D. Fong, Dr. Franklin L. Ho, Dr. W. T. Wu, and Dr. Y. C. James Yen as its members. The Governing Board met June 8th at the new Headquarters at Pei-pei and Dean Chang attended.

SILKWORM EGG PRODUCTION.

In cooperation with the Provincial Government of Sikong, the Department of Sericulture has produced 500

sheets of disease-free eggs for extension in Sikong. The spring crop of coccoons this year been has very good due to the dry weather in many parts of the country. For the promotion of silk production, the Ministry of Economics of the National Government has appropriated $530,000 L. C. to subsidize training institutions. The College is one of these institutions to receive this subsidy. The program of egg production will be enlarged.

COLLEGE COOPERATES IN TEXTILE PROGRAM.

The new "farm shop" building mentioned in our last issue is barely completed, but it is already overflowing with work. Laboratory equipment for 20 students has been nearly completed, ready for the opening of the fall term, and during this time the students will occupy about half of the main floor. In the meantime the textile program is being rushed along with from 40-60 workmen on the job. Eight different kinds of foot-power looms are being constructed and tested, after which the most suitable of them will be chosen by the Chinese Industrial Cooperatives, especially for use in their blanket program. Several hundred thousand of these army blankets must be woven by the C. I. C. by December. A number of spinning machines, known as model "77" are being constructed for the National Agricultural Production Promotion Commission, in return for their share in the construction of the building. There are also machines for carding, picking, drawing and teazling, all of the above being hand or foot power.

While this may seem to some to be rather unconnected with a regular "farm machinery" program, we feel that this textile project is of major importance. It will stimulate the production of wool and cotton in this and nearby provinces, as well as giving employment to many farm homes during their leisure winter months, and also providing moderate priced clothing and blankets to army and civilians alike. This is a big item in these days of soaring prices and deflated currency.

OTHER PROJECTS OF THE RURAL ENGINEERING DIVISION.

A new model cotton gin is being constructed for our Department of Agronomy, and a complete leather tanning outfit for West China Union University. Various designs for the Citrus work are mentioned elsewhere in this issue.

Besides the work in the Farm Shop Building, which is all woodwork, the operation of the Machine Shop

continues in full force, altho the scarcity of skilled workmen and proper metals remain a great handicap. The bulk of the work is the repair and construction of supplies or implements for the Medical and Dental College of West China, but many repair jobs on all manner of laboratory and household tools are a part of the routine, from automobile parts to typewriters, cameras, sewing machines, Victrolas, microscopes, scales, etc.

SEED IMPROVEMENT PROGRAM FOR VEGETABLES.

In cooperation with the National Agricultural Production Promotion Commission, efforts have been made to select some economic vegetables for seed multiplication and distribution. Special attention has been paid to improve good strains of fall-planting vegetables with a view to increasing agric ultural production during the farmer's leisure months in the winter and at the same time without occupying the fields during the period of cereal growing. Cabbage, cauliflower, onions, and Tsa Tsai (a variety of heading mustard) are a few of the most important ones. Emphasis has also been placed on multiplying and collecting pyrethrium seeds and seedlings for extension, with a view to producing mosquito incense by the farmers themselves in order to prevent malaria epidemics.

The first crop of improved vegetables seeds have been collected this summer and are ready for distribution. They include:

Cabbage	20 lbs.	enough to plant	200	mows
Cauliflower	20 lbs.	”	300	”
Onion	15 lbs.	”	100	”
Tsa Tsai	20 lbs.	”	400	”
Pyrethrium	5 lbs.	”	600	”

In addition, over 100,000 seedlings of pyrethrium have been distributed to farmers in various hsiens around Chengtu, who have expressed willingness to plant them and use the flowers for thems selves or for sale.

NOTES ON ORANGE STORAGE STUDIES.

By cooperation with an orange cooperative company and one local fruit grower, some 250,000 sweet oranges were included in the storage study for a period of over five months. The following notes will be of interest to our readers.

1. By the end of five months of storage, the weight loss of fruit is 39.09% of their original weight when wrapped in tung oil paper, as against 57.10% without Wrapping.

2. Tangerines have a more rapid rate of loss in weight than the sweet oranges. Up to the end of five months, the inside partitions of the tangerines are separated, with juice sacs entirely dried up. Therefore tangerines are not suitable for storage for a period of over two months.

3. Generally the more advanced the maturity of the fruit, the higher the percentage of weight loss. Therefore, for oranges intended to be stored for a period of time, they should not be picked too ripe.

4. It is found that careful sorting and washing with 5% local borax is essential to decrease the amount of wastage during storage.

5. Wrapping and non-wrapping show some difference in the amount of storage wastage, in favor of wrapping, although the difference is not very great.

6. Storage wastage varies with the locality of the orchard, the age of tree, the size of fruits, and maturity at picking time; careful selection of the orchards and frpits before storage are of primary importance.

7. For various pre-storage washings, a 5% local borax solution proves to be the most effective.

"OPEN HOUSE" BY COLLEGE FOR GITRUS EXHIBITON

On May 24-25th, the College of Agriculture held an Open House for the purpose of demonstrating to the Chengtu community what the College has been doing in the past couple years toward solving the problems affecting citrus production in this area. This exhibit was in the nature of a progress report, for the final solution of these problems has not been reached, but with these visual aids, it was possible to see just how far we have gone in this direction.

China ranks fourth in the world's citrus production, being surpassed only by United States, Spain and Brazil. In 1938 U. S. produced 54,259,000 boxes of citrus fruit, while China produced 15,000,000. Various large maps had been prepared showing citrus production areas of the world, of China, of Szechuan, and this area in particular.

The booths of the exhibit were arranged in logical order, beginning with selection, through propagation, cultivation, insect pests, picking, grading, packing, treatment for disease resistance, storage, products, and sales. Briefly, the booths showed the following:—

1. Pictures and samples of the 24 varieties of citrus found in the survey from which 5 or 6 were selected for propagation.

2. Methods used in propagation, such as budding, grafting, etc.

3. A large exhibit of tree stumps (tangerine, orange and pomelo) showing the relation of the root systems to the type of soil required.

4. A display of 24 pests affecting citrus trees.

5. Blossoms of various species of citrus fruit and their relation to selection, especially an experiment looking toward the production of seedless oranges by the restriction of insect pollinators.

6 & 7. Picking and grading, showing new types of picking baskets and shears, the use of which greatly reduces the bruising of fruit, Also several types of grading machines and a combination grading and packing table.

8. Packing: showing fruit wrapped in home-made oil paper and packed in boxes made from alnus wood which is cheap and imparts no odor.

9. One end of gymnasium was occupied with this booth, showing work being done on storage diseases; the three most serious being "Blue mold", "Green mold" and "Brown stem-rot". The most successful treatments were shown. Several types of washing machines developed by the Horticultural Department and the Division of Rural Engineering were displayed.

10. Methods of storage, showing that used by the farmer, (who loses 58% of his fruit) to a converted grain elevator where only 6% of the fruit was lost.

11. Various products which can be produced from oranges, such as juice, vinegar, preserves, and a beverage made from the skins, called "orange coffee".

12. A sales booth of the "Orange Co-op".

Various members of the College faculty and staff escorted spectators from booth to booth, explaining in detail the significance of the exhibit, after which guests

were invited to an adjoining building where refreshments in the form of orange marmalade sandwiches and orange coffee was served by a committee of faculty wives and students.

This exhibit made such an impression that the Provincial Government has asked us to conduct similar concentrated programs on other crops of the province as rapidly as possible.

WORK ON MUSHROOMS STARTED.

The humid climate of Szechuan makes for favorable cultivation of mushrooms, a great delicacy of Chinese food. But while many wild varieties grow in abundance on the mountains all around here, there seems a scarcity in the market. We have been asked to cooperated with the Government in helping the farmer to determine the best kinds, and pure spores have been brought from England to be propagated, in the hope of making it possible for the local farmers to cultivate mushrooms commercially.

AGRICULTURE & FORESTRY NOTES

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

December 1940 Chengtu, No.10

A WORKING PROGRAM FOR THE IMPROVEMENT OF AGRICULTURAL EDUCATION IN CHINA.

Drafted by Dean Chang.

Realizing the importance of good quality of training for students of agriculture, such prominent specialists in agriculture as Mr. P. W. Chow, Dr. L. F. Chao, Dr. S. T. Tung, Dr. K. D. Yang, Dr. S. Tsang, Dean S. C. Wang, Dr. J. L. Buck and Prof. C. M. Chiao recently met in Dean Chang's office of the College. As a result of their discussion, Dean Chang was asked to draft a request for the improvement of Agricultural education. which was later signed by some forty agricultural leaders and presented to the Ministry of Education of the National Government for consideration and adoption. It is very gratifying t o learn that the Ministry has considered the request so favorably as to ask for details so that it can be put into practice. Then Dean Chang on request, wrote a detailed working program covering the whole field of agricultural education. Some of the essential point- in the program concerning agricultural colleges may be outlined here for the interest of our readers.

1. China is to be divided into eleven agricultural regions, each with a college of agriculture with its work predetermined by the needs of the region in which it is located. The college should be established by the National Government. In any region or regions, should there be a provincial or private college of agriculture already in existence, the National government should help to strengthen it so that it can serve the entire region and the National Government should not attempt to estab - lish another one in the same region.
2. All agricultural schools below the college level should come under the supervision of the so-called regional college of agriculture.

3. Each regional college of agriculture should have a department of agricultural education for the training of teachers of agriculture for secondary schools.

4. Those regional colleges of agriculture that have measured up to a certain standard may be allowed to offer post-graduate work.

5. All foreign agricultural experts who serve as advisers to government institutions should be assigned to regional colleges of agriculture for instructional work.

6. The regional college of agriculture is for instruction, while the Provincial Bureau of Agricultural Improvement is for extension. Research work is to be divided between them according to the nature of the work and the facilities prevailing in each institution. They should cooperate in every way possible.

7. The regional college of agriculture should be an independent unit, all by itself, so that there shall be no interference in the execution of its program.

At present there is a tendency for the government to establish too many agricultural colleges. There are already fifteen colleges of agriculture in existence, namely; eight national, four provincial and three private, in addition to a number of technical schools of agriculture recently established by the government. Several more colleges of agriculture are now being established. In a sense it seems quite encouraging that the government has attached so much importance to the training of agricultural students; but due to the scarcity of well trained persons, practically all agricultural colleges are now under-staffed. Wherever there is a new college established, it means weakening the ones already in existence. It is hoped that the situation will soon be improved when the Ministry of Education adopts the proposed working program as outlined above and puts it into force.

A NEW SYSTEM OF SCHOOLS FOR FARMERS UNDER EXPERIMENTATION.

The training of present and prospective farmers for proficiency in farming is a task of tremendous importance. If the mass of her population remains illiterate and ignorant, China cannot hope to make very much progress in the near future. Hence the Department of Agricultural Education of the College has elaborated a new system of schools for farmers which includes Foundation School, Farmers' Element-

ary School, Farmers' High School, and Farmers' College. They are to be conducted by various levels of agricultural extension organizations, in order to make the training practical. As the teachers are extension workers, and the students are farmers, they meet each other all the year round and so there is a follow-up in their training. The first two schools of the system have been in operation in our College Extension centers for the last two years. The result of the experiment is quite encouraging and merits a word of introduction.

Farmers Foundation School: This is located in a village in Sintu Hsien, about 35 li from the campus. The school is sharing a building with a county elementary school. Chairs and desks are provided by the community. The teachers of the elementary school help to teach in the Foundation School. The Foundation School has registered some seventy students, divided into two classes, according to their age. The arrangement is for the class of older folks to attend a number of organized talks and demonstrations based on the needs of the community during a one year period, and to translate them into their daily practice; and for the class of younger folks to study regularly two hours a night for six months when the farm work is least pressing.

Farmers Elementary School: This is located in a village in Jenshow Hsien on a highway. It gives a two-year course, enrolling some forty students this year. The school opens in November and closes in March. The class work is given in the forenoon and field work in the afternoon. Text-books are being specially prepared for them.

All students of the Farmers' Schools are the contracted farmers of the College Extension centers. They grow improved seeds and use improved methods in their farm work. Gradually they become key farmers in the community for the improvement of agriculture. It is only in this way that agricultural extension work will take root and grow.

COOPERATION WITH THE FARM CREDIT ADMINISTRATION BUREAU ON ORANGE STORAGE STUDIES.

Recently the College has entered into a contract with the Farm Credit Administration Bureau of the Ministry of Economic Affairs for studies on orange storage for a period of three years. The Bureau has one orange storage in Kiang-

0621

ching near Chungking, built two years ago with our cooperation. This year the storage was a success, bringing much profit to the orange growers. On their request, the Bureau is considering the possibility of building several more storages in different centers of orange production in the province. Hence, Dr. W. T. Chang of the Department of Horticulture of the College went to Chungking to confer with the Bureau, giving advice as to the location of these storages and the types of their construction.

WINTER GRADUATES.

This term 13 students are graduating from the College, 5 in Agricultural Economics, 3 in Agronomy, 3 in Forestry, 1 in Horticulture, and 1 in Plant Pathology. They will have no difficulty in finding positions.

PAMPHLET ON RESEARCH PROJECTS PRINTED

A Chinese pamphlet of 70 pages on research projects has just been published by the College. It contains 118 projects, (12 in Agricultural) Economies, 58 in Agronomy, 11 in Forestry, 13 in Horticulture, 11 in Applied Biology, 3 in Sericulture, and 3 in Agricultural Education. They are taken up by some 88 regular staff members as well as a group of clerical assistants.

A copy of this pamphlet may be obtained on request.

LIST OF TOPICS OF RESEARCH IN PRINTED PAMPHLET

A. Projects in Agricultural Economics:

1. Production and Marketing of Wood Oil in Szechuan.
2. Production and Marketing of Special Products in Szechuan.
3. Types of Farming in Szechuan.
4. A Study on the Improvement of Farm Management.
5. A Study of the County Cooperative Bank.
6. A Study of Land Problems in Sintu.
7. Land classification Studies in Szechuan.
8. Chinese Tea History.
9. History of Some Important Cultivated Crops in China.
10. Economic Aspects of Chinese Rural Communities.
11. Rural Financial Conditions as affected by the War.
12. Price Study.

B. Projects in Agronomy.

1. Rice Breeding in Chengtu Station.
2. Rice Classification.
3. Physiological Studies of Rice Plants.
4. Methods of Rice Plant Transplanting.
5. Barley Breeding in Chengtu Station.
6. Barley Breeding at the Cooperative Station in Nanhsuchow, Anhwei.
7. Barley Breeding at the sub-station in Kaifeng, Honan.
8. Wheat Breeding at Chengtu Station.
9. Wheat Breeding at the substation in Sian, Shansi.
10. Wheat Breeding at the sub-station in Paking.
11. Wheat Hybridization at Chengtu Station.
12. Wheat Hybridization at the sub-station in Peking.
13. Cytological Studies of Wheat at Chengtu Station.
14. A Study of Wheat Plant Root System in relation to the Lodging.
15. Wheat Breeding at the Cooperative Station in Nanhsuchow, Anhwei.
16. Wheat Breeding at the Cooperative Station in Tsinan, Changtung.
17. Wheat Breeding at the Cooperative Station in Taiku, Shansi.
18. Wheat Breeding at the substation at Kaifeng, Honan.
19. Breeding of Wheat and Millet for Disease Resistance at the sub-station in Sian, Shensi.
20. Studies on Irrigation at the sub-station in Sian, Shensi.
21. Cotton Improvement at Cheugtu Station.
22. Cotton Improvement at the sub-station in Sian, Shensi.
23. Cotton Improvement at the cooperative station in Tsi-nan, Shangtung.
24. Crop Rotation Studies at the sub-station in Sian, Shensi.
25. Soy-bean Improvement at Chengtu Station.
26. A Study of Soy-bean Field Techniques at Chengtu Station.
27. A Study of Soy-bean Cultivation at Chengtu Station
28. Millet Breeding at the sub-station in Peking.
29. Millet Breeding at the sub-station in Sian, Shensi.
30. Millet Breeding at the cooperative station in Nanhsuchow, Anhwei.
31. Millet Breeding at the cooperative station in Tsinan, Shangtung.

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32. Millet Breeding at the substation in Kai-feng, Honan.
33. Corn Breeding at the substation in Peking.
34. Corn Breeding at the cooperative station in Taiku, Shansi.
35. Kaoliang Breeding at the substation in Peking.
36. Kaoliang Breeding at the Cooperative Station in Nanhsuchow, Anhwei.
37. Kaoliang Breeding at the cooperative station in Tsi-nan, Shangtung.
38. Kaoliang Breeding at the cooperative station in Kaifeng, Honan.
39. Kaoliang Breeding at the cooperative station in Taiku, Shansi.
40. Regional Tests of Improved Strains of Farm Crops.
41. Experiment on Irrigation at the substation in Sian, Shensi.
42. Experimentation Methods of Planting at the substation Kaifeng, Honan.
43. Regional Tests at the cooperative stati n in Taiku, Shansi.
44. Studies on the Disease Resistance of Cereal Crops at the substation in Peking.
45. Studies on the Disease Resistance of Cereal Crops at the substation in Sian, Shensi.
46. Studies on the Method of Cotton Culture at the substation at Sian, Shensi.
47. Fertilizer Tests at the substation in Sian, Shensi.
48. Studies on Irrigation and Drainage with Reference to the Level of Underground Water at the Chengtu Station.
49. Studies on Biological Fixation of Nitrogen with Reference to Soil Fertility Maintenance and Crop Production at Chengtu Station.
50. Experiments on the use of Night Soil at Chengtu Station.
51. The making of Compost at Chengtu Station.
52. Field Tests on the use of Fertilizers with Rice and Wheat Crops at Chengtu Station.
53. Pot tests on the use of Fertilizer with Rice and Bean Plants at Chengtu Station.
54. Soil Erosion Studies.
55. Indexing of Literature on Soil Erosion Control.
56. Commercial Fertilizers versus such fertilizing Materials as are obtainable locally, at the substation of Sian, Shensi.
57. Experiment on the Method of Fertilizer Tests at the substation in Sian, Shensi.
58. Studies on the Method of Extension of Improved Seeds.

C. Projects in Forestry.

1. Strength Tests of Pine Sleepers.
2. Studies of Wood Fibers of some Important Lumbers.
3. Studies on Physical Properties of Some Important Lumbers.
4. Studies of some Natural Forests in Sikong, with Reference to their Management and Utilization.
5. Studies on the Proper Period of Cutting of some Important Forest Trees.
6. A Survey of the most Important Kinds of Forest Trees in Szechuan with Reference to their Management.
7. A Study on the flowering Habit of Tung Oil Trees.
8. Depth of Planting Tung Oil Seeds with Reference to their Germination and Growth.
9. Depth of Planting Tea Seeds with Reference to their Germination and Growth.
10. A Survey of Five Districts of Tung Oil Production in Szechuan with Emphasis on Planting.
11. A Survey of Four Districts of Tung Oil Business in Szechuan with Emphasis on economic Aspects.

D. Projects in Horticulture.

1. Classification of Chinese Fruit Trees.
2. Citrus Fruit Selection Studies.
3. Citrus Fruit Tree Propagation Studies.
4. A Study of Pollination and Fruit Setting of Citrus Fruit Trees.
5. A Study of the Fruiting Habits of Citrus Trees.
6. A Study of the Degree of Maturity of some Economic Fruits in relation to their Quality.
7. A Study on Improved Methods of Handling Citrus Fruits.
8. A Study on Simple Methods of Storing Citrus Fruits.
9. Methods of Pruning Grimes Golden Apple in Chengtu Area with reference to their production.
10. A Study on the Method of Dehydration of some Horticultural Products.
11. Generic Studies of Citrus Fruit Tree Blossoms with the Hope of Producing Seedless Fruits.

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12. Pea Improvement.
13. A Study on the Genetics and Breeding of the *Coreopsis tinctoria*, Nutt.

E. Projects in Applied Biology.

1. A Study of Indigo Plants in Szechuan.
2. Rice Disease Studies.
3. Wheat Disease Studies.
4. Barley Disease Studies.
5. Wheat Breeding for Resistance to Smut.
6. Studies on Storage Diseases of Citrus Plants.
7. Studies on the Brown Ring Rot of Apple.
8. Survey of the Storage and Transit Diseases of Vegetables and Fruits.
9. Studies on the Edible Mushrooms of China.
10. Beekeeping Survey in China.
11. Mole Cricket Control
12. Morphology and Classification of Cicadas.
13. Insect Galls Survey in Szechwan.
14. Citrus Fruit Fly Control.
15. Control of Two Citrus Leaf Miners.
16. Control of Citrus Gall Mite.
17. Feminization of the Plumage by Androgenic Substances.
18. Effect of Stilboestrol on the Sex Differentiation of Amphibian Larvae.

F. Projects in Sericulture.

1. Variety Tests of Silkworms in Szechuan.
2. A Study on the Feeding Stuff for Silkworms.
3. Mulberry Tree Selection Studies in Szechuan.

G. Projects in Agricultural Education.

1. Experiments on the new System of Schools for Farmers.
2. Supervision of Secondary Schools of Agriculture.
3. Training of Teachers of Agriculture for Secondary Schools.

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AGRICULTURE & FORESTRY NOTES
COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU

April 1941 Chengtu, No. 11

THE FIRST NATIONAL CONFERENCE OF AGRICULTURE AND FORESTRY HELD AT CHUNGKING.

The First National Conference of Agriculture and Forestry was held at Chungking from March 12-18, under the auspices of the Ministry of Agriculture and Forestry of the National Government. It was well attended. Some eighty people from different provinces representing various organizations of agricultural improvement, were present. Dean C. W. Chang, Dr. W. T. Chang, Prof. C. M. Chiao, Prof. H. F. Chu, Prof. W. Y. Swen and Mr. H. C. Huo of the College were present at the conference. The most important findings of the conference were the endorsing of; (1) the three-year program, and, (2) the increase of food crop production plan for this year as outlined by the Ministry of Agriculture and Forestry, and, (3) the strengthening of agricultural organizations in provincial and hsien levels for effective administration.

It is learned that the National Government has appropriated $9,500,000.00 L. C. for the increase of food crop production. The Ministry of Agriculture and Forestry has organized a committee on food crop production to administer this fund.

TRAINING COURSES IN COOPERATION BEGINNING JULY 1, 1941.

The Bank of China has for many years been promoting the betterment of rural economy by making loans to all kinds of cooperative organizations in many parts of China. Now it has maintained a staff of 800 members for the management of the farm loans. Recently the College has concluded an agreement with the bank, whereby the College is going to conduct two short term training courses for the bank. One is known as an advanced course of three months, admitting 20 graduates of college level, and the other is known as a beginning course of six months, admitting 50

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graduates of senior middle schools. Both courses are to begin July 1. 1941, on the campus. It has been suggested that the training courses should later be extended to those already in service with the bank as well as new recruits.

PRACTICAL READERS IN AGRICULTURE WILL BE WIDELY DISTRIBUTED.

For the use of the Farmers' Foundation School, and the Farmers' Elementary School, established by the College in her Extension Centers at Sintu and Jenshao, the Department of Agricultural Education of the College has published Practical Readers in Agriculture; the first two being on Rice and Sweet Oranges. Each contains thirteen lessons, each lesson about four or five pages, broken up into three sections, namely, discussion, reading matter, and practice. They are quite practical and can be used as text books for students of the upper grades of the elementary schools.

The present attempt of the College is to write as many kinds as possible, so that other institutions can choose from among them to suit their own needs in their own localities. The following are now under preparation:—Cotton, Tea, Wood-oil, Economic Trees, Silkworms and Mulberry Trees, Poultry, and Vegetables. Unfortunately, the high cost of printing may prevent many of them from being published.

The Ministry of Education of the National Government has recently written to the College, fully endorsing the practicability of these readers and asking for the full list of them, so that the Ministry may recommend their wide use by all elementary schools and training courses in China. Certainly this gives us much encouragement.

SURVEY OF PRICES.

From a recent study of Currency and Prices in China made by the Department of Agricultural Economics of the College, the following compilation has been continued and the Chengtu index compared with that of Chungking and Nanking. Considering the index of June 1937 to be 100, the general index of wholesale prices rose during the period August to December 1940 from 719 to 1069 in Chengtu, and from 685 to 1166 in Chungking. At the beginning of 1941 the general index was 1254 in Chungking as compared with 526 in Shanghai. In Feb. 1941 the price level in Chengtu rose to 1254. During this period of time, from August to February, indices of five groups of wholesale commodities in

Chengtu advanced as follows: food from 532 to 936, clothing from 943 to 1187; fuel and lighting from 1002 to 1390; metals and electric materials from 1411 to 1946; building materials from 440 to 916. Cost of living in Chengtu shows rapid advances; September 1940 index of 499, October 570, November 741, December 745, January 1941, 815, February 935. Retail prices in Chungking rose from 540 to 1153 in same period, and in Nanking from 403 to 623.

A study is now being made on the effect of war on salaried classes and wages earners, results of which will soon be reported.

DOES THE RISING PRICE OF RICE BENEFIT THE FARMER PRODUCER?

From the study of the production and marketing of rice in seven hsien on the Chengtu Plain by the Department of Agricultural Economics of the College in December, 1940, it is disclosed that tenant farmers constitute 75 % of all farmers studied. 68 % of the rice produced on the farms after harvest was paid to the landlords as rent and about 91% of the remaining amount was sold within two months after harvest. Almost all the poor farmers at present have no rice to sell, but are even obliged to purchase rice at high prices for their own consumption.

DEAN CHANG ACCOMPANIED DR. M. C. BALFOUR TO CHUNGKING.

Dr. M. C. Balfour of the Rockefeller Foundation, after several unavoidable delays, got to this part of the country in the latter part of February, 1941, from his new office in Manila, for his annual visits to the institutions with which the Foundation has been cooperating. He came with Mr. J. C. Carter. After their visit to the campus, Dean Chang accompanied them to Chungking, where the Annual Conference of the National Council for Rural Reconstruction was held on March 10 and 11, in the Research Institute of Economics of the Nankai University.

NATIONAL AGRICULTURAL PRODUCTION PROMOTION COMMISSION RENEWS ITS ANNUAL GRANT TO THE COLLEGE.

For the year 1941-1942, the National Agricultural Production Promotion Commission has renewed its annual grant

to the College for the third year of cooperation for pure seed multiplication, extension, extension training, and silkworm production.

POST GRADUATE WORK PROCEEDS SATISFACTORILY.

Thirteen graduate students and eight research fellows have been proceeding satisfactorily with their studies and research projects. Four of the graduate students will finish this summer and will be given their M. S. degrees. Following is a complete list of their names with the subjects of their study:—

Chang Teh-chang	A Study on Soil Physical Properties with Reference to Crop Production	Graduate Student
Chen Hong-keng	The Proposed Farm Mortgage Credit System in China	„
Chen Ping-hua	A Study of Farm Credit in Chengtu Plain	„
*Chen Lan-ying	An Analytical Study of Commodity Prices in China	„
Hsu Shu-hwa	Soybean Production and Biological Nitrogen Fixation	„
*Hu Kwoh-hwa	A Study of Farm Prices in China	„
*Ko Fuh-ting	A Study of the Most Suitable Types of Farming for Chengtu Plain	„
Kwan Yien-chang	Cost of Production and Marketing Cotton in Szechuan	„
Li Chia-wen	A Study on the Factors Effecting the Yield of Rape Crop.	„
*Lin Yu-wen	A Study of the Economic Status of Women in the Farm Families of Jensheo Hsien, Sze.	„
Mei Tsih-fang	Millet Breeding by Hybridization	„
Sie Chen	War Effect on the Marketing of the Chief Agricultural Products of Szechuan Province.	„
Wu Kwan-yuen	A Study of the Disease Resistance of Rice	„
Ching Pu-yuan	Land Tenure in Sintu, Szechuan	Research Fellow

*Will graduate this summer with M. S.

Chia Lin-hua	Studies on the Pollination of Citrus Fruits	„
Feng Chao-ling	An Index for Rating the Agricultural Value of Soils of Szechuan	„
Hu Kwoh-hsien	Studies on the Measures of Citrus Disease Control	„
Li Yoh-mao	Adaptability and Cultural Studies of Apple and Grape Varieties in Szechuan	„
Tang I	Studies on the Varieties and Propagation of some Economic Woody Ornamentals.	„
Tsi Chao-seng	Studies on Citrus Fruit Insects	„
Wang Yin-yuang	Influence of Price Changes in Economic Status of the Farmer in Chengtu Plain	„

CONTINUATION OF CITRUS IMPROVEMENT WORK

This marks the fourth year of our citrus improvement work. The program for this year includes work in three parts: that of the Department of Horticulture, the Division of Entomology, and the Division of Plant Pathology.

A. Department of Horticulture.
   1. Selected strains from last year's experimenting were chosen for exstension and are now under rapid propagation, and will be ready for extension to the local growers this winter.
   2. A Study of the depth of roots and height of tops of specific orange and tangerine trees give important bearing on the problem of rootstock adaptation, manuring and irrigation, and tree nutrition.
   3. 5000 blossoms of sweet oranges are being emasculated and pollinated with pollen of pummelo, tangerine and sweet orange.
   4. A continuation of last year's work on storage, with the addition of two more cheap types of ventilated pits erected for comparison. Also three fruit chambers were built to study the effect of CO condensation and CO_2 O_2 exchanges on the storage condition of oranges.

B. Division of Entomology; Citrus Insect Projects.

Efforts have been concentrated in a study of the over-wintering habits of the citrus fruit-fly, the

two citrus leaf-miners and the citrus gall mite. During the spring and summer tests will be made of:

1. The effectiveness of baits under field conditions
2. The effectiveness of burying infested fruit under field conditions
3. The effectiveness of traps in reducing populations of flies. The survey this year added the following list of insects to those attacking citrus: mealy bugs, white flies, black flies, red spider, rust mites, cicadas, aphids, scale insects, fruit-skin borers, termites, and citrus papilionids.

C. Division of Plant Pathology:—Control of Storage Diseases.

The studies of the present year center on two points:

1. To reduce the cost of storage
2. To minimize pitting by storage methods.

STUDENT ENROLLMENT OF THE COLLEGE ON STEADY INCREASE.

Before the war, the College had an enrollment of four hundred students in both the College proper and the Rural Leaders Training School. But when the University moved to the West China Union University campus in the Spring of 1938 there was a sudden drop due to the encouragement given to students to transfer to other institutions. However, as time went on, there has been a steady increase, as shown in the following table:

	1938	*1939*	*1940*	*1941*
Spring	197	210	266	320
Fall	208	228	291	

STAFF CHANGES

Beginning with this term the following members were added to the College Faculty:

Mr. Lin Li-chien, M.S. (Iowa) Prof. of Agricultural Education, full-time.

Dr. Tsang Song, Ph.D. (Leon) Prof. of Economic Entomology, Half-time.

Mr. Chow Shi-tsien B.S. (Tan-Shan University of Communications) Instructor of Surveying, part-time.

Mr. Wei Yuen-hung, B.S. (University of Shantung) Instructor of Meteorology, part-time.

Mr. Feng Chi-tsien, B.S. (Nanking) Instructor of Agricultural Economics, full-time.

Mr. Yang Chia-chow, B.S. (Nanking) Associate, Agricultural Economics, full-time.

Mr. Ting Chi-Bao, B.S. (Nanking) Associate, Agronomy, full-time.

Mr. Chen Yuen-hsi, B.S. (Nanking) Associate, Plant Pathology, full-time.

Mr. Wu Chong-lawn B.S. (Nanking) Associate, Forestry, full-time.

ANOTHER BUILDING FOR THE COLLEGE.

It is gratifying to announce that the Baptist Mission has granted our request for the use of their student dormitory which is right on the campus. It has been rented to the Medical College of Central University for faculty residences. This summer they are going to move out. One section of the building was badly damaged by bombing two years ago and our college is going to repair it. It is a big building. One half of it will be used as student dormitory and the other half as class rooms and laboratories. This grant meets a long-felt need.

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AGRICULTURE & FORESTRY NOTES
COLLEGE OF AGRICULTURE & FORESTRY
UNIVERSITY OF NANKING
CHENGTU

June 1941 Dean C. W. Chang Chengtu, No. 12.

NATIONAL COUNCIL FOR RURAL RECONSTRUCTION

The National Council for Rural Reconstruction, first known as the North China Council for Reconstruction, was organized in 1936 by such participating institutions as Nankai University, Yenching University, Tsin Hwa University, P. U. M. C., Mass Education Movement, and the College of Agriculture & Forestry of the University of Nanking, with financial support from Rockefeller Foundation. The Council first had its field center in Tsi-ning, Shantung; and after the war it was moved to Ting-fan, Kweichow, and later to Hsioh Ma-chang, near Chungking, the present headquarters of the Mass Education Movement. After lengthy discussion in the Annual Session of the Council, on March 10-11, 1941, it was agreed that the Rural Institute of the Council be temporarily suspended. Prof. Y. W. Chang, who has represented the College in the Council since our participation as a member of it, has written a detailed report for the Department of Agriculture of the Council's Institute of Rural Research and Training, outlining work from Jan. 1937 to June 1941. In reading over the report one cannot help but feel how Prof. Chang has been loyal to the Council in all its difficulties involved in the shifts from place to place, and steady in his work. In three and a half years the Institute has changed centers three times. It is especially difficult to do any substantial agricultural improvement work under such conditions. However, Prof. Chang and his colleagues have never shown discouragement. We hope the University Community Concept idea as embodied in the establishment of the Institute of the Council will have a better chance for realization after the war.

THE HEADQUARTERS OF THE NATIONAL ASSOCIATION OF RURAL RECONSTRUCTION IN THE COLLEGE

The National Association of Rural Reconstruction is composed of such members as Dr. James Y. C. Yen of Tinghsien, Hopeh, Liang Chong-hwa and Liang Sheo-ming of Shantung; Mr. Y. S. Chang of the Ministry of Economic

Affairs, Mr. Hwang Yuen-pei of the National Association of Vocational Education, Shanghai, Director K. S. Sie of the National Agricultural Improvement Bureau, and Dean C. W. Chang of the College. Before the war the Association held three annual conferences, each with a big attendance, representing rural reconstruction work from all over China. The aim of the Association is to promote rural reconstruction work.

After the beginning of the war the Association headquarters was first in Chungking. The headquarters there was destroyed by bombing, so now they have moved here. There are now over one hundred members of prominence from different lines of business. Since the Provincial Government of Szechuan is now carrying out a program of a new hsien government system, several members have been asked by the Provincial Government to serve on the Committee of Supervision. The district of Panhsien, located on the Chengtu Plain, 90 li from the University has been chosen as a basis for a model hsien on the new system. The Government has appointed Mr. Pi Tah-wu, a member of the Association to be magistrate. The College will assist him in agricultural improvement work, trying to work out a system of agricultural extension, so that the experiment, if successful, can be developed elsewhere in the country.

FOREIGN FELLOWSHIPS

Mr. Tsui Ruh-tsuin of the class of 1925, has been granted a fellowship by the Rockefeller Foundation to take further study in Farm Management and Agricultural Extension for 1941-42, in Cornell University; while Mr. Fan Ching-sen and Mr. Chen Kan-fan have been granted half-year extensions of their fellowships to wind up their training in the States. We are very grateful to the Foundation for these timely grants.

ANOTHER FOREIGN FELLOWSHIP

Mr. Feng Chao-lin, of the class of 1936, a major in Agronomy, has been holding a scholarship from the British Boxer Indemnity Fund Control Commission for the last few years, taking charge of soil classification which the Department of Agricultural Economics has been undertaking in cooperation with the Szechuan Provincial Government. The Provincial Government has completed land registration work in 30 hsien and is taking on 15 more hsien for this

project. Mr. Feng has been doing a very good piece of work along this line and has been granted this year by the China Foundation, a fellowship to continue his study on soils in America, with special emphasis on the mechanism of the formation of crumbs and clods in the cultivated surface soil in semi-arid and humid regions. Land economics as a subject is new and very much needed in China today in connection with land registration work which will soon be taken up by the National Government on a nation-wide basis. We hope that Mr. Feng will return to the College after finishing his advanced training abroad.

MORE POST GRADUATE WORK IN THE COLLEGE

The Ministry of Education of the National Government has approved the request of the College to start graduate work in Horticulture with emphasis on Pomology and also Economic Entomology and Plant Pathology. The College will begin to receive graduate students in these divisions this summer. These additions will enable students to continue their advanced training at home, since they are unable to go abroad, due to many difficulties, foremost of which is the abnormally high rate of gold exchange, which makes it practically prohibitive for them to go abroad.

COLLEGE AGAIN ABLE TO RUN ON FIXED SCHEDULE OF COURSES

Beginning with the Fall term of 1941, the College will resume its fixed schedule of courses as it used to previous to the war. A pamphlet on courses of study has just been issued, giving the required courses of division majors, and the fixed courses for both Fall and Spring terms. The College is now going to be able to offer the complete program of courses on a fixed sch.. ule, because we have secured more room space for class work.

AGRICULTURAL EDUCATION IN CHINA

The Ministry of Education of the National Government is going to compile a book on education in China. It will contain a survey of all kinds of educational work, giving historical sketches as well as the present status, with suggestions for advancement. Dean Chang of the College has been asked by the Ministry to write on agricultural education in China. The book is supposed to be out next year.

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GRADUATES AND PLACEMENT

College graduates of June included five post graduates, twelve from the College and twenty-eight from the short course. The small number of graduates from the College is due to the fact that they entered in the fall of 1937 when we felt uncertain as to the opening of school in Nanking, and encouraged students to transfer to other institutions. All graduates are placed in positions for which they have been trained, and as usual, the demand is greater than the supply.

PROPOSED PROJECT FOR STUDENT RELIEF

A request has been received from Mr. Andrew T. Roy. for assistance in directing a gardening project this summer About 27 students will be given an opportunity to earn their summer's expenses by cultivating and planting about nine mou of land to vegetables. The vegetables raised will be used by the student dormitories. Prof. C. C. Hu, head of the Department of Horticulture will direct the project, with some graduate students as assistant advisers.

STORAGE OF SWEET ORANGES

After having experimented for two years on storage methods for sweet oranges, which will be simple and economical, yet effective for the use of local fruit growers, the Division of Plant Pathology has succeeded in keeping the fruit for six months with perfect freshness, taste, and a loss of only 30 to 50% by storage rots which usually destroy over 80% of the fruit in four months in common storage. The significant success is in prolonging the storage period for two months when the environment would be more unfavorable and the demand for the fruit is greater.

By decalyxing with ethylene gas the damage done by *Phomopsis* stem end rot and *Alternaria* internal rot, the two most serious storage diseases here, was considerably decreased. The loss was 50% in the storage period. Experimentation with the local chemicals for prestorage washing showed that one of the mixtures used was able to save 70% of the fruit in the same period. Compared to the standard borax wash, this mixture is about six times more effective and five times cheaper.

The treated fruits were wrapped in paper impregnated with tung oil and laid out in single layers on bamboo trays which were placed on wood shelves in a semi-underground

storage. The temperature and humidity were controlled by proper ventilation without using any complicated equipment.

PROF. S. T. HWANG REPORTS ON HIS SOIL SURVEY

Prof. S. T. Hwang of the Department of Agronomy has returned from his trip to Kwangsi where he studied problems of soil erosion and conservation. The trip covered over three months time.

Kwangsi is a province of low soil fertility and is subjected to continuous loss of the more fertile surface soils. Paddy rice is grown wherever possible, in which places the people are fairly prosperous. However, approximately more than half of the province is mountainous with very few rice fields. Besides, there is a peculiar flat to rolling topography among the various Karst ranges, mostly in the eastern half of the province with a rapid runoff of water during rain, and the high percolation through the soil when water stands on the land surface. From an agricultural point of view the province has been kept at a standstill and in a meager state of sustenance by cultivating land of marginal fertility.

In the region between Nanning and Pe-she, a big city in the western part of Kwangsi, gully erosion is serious and the farmers in this region are beginning to realize the importance of soil erosion control. For instance, several hill slopes have half of the land completely destroyed by gullies, while the other half has been well protected by narrow bench terraces which are used to grow upland rice and corn. This not only prevents gully formation, but also conserves more moisture in the soil. Also more organic matter is accumulated.

Prof. Hwang's trip also included conferences and consultations with leading agriculturists of the province, and a study of reports and manuscripts written by previous investigators. He is now busy preparing a report of his trip which will include recommendations to the Provincial Government of Kwangsi for improvement of the soil situation.

DIRECTIONS FOR AGRICULTURAL WORK IN SECONDARY SCHOOLS

At the request of the Ministry of Education of the National Government, Dean Chang and Prof. Han Lin-feng

have written directions for agricultural work that is now required of all secondary schools in China. By the regulations of the Ministry, middle school students each should spend two hours a week in agricultural work. The directions, as prepared by the college, give suggestions as to how the agricultural work should be carried out in the middle schools, including methods of teaching, subject matter, and field practice. The Ministry of Education is to have this published for the use of all middle schools and has asked the college to give help to any middle schools that start to teach agriculture. For experimentation, the college has given supervision to two middle schools that are near the campus. It is hoped that in due course of time methods of teaching and the subject matter will be satisfactorily worked out for secondary schools.

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AGRICULTURE & FORESTRY NOTES

COLLEGE OF AGRICULTURE & FORESTRY
UNIVERSITY OF NANKING
CHENGTU

Special

October 1941 Dean C. W. Chang Chengtu No. 13

WHAT DOES A SUMMER VACATION MEAN TO US?

This last summer vacation was a long one, beginning from June 23, to Sept. 17. It is both desirable and necessary that anyone of us have a few weeks for rest and recreation, so that he or she may feel refreshed for the work of another year, but as a matter of fact, very few of us can actually enjoy this. Many of us have to continue research projects already begun, while others have to make surveys and collect specimens for further research. Those engaged in administration duties, as a rule have to stay in school busy in the matter of office clearance work in preparing for the next year's work.

When the College first came to this campus it was thought that our stay here would be a temporary one, from one to two years. Now we have been here for practically four years and it seems that we may be here for a few years more. The meager equipment that we acquired in the beginning has proved insufficient aud inadequate, so we must take steps to secure more equipment to be prepared to stay here for a longer period, and all this means planning and work. So the summer vacation has meant work and work.

THE COLLEGE A CENTER FOR TRAINING OF PROFESSORS

It is not a matter of surprise that so many institutions come to us for trained men, if we look into the number of students of agriculture that China has. Out of over 260 students of agriculture that have had some advanced training in agriculture in Europe or America, about one half are graduates of this college. Since the war the government has not allowed students to go abroad for study, due to the unfavorable rate of foreign exchange. But on the other hand the government has encouraged agricultural improvement work by establishing agricultural colleges and agricultural improvement bureaus in many provinces behind the lines, so there comes a crying need for trained men for all these newly established institutions.

The Provincial Agricultural Improvement Bureau of Szechuan has as its running budget over ten million dollars for

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this current year, with a working staff of over 1200 persons. Of them, less than ten have had any advanced training in foreign countries. Recently Gov. Kou of Kansu Province said, "To get trained men, is many times more difficult than to get funds." Mr. P. W. Tsou, Dean of the former agricultural college of Southeastern University and now of the Foreign Trade Commission of the Ministry of Finance has said, "If agricultural improvement work fails it is not because of lack of interest of the government nor the lack of funds, but the lack of trained men."

This last summer, Dr. T. L. Kwan, Dean of the Agricultural College and Director of Agricultural Improvement Bureau of Hupeh Province came to the college with a truck for trained men to work in his province. Prof. W. M. Pao also came from Fukien Province for trained workers. There are many other institutions that have come here for trained men. Hence it is quite a problem for the college administration to see how to meet the calls of other institutions and at the same time to retain enough staff members to meet her own needs in this ever-growing enterprise.

WAYS AND MEANS OF MEETING THE PROBLEM OF THE HIGH COST OF LIVING

The Chengtu price index shows that prices have gone up very rapidly for the last two or three years. Take rice as an illustration of this. When we first came to the west in 1937 rice per teo of 32 pounds was sold for $2, and now this last summer it was $100, or fifty times more than it was in 1937. Prices of other commodities have risen accordingly. Although the school has done her uttermost to help her faculty with increase of salary, such increase can never match the rise in prices. The following are some of the ways and means the institution has undertaken to meet this problem of the high cost of living:-

1. The University has provided enough residences, either by building them ourselves, or by mortgaging, for the use of our faculty at a fixed price, and arranged to provide sufficient rice at a fixed price, the difference between this and the market price being borne by the institution. At the beginning of each year we have also arranged to make loans to our faculty to secure other necessities. Such loans may be paid back to the school by installments during the year.

2. In view of the fact that all private schools have raised their tuition and incidentals to a considerable amount, most of our faculty cannot afford to send their children to Middle (High) School. With the consent of the school authorities,

the faculty members have voluntarily organized a branch of the University Middle School for children of our faculty. Many teachers and their wives have volunteered to help in the teaching. We now have three classes of Junior Middle and two of Senior Middle, with a total enrollment of 45 students.

3. Recently the college has been able to secure a nine mou piece of land to grow vegetables for student practice. The produce will be sold to the faculty and students at a fixed price. Already there have been many faculty members who have grown vegetables for family consumption on any available piece of land.

4. The institution has tried to secure funds for emergency cases, such as illness, and death, and malnutrition.

In the face of the high cost of living it is certainly a problem how to retain our staff. The steps undertaken by the University as outlined above, for meeting the present crisis, seem to us to be the ones most practical. This situation may continue for a few more years to come and it may get even worse as time goes on. How to retain our staff for a maximum efficiency of work is a problem of vital importance.

A SUGGESTION TO MINISTER CHEN OF EDUCATION

After consulting Dr. Frank Price aud Dr. J. L Buck, Dean Chang of the College has written Minister Chen of Education of the National Government with the suggestion that professors of agriculture from the United States be invited to come to China to help in the training program as far as the Lend and Lease Act allows. The immediate step that the Ministry of Education should take is to organize a committee on agricultural education in the Ministry. Such a committee will visit all agricultural colleges in China with power to make suggestions for improvement and coordination and help to select foreign experts and to see where foreign expert service can be used to the greatest advantage. This is one of the ways America can help China by sending experts to train men to help China herself.

PROVINCIAL SUPERVISION COMMITTEE ON NEW HSIEN GOVERNMENT SYSTEM IN ACTION.

The Provincial Government of Szechuan has organized a Supervision Committee on new hsien government system. The committee is composed of eleven members including the Governor, the Secretary General, four commissioners, and five members that are invited by the Governor. Of the five

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members thus invited, are Dr. James Y. C. Yen of the Mass Education Movement, and Dean Chang of the College. The initial conference of the committee took place on Sept. 10 in the Provincial Government Headquarters. In his opening address, Gov. Chang was so enthusiastic about this committee that he urged that it should meet twice a month to go over all kinds of problems in connection with the formation and supervision of all hsien governments of the province that are now operating on the new system. For the purpose of administration and experimentation the Governor has designated Panhsien which is 90 li away from Chengtu as a model hsien. Mr. Pi Tah-wu who had some advanced training in economics in U.S.A. 18 years ago, has been appointed magistrate of it. A group of professors from several institutions on the campus will go to Panhsien to make surveys of the local conditions and then make proposals for reconstruction work to the Supervision Committee for consideration and action. Since Panhsien is not very far from the campus, service will be solicited from experts along various lines from our members hers. The college has already arranged to release Mr. Cheo Shao-lin, a graduate of the Rural Leaders Training School to take charge of the Division of Reconstruction of the bsien government. Mr. Cheo has been Tsu Chang in his native place of Hunan Province for several years before he entered our training school, so he has had a good deal of practical experience in reconstruction work. We feel sure he will make good in his new appointment. The college will, of course, cooperate with him in all agricultural improvement work.

AGRICULTURAL ENGINEERING ASSISTANCE GIVEN TO COOPERATIVE FARM.

Prof. C. H. Riggs, of the Division of Agricultural Engineering, spent some time during the summer at Sui-ning, where the Ministry of Agriculture is developing a project in cooperative farming. He went at their request to give advice and assistance in the construction of farm machinery to be used on their farm, which consists of one hundred farmers of that locality. Mr. C. C. Wang, former head of the West China University Farm Machine Shop, and before that, head of the Farm Shop at Nanking, went along. He helped in the planning of the construction of planters, cultivators, cotton gins, etc. and is remaining there now to oversee the construction which will be done with the assistance of local mechanics. Mr. Li Shi-tsai, a former Nanking graduate, at present in charge of the farm, came to Chengtu to escort Prof. Riggs and Mr. Wang to Sui-ning.

THE COLLEGE MEETS ANOTHER TRAGIC LOSS.

Every person living on this campus, western or Chinese, faculty or student, was stunned to hear of the tragic death of Dr. James S. Y. Tang, on Sept. 7. It means the loss of a sincere friend, an energetic co-worker, and a sympathetic teacher, He had just been made acting head of the Department of Agronomy and also of the graduate division of agronomy. In addition he was carrying on a project of rice improvement and was professor of genetics. He had joined the staff of the college on his return from Cornell in the snmmer of 1938.

Dr. Tang had gone with Dr. William Fenn, Head of the English Department of the University of Nanking, and Dr. Gordon Campbell, of the West China University Dental College, for a few days bicycle trip to Yachow. He had had no vacation, and was only persuaded to go along because he could combine business and pleasure and work on his rice project on the trip. They had cycled to Yachow, and then took a little river boat, loaded with grain, for the trip down the rapid and treacherous Ya River to Kiating, from where they expected to cycle to Chengtu. About 10 miles below Yachow the boatmen lost control of the boat when a strong current dashed it against a rock, and it sank almost immediately. Dr. Tang was not an expert swimmer, and in spite of the desperate efforts of his companions to help him, he was pulled down by another drowning pessenger, and it was only with the greatest of effort that the other two managed to get ashore themselves. After organizing search parties, they came home by bus the next day, bringing the sad news with them.

Dr. Tang leaves his wife Margaret, of New York State, whom he had married shortly before returning to China in 1938, and small Carl, aged two, his Parents in Honan and several sisters, most of whom are well-known and loved by all on the campus.

The body was found about seven days later, and temporary burial is being made at Yachow.

THE UPPER CLASS OF TRAINING COURSE IN COOPERATIVES GRADUATED

The college has conducted a training course in cooperatives for the Bank of China. It consists of 14 students in the upper class of college grade and 47 in the lower class, of senior middle school grade. They were admitted through entrance examination in June, out of more than 1000

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applicants. The upper class is for three months, graduating the end of September. They are now assigned by the Bank to work in different provinces in cooperatives. In a farewell party to the graduating class, one of the students said, "I now know more about the college. It is a family school. We are just members of a big family and treated as such. If I were asked what I value most, I would say thespirit of the school. Such a spirit is a motivation of power. With it we feel as if we were in a big family and have courage to do things, and that the school is with us wherever we go."

PROPOSED TRIP OF DEAN CHANG TO UNITED STATES

For the purpose of the further development of the college and cooperation with training schools abroad, Dean Chang will soon make a trip to the United States and Cannda. Mr. John H. Reisner, former dean of the college and now Executive Secretary of the Agricultural Missions Foundation. has carefully prepared an itinerary for him. Dean Chang. as a member of the Committee of Agricultural Education of the Ministry of Education of the National Government has visited all agricultural colleges in China. He has made a number of suggestions at different times for the improvement of agricultural education to the government. With his wide experience in agricultural education as well as in rural reconstruction work, he can get a great deal from such a proposed trip. In this trip he will not only represent the college, but also the Ministry of Education, in getting first hand information as to how agricultural education is carried out in other countries and how it is related to reconstruction work.

PRIZES OFFERED FOR BEST PAPERS ON COTTON MARKETING.

Mr. Y. T. Yieh, of 1918, the first graduating of the College, has recently notified the college that he has made a fixed deposit of $3,000.00 local currency with the Shanghai Commercial and Savings Bank to the honor and remembrance of his parents. The interest on the deposit is to be used in the form of awards for the best papers written on cotton marketing by assistants and students of the college who have studied cotton culture and agricultural economics. Mr. Yieh was professor of cotton culture for many years in the former Agricultural College of the Southeastern University after his return from U.S.A. where he had his advanced training in cotton. Later he was connected with the former Ministry of Industry in cotton marketing at Shanghai, and more recently he has been in the Foreign Trade Commission of the Ministry of Finance.

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