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Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Dean

November, 1923.

Number 1.

These notes are issued in fulfilment of a long felt need of a means to keep our many hundreds of friends both in China and America in closer touch with what we are doing. We hope you will be interested in them, and that they in turn be the means of increasing your interest in China's rural life and her rural problems. The improvement of Chinese Agriculture and even more, the improvement of the conditions under which the farming population lives are certainly among the major problems in China to-day. They not only affect commerce, trade, politics, education, industry, and so on but to use a phrase from the report of the China Christian Educational Commission, "The missions have a concern nothing less than vital in the permanent economic improvement of Chinese farming and farmers." As one of the agencies of the Christian Church in China, we feel that our greatest contributions to China and to the Church can be made by emphasizing the human and Christian, at the same time not neglecting the economic and commercial, interests in China's agriculture and her rural life.

CORNELL IN CHINA CLUB CO-OPERATION

Cornell University has added its name to an already notable list of Colleges and Universities carrying on China projects. A Cornell in China Club has been organized for the purpose as stated by them of "establishing in China a work of University Extension of ultimately nation-wide scope located at Nanking and affiliated with Nanking University. Our ultimate aim would be the creation of a comprehensive system of University extension for the promotion of popular education."

Another of the resolutions approved is that the club "begin with agricultural extension and that as soon as possible thereafter, it add engineering extension, in order through both of these departments to contribute to the solution of the problems of food production and famine prevention."

The plans and purposes of the Cornell-in-China-Club have also been approved by the Board of Trustees of Cornell University.

This action on the part of Cornellians naturally is greatly appreciated by the College of Agriculture and Forestry and our China friends will be kept informed as plans develop.

GOVERNMENT SCHOLARSHIPS IN THE COLLEGE OF AGRICULTURE AND FORESTRY

Shansi Province has fourteen students on provincial scholarship, Anhwei province has eight, and Shantung province has three. Ten of these scholarship students are studying agriculture and fifteen are studying forestry.

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THE COLLEGE CO-OPERATES WITH THE SHANTUNG PROVINCIAL SUMMER SCHOOL

During the spring the Bureau of Education of Shantung Province sent an invitation to us to provide them with a teacher of Rural Education for the Summer School carried on by the Bureau, they to provide in turn an honorarium of \$200 for the month. We were able to arrange for Mr. Griffing and Mr. Chow Ming-i to carry the work. The lectures were written in English by Mr. Griffing in Nanking with suggestions for field work and given in Chinese by Mr. Chow Ming-i who represented the University in Tsinan. In signing up for classes for the Summer School of 1924, eighty per cent. elected Rural Education. The subject was brought so forcibly to the attention of the officials that plans are already under way to institute a Department of Rural Education in connection with the Provincial Normal School.

RECENT PLANT INTRODUCTIONS FROM AMERICA

Early in 1923, the College of Agriculture and Forestry, through the co-operation of the United States Department of Agriculture obtained excellent variety collections of pears, citrus and pomegranates. A number of the late Dr. Walter Van Fleet's new hybrids of roses and mulberries were also included in the list of plants secured.

The object of these introductions is to assist in building up Chinese horticulture and also by way of co-operation with the U. S. Department of Agriculture in testing out new plant hybrids as to their ranges of adaptability. The citrus collection was given by the Office of Citrus Breeding and Investigations and contains some sixty plants representing a number of hardy citrus varieties among which are several of Dr. W. T. Swingle's citranges. These will be tested for hardiness under Chinese conditions in the latitude of Nanking. With the aid of these new varieties and members of the citrus family already to be found in this latitude it is hoped by breeding to extend the Chinese citrus belt farther north than it obtains at present.

The pomegranate collection is also of considerable interest. It comprises sixteen varieties collected from different parts of the world by the U. S. Department of Agriculture, Office of Foreign Seed and Plant Introduction. These will be tested for their fruiting value at Nanking, already noted for its pomegranates.

The Van Fleet rose hybrids are also contained as a locality test, and subject to the condition that they shall not be propagated for distribution until such time as they have been distributed to the rose trade in the United States.

Last but not the least is the collection of some thirty varieties of the best pears of the *Pyrus communis* or European pear group, which are generally accepted to be superior in flavor to those of the *Pyrus chinensis* or sand pear group. Nanking is possibly somewhat too far south for the best fruiting results with this collection, but they will doubtless be a very welcome addition to the pomology of north China and arrangements will be made to have collections grafted from them, made available to important pear growing sections in the North.

\$30,000 CONTRIBUTED TO OUR COTTON IMPROVEMENT WORK

During the past four years the Cotton Mill Owners' Association of China, and the Shanghai Cotton Anti-Adulteration Association have contributed approximately \$30,000 for Cotton Improvement work under the direction of the University. A report of the results of the first

three years work has recently been prepared by Mr. Griffing, and published by the University. This bulletin will be sent on request to any one interested.

ANOTHER \$2,500 FOR COTTON IMPROVEMENT

Mr. R. J. McNicol, Chairman of The Cotton Mill Owners' Association of China, on 29th September sent us the following welcome information: "I have pleasure in advising you that at the annual meeting of this Association held yesterday it was unanimously decided that the sum of \$2,500 be granted to the University of Nanking to help with the maintenance of their Cotton Improvement Department. A cheque for this amount will be forwarded to the treasurer."

52,500 COTTON PLANT SELECTIONS IN THREE YEARS

In the past three years Mr. Griffing and his associates in the Department of Cotton Improvement made field selection and careful laboratory study of 12,500 individual plants of American cotton, and over 40,000 individual plants of Chinese cotton. Two varieties of American cotton, Acala and Trice, were successfully acclimatized by the process of severe selection, and multiplied into a seed supply which in 1923 was planted on 740 mow of pure seed producing farms, besides free distribution to 1,820 farmers and sale of 5,200 cattiees to other cotton stations. Three new improved strains of Chinese cotton have been isolated, one of which has a quality of lint that promises to be equal to American cotton. Production of pure seed from these will be on a commercial basis this year.

AGRICULTURAL COMMITTEE TO MEET FEBRUARY 7-9 IN NANKING

Extensive plans are being made for the first biennial meeting of the standing committee on Agricultural Education of the China Christian Educational Association. The meetings will be held at the University of Nanking, February 7, 8 and 9, 1924. Sub-committees have already been appointed to report on important questions and problems bearing on agricultural education for Mission Schools, and a large attendance is hoped for. All those interested in agricultural work are invited and urged to attend.

CUNNINGHAMIA INVESTIGATIONS BY MR. IP.

Mr. N. K. Ip, Head of the Department of Forestry, and three senior forestry students made a trip into southern Anhwei during the Summer investigating the *Cunninghamia* lumber industry. A report will be issued shortly. The Forestry Fund Committee of Shanghai administering surplus famine funds from the Hwai flood famine of 1912-1913, made a grant covering the expenses of the investigation.

NEW SEED ROOMS AND FIELD OFFICE.

New seed rooms are being built in the "Agricultural Gardens" which will make possible the bringing under one roof all our vegetable, flower and tree seeds. They will also provide office space for Mr. Hancock. With this greater degree of concentration, and better means of oversight we expect to be able to handle our large seed service much more expeditiously and efficiently.

4,000 ORDERS FOR SEEDS AND PLANTS LAST YEAR

During the year ending June 30, 1923, over four thousand orders for seeds, nursery stock, insecticides, etc., were filled by the College.

175 ACRES UNDER CULTIVATION

During the summer we have had approximately one hundred and seventy-five acres of land under cultivation in cotton, corn, rice, mulberries, nurseries, flowers, etc., etc.

DR. GIBBS WORKS OUT CONTROL OF IMPORTANT POULTRY DISEASE

Dr. Charles S. Gibbs our Bacteriologist with the co-operation extended to him by a large poultry packing and shipping company in China, has worked out a successful vaccine for chicken pox. The company is now using the vaccine regularly and with it has practically curtailed loss from this disease. Control measures against white cholera are proceeding satisfactorily also. The economic value of this piece of work is, as will be readily apparent, enormous, as by its use absolute control can be maintained and the present heavy losses stopped.

OCTOBER VISITORS

Among our October visitors were the following: Mr. Philip Kerby, Peking, Correspondent to the New York Tribune; Mr. G. K. Middleton, Kaifeng, Agricultural Missionary of the Southern Baptist Mission; the following representatives of the foreign cotton interests in Shanghai: Mr. R. J. McNicol, Chairman of the Cotton Mill Owners' Association of China, accompanied by Mrs. McNicol; Messrs. J. A. Moller of Arnhold & Co., G. Tolson of Geo. McFadden & Bro., D. Campbell of Jardine Matheson & Co., A. Cohen of J. Spunt & Co., G. Okada of Naigai Wata Kaisha, S. Seki of Shanghai Cotton Mill Co., S. Kato of Nippon Menkwa, M. Okada and Mr. Yoshida of Japan-China Cotton Mill and K. Ohno of Nippon Menkwa; Mr. J. Lambooy of A. Ehlers & Co., Shanghai; Mr. C. de Vriendt, Landscape Architect, Shanghai; Dr. and Mrs. H. D. Brown, Ph.D., on their way to West China Christian University in the Department of Biology; Mr. and Mrs. W. A. B. Nichols of Elbrook Inc., Tientsin and Mr. S. Z. Yang, General Manager of the same firm in Shanghai; Prof. N. Gist Gee of the China Medical Board, Peking; Mr. E. Kelhofer of Shanghai Baptist College; Messrs. R. E. Buchanan, China representative of the Silk Association of America and Mr. G. D. Huber of the Shanghai International Testing House, both of Shanghai.

THE SIXTH ANNUAL CHRYSANTHEMUM SHOW AND SALE

The Sixth Annual Chrysanthemum Show and Sale was held Saturday afternoon October 27th. The weather was fine, and the crowd was the largest we have ever had. The very large number of Chinese was encouraging. The receipts were also good, about double those of last year. The collection of flowers was large and varied, the demand seeming to be greatest for the better plants. There were about 5,000 pots in the display.

We shall be glad to have you send us the names of any to whom you would like us to send these notes as they are issued.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Dean

December, 1923.

Number 2.

CHINA HAS HAD ONE FAMINE PER YEAR FOR 2000 YEARS

Last Spring a group of students in the Student Agricultural Society made a little study of famines in China and brought to light the following surprising but very significant information on the frequency of famines:

A.D. 1644-1911—1068 famines.
960-1621— 526 "
B.C. 108- 960— 234 "

Total 1996 years—1828 famines.

As a matter of fact the number was likely much greater than this, inasmuch as the older the records studied the more incomplete were the data. The period 1644-1911 averages exactly four famines to the year, and after our experience in 1921-1922, it is not very difficult to imagine such a condition as existing. Flood and drought were the principal causes.

The significance of such data is evident. Famines represent a chronic condition in China's economic structure, and the problem of famine prevention is one that has to do with many basic aspects of her social and economic life. We may look forward to further famines in China for a long time to come and until the whole problem is attacked and solved on a comprehensive scale.

FAMINE FUNDS FOR PREVENTION WORK

The Final Report of the American Committee for China Famine Fund printed herewith will be of interest to all those who are thinking along lines of permanent prevention of famines in China.

New York, N. Y.,

August 1, 1923.

To the President of the United States and
the Contributors to the China Famine Fund:

Supplementing its report dated October 31, 1921, the American Committee for China Famine Fund hereby submits a final report of its service in connection with the campaign for the China Famine Fund.

The preliminary report indicated a surplus on hand of about \$1,250,000 but of that a net sum of about \$350,000 was sent to China for further emergency relief. A thorough investigation was then made to determine how best to use this surplus in consideration of the purposes for which the money was contributed. As a result a trust has been created under the laws of the District of Columbia under which Nanking University and Peking University will receive aid, the trustee holding for their account approximately \$675,000 and

\$225,000 respectively, to be used for the study and investigation of famine causes and relief and the education of the Chinese in agriculture and forestry. Expenditures from the principal of either sum may be made only with the approval of a China Famine Fund Committee to be composed of Five American residents in China, serving without pay, two to be selected by the American Minister to China, and two by the Committee of Reference and Counsel of the Foreign Missions Conference of North America. These four are to select the fifth. The universities are required to inform the committee of all proposed expenditures and the committee has authority to revise such items. Compensation from the fund is limited to those actually engaged in carrying out the purposes of the trust.

There is reserved from these two grants in trust for five years an emergency fund of \$100,000 for use as a nucleus to start a national campaign in the United States for famine relief in China should such a campaign be necessary.

At the end of ten years the Committee, created by the trust, may direct the trustee finally to surrender control of the funds to the two universities, or if the administration by the universities has not been satisfactory it may withdraw them entirely and direct the trustee to apply them to other uses within the purpose of the plan, all decisions being subject to the approval of the Supreme Court of the District of Columbia.

The plan after approval by counsel, was submitted to the members of the Executive Committee of the American Committee for China Famine Fund. It received the unanimous endorsement of all members of the Committee in this country and will promptly be put into effect. An audit of the accounts of the treasurer and a copy of the Decree of the Supreme Court of the District of Columbia are submitted herewith.

A copy of this report is being sent to all contributors on record to the fund and will be furnished to the Press.

Hoping that this plan, designed to promote measures preventive of future famines, and now completed, will commend itself to you as wise.

I am,

Yours respectfully,

THOMAS W. LAMONT,

Chairman.

PERSONNEL OF CHINA FAMINE FUND COMMITTEE.

The following American citizens residing in China have been appointed to the China Famine Fund Committee: by the American Minister, the Honourable Jacob Gould Schurman; Mr. C. R. Bennett, General Manager Peking Branch, International Banking Corporation with Mr. Robert Coltman, Standard Oil Company, Peking as alternate; Mr. J. Harold Dollar, Vice-president and General Manager of Robert Dollar Company and President of the American Chamber of Commerce, Shanghai, with Major Arthur Basset of the British American Tobacco Company, Shanghai, as alternate; by the Committee of Reference and Counsel of the North American Conference of Foreign Missions; Rev. Charles E. Patton, Shanghai, secretary of the (Presbyterian) China Council with Rev. J. E. Shoemaker of Yu-yao, Chekiang, as alternate, and Bishop T. F. Keeney, Foochow, with Rev. Frank Rawlison, Editor of the Chinese Recorder, Shanghai, as alternate; by the four above named members of the Committee. Mr. Dwight H. Edwards of the Y. M. C. A., Peking, with Mr. J. B. Powell, Editor of the China Weekly Review, Shanghai, as alternate.

TRAINING RURAL TEACHERS FOR COMMUNITY SERVICE.

There must be injected into the rural life of China a new attitude on the part of all, especially the educated classes, towards farm work and the farmers who do the work. Farm life must be looked upon by those who have had enough education, so that they no longer belong to those who toil, as something to be improved—and not something to be shunned—and that in this need they have opportunities for service, worthy of their very best ability and devotion. From whence will this new viewpoint come and where can the dynamic be found? Well, it ought to be one of the outstanding Christian contributions to China.

To inject new ideas and ideals of rural community service into those who are now working as teachers and preachers in the country, and to furnish helpful information and training to them, the College of Agriculture and Forestry is offering a six months' course, the details of which will be found below. Will all those interested please address all correspondence to Mr. J. B. Griffing, who will be in charge of the course.

DETAILS OF THE SPECIAL COURSE.

The School Calendar. The special training course for rural teachers begins February 15, continuing through the spring semester and summer school, and ending about August 20th.

Class limited to 25 students. It is necessary to limit this class to 25 because we do not have accommodations for more. Acceptance of a candidate remains with us, and those wishing to take advantage of the work should write to Mr. Griffing as early as possible.

Qualifications of candidates. Only experienced teachers and those that are adapted to and will continue definitely in rural school work are desired. By being adapted means, first, having a practical knowledge by reason of birth and experience of farm methods and rural conditions, and second possessing a physique and mental attitude toward farm work that is not too badly crippled by the classical aversion of the scholar to physical exertion.

As to scholarship, the higher the standing the better but middle school graduation will not be considered necessary.

As only mature experienced men are desired no one will be accepted who is under 20 years of age. It is essential that the candidate be a sincere Christian with purely altruistic motives. If he has ability to preach as well as teach so much the better.

Content of Courses. The objective of this institute will be to enlarge the vision and scope of work of the teacher enabling him to return to take his place as a rural community leader and extension worker instead of limiting his activities to the four walls of the school room.

To this end he will be given intensive courses in General Agriculture, Nursery Practice, Sericulture, Rural Sociology including Village Improvement Programs, Methods of Rural Survey, Methods of Extension, and above all Modern Methods of Teaching, both of general subjects and agriculture.

Opportunity will be given to participate in rural teaching and extension work in the community centers which we are developing in the country just outside of Nanking.

During the summer school period a wide range of subjects in Religion, Education, and Agriculture give an opportunity to adapt the work to the individual needs of the student.

Expenses. A scholarship amounting to \$28.00, equal to the tuition of the whole course including summer school will be awarded to such candidates as are recommended by a mission station and whose credentials show them eminently fitted to take up the work

and are accepted by us. The student will need to provide his own travel, board, incidental, and personal expenses. Board and hot water will be \$5.00 per month. Incidentals, including light, service, etc., for the period will be \$8.00. Books and supplies will be four to five dollars. Total estimated expenses not over \$50.00 for the six months in Nanking.

Our Motive. We believe that teachers trained as we have suggested will be able to make of the most neglected phase of mission work one of its most hopeful lines of endeavor.

That the farming population offers an unusual opportunity has long been recognized. The recent report of the Educational Commission whose recommendations, largely the work of President Butterfield, have greatly increased and centered our interest in the problems of the farmers. The College of Agriculture and Forestry hopes to correlate closely with the missions in their rural program not only by training teachers for the work but by backing them up in their extension activities in the field just as far as they are able.

SUMMER CONFERENCE AT KAIFENG.

The Canadian Church Mission, Kaifeng, Honan, invited Mr. Ritchey and Mr. Hsu Chen to give a course in Agriculture, July 3-24, through the period of their Summer Conference of Church workers. Fifty-nine teachers, of whom thirty-nine were men and twenty were women, took the course consisting of much laboratory and field work, emphasizing such things as would be of value to them on returning to their communities and schools.

A LETTER OF APPRECIATION.

I trust we shall not be misunderstood in printing the following letter. We do it because it indicates better than we can put it what we try to do for all our students—though we may not always succeed—and the kind of relationships we would like to establish in many parts of China.

"Yen Fu Djih is just back from his year in Nanking and has just been in to see me. He is very enthusiastic over the work that he has had and feels there is a great deal of practical value which he seems to be in a proper frame of mind to pass on to others in this region. We shall give him a chance to do as much as he can as he takes up work in the school this fall.

"He spoke very appreciatively of the personal relationship between the students and the teachers and of the heart which you are putting into the work. He enjoyed the Bible class which your wife has been conducting very much. To have our first student there come back so enthusiastic makes us feel like helping others to go.

"I shall be glad to let you know later just what he succeeds in doing with the work in the school. but I wanted to write now to let you know that we appreciate what you and your colleagues have done for him.

"I was interested to learn from him this evening what I did not know before that he went with the party to Lin I in the Tsinan field this spring to have part in the campaign there. Mr. T's report of that campaign in the Station report made me anxious to prepare for something similar in this region. I was talking with our Chinese Vice-Principal about the matter the other day and he liked the idea.

Very cordially yours,

R. C. W.

August 21, 1923.

CHINA FAMINE COMMITTEE HOLDS FIRST MEETING.

The China Famine Fund Committee held its first meeting in Peking, November 12, 1923. There were present Mr. C. R. Bennett, Mr. J. Harold Dollar, Dr. Frank Rawlinson, Rev. C. E. Patton, Mr. Dwight H. Edwards, and by special invitation, Mr. J. B. Tayler representing Peking University and Mr. J. H. Reisner, representing the University of Nanking. Mr. C. R. Bennett of Peking was made Chairman, and Rev. Charles E. Patton of Shanghai was elected secretary. The famine prevention programs and budgets of Peking University and the University of Nanking were carefully discussed and passed upon. The program approved for the University of Nanking to be carried out by the College of Agriculture and Forestry includes projects in Forestry Instruction, Extension and Research, Improvement of Farm Crops, Agricultural Extension, Co-operative Extension projects, Economic and Farm management surveys. Plant and Animal Disease Control, Agricultural Education, etc. The details of these projects will be published shortly by the college.

AGRICULTURE AND FORESTRY NEWSPAPER IN CHINESE.

Plans are being developed for the publication of a semi-monthly newspaper in Chinese confined to agricultural and forestry matters. It is designed to meet the need of the reading landowning class, and for the use of teachers both of government and missionary schools, as well as preachers and other Christian workers. Kwan Hwa (Kwoh Yü) will be used. A small subscription price of 30 cents per year will be charged. The first number will appear about January first, 1924. We will be glad to send sample copies to all whose names and addresses anyone will send in.

AGRICULTURAL COMMITTEE MEETING IN FEBRUARY.

Will all who expect to attend the meeting of the Agricultural Committee of the China Christian Educational Association to be held in Nanking, February 7-8-9, please notify as soon as possible Mr. R. H. Porter, Chairman of the Entertainment Committee, University of Nanking.

SCHOOL NURSERIES AND ARBOR DAY.

As a definite extension project the Forestry Department is undertaking to enlist hundreds of primary schools—both mission and government—in having their own small school nurseries of a half to one mow in extent and then using the trees raised in the observance of Arbor Day. The objects of school nurseries are: 1st, to get the children to understand the value and uses of trees; 2nd, to teach them how to raise trees from seed and cuttings; 3rd, to teach them how to plant trees correctly; 4th, to teach them to recognize the more important trees of their neighborhood; 5th, to use the trees grown by the children for beautifying the city, village or countryside; 6th, in some cases to develop sources of income; 7th, to make Arbor Day a real influence in the life of the school and country; 8th, to develop public consciousness on forestry matters. A school nursery bulletin with all necessary information for getting the school nursery started is in preparation. During the season leaflets will be issued for use of teachers and students in connection with the trees and the nursery. Seeds will be furnished at cost. We would like to enlist the interest of many missionaries and through them also the co-operation of mission primary school teachers. Will all who are interested please write in?

IF 4,000,000 SCHOOL BOYS AND GIRLS IN CHINA

If 4,000,000 school boys and girls in China would each plant out and protect five trees a year for 5 years, beginning at the age of ten, 15 years hence they could build another Shanghai-Nanking Railway, costing \$31,047,202; 20 years hence they could build the Tientsin-Pukow Railway costing \$101,523,776; 30 years hence they could build two Tientsin-Pukow Railways costing \$203,047,556, one Peking-Hankow Railway costing \$101,617,249, one Shanghai-Nanking Railway costing \$31,047,202, one Peking-Suiyuan Railway costing \$28,824,378; 40 years hence they could duplicate the entire present Railway system of China!

ADDITIONS TO OUR FACULTY

Mr. and Mrs. R. H. Porter and child arrived September 18th. Mr. Porter, B.S., M.S.A., is a graduate of the Iowa State College of Agriculture, and for the last three years has been Assistant Professor of Extension in the Department of Plant Pathology, being in charge of all extension work in plant diseases for the State of Iowa. His work will be on plant diseases, with special reference to famine prevention problems. Mr. and Mrs. Porter will be in Language School this year.

Mr. and Mrs. Hsu Chen-ken and three children, arrived September 1st. Mr. Hsu, B.S., M.S.A., graduated from the University in 1919 in agriculture and took special work in Plant Breeding at Cornell in the New York State College of Agriculture. Last year he was head of the Extension Department of Kiangsu First Provincial Agricultural School, Nanking. He is teaching classes in Plant Breeding and Bee-Keeping in which he also specialized in the States. He is also organizing a Chinese secretarial staff by means of which we shall be able to keep in much closer and more helpful touch with our Chinese friends and constituency.

Mr. M. Leslie Hancock, B.S.A., Ontario (Canada) Agricultural College, arrived September 28th, from England. Mr. Hancock is an expert plant propagator and will have charge of all our plant propagation and horticultural field work. For the last year Mr. Hancock has been at Bell, Maryland, at the field station of the United States Department of Agriculture, Office of Horticultural and Pomological Investigations. The note on "Recent Plant Introductions" in the November issue was contributed by him. He is taking first year language work in the Nanking Language School.

Mr. Kan Han, B.S. in Forestry, University of Nanking, 1923, after graduation in February was in charge of the Division of Parks in the Bureau of Forestry at Tsingtao. He has been an editor of the Chinese Forestry Association Magazine. He will do forestry extension work in the Department of Forestry.

Mr. Ling Kan, B.S. in Forestry, University of Nanking, 1921, has been head of the Department of Forestry, in the Shantung First Provincial Agricultural School. He will assist in instruction in Dendrology in which he has specialized.

Mr. Li Teh-i, B.S. in Forestry, University of Nanking, 1923, during the Spring Semester, working with Prof. Thomson secured distillates of a number of species of Chinese economic trees, and analyses of these products are now being made. He will be associated with Mr. Lowdermilk in forest research work.

RECEIVED
Agriculture and Forestry Notes
FEB - 5 1924
UNIVERSITY OF NANKING
MR. Speer COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Dean

January, 1924.

Number 3.

WE APPRECIATE THE RESPONSE GIVEN TO THESE NOTES

We appreciate the response which has been given to "Agricultural and Forestry Notes" as evidenced by the number of letters and comments received. We want them not only to keep you informed of our work, but we hope they will stimulate and increase your interest in China's rural problems. What a day it will be when thousands of our Christian teachers, preachers, laymen, missionaries and other friends are actively backing up a program of rural improvement in China.

THE COTTON GIN WORKS A TEN HOUR DAY

One of the busiest places about the College this autumn has been the cotton gin house where a seven horse power kerosene engine runs a small cotton saw gin, and where a hand press turns out standard bales of cotton. As an extension measure we buy from the farmers the seed cotton grown from our improved seed, at two dollars above market price for native cotton, gin it, and give them our own good seed to plant next year again. In this way we can control the seed and maintain the improvement.

AGRICULTURAL COMMITTEE MEETING, FEBRUARY 7, 8 AND 9

The program for the meeting of the Agricultural Committee of the China Christian Educational Association on February 7, 8 and 9 in Nanking will be sent out in a few days. It is hoped that everybody interested in agricultural educational or specific rural work will plan to attend. The section of the C. C. E. A. on Higher Education, including the Christian Colleges and Universities in China, has its meetings on February 5, 6, and 7. It is hoped that the National Christian Council's Committee on the Rural Church and Country Problems will meet together for the last two days with the Agricultural Committee and then meet separately on the 8th and 9th, using Sunday the 8th for a retreat, and the 9th for general meetings. The meetings of these two committees should make a strong appeal and it is hoped that there will be a large attendance.

Will all who expect to come please write at once to Mr. R. H. Porter, University of Nanking, Chairman of the Committee on Entertainment.

NINETY LABORERS PER DAY FOR THE YEAR

During the year ending June 30 the College used 28,148 days of labor, an average of ninety laborers per work day throughout the year.

SEED WHEAT FOR FAMINE AREAS

Next May the University should have a large quantity of superior seed wheat which we would like to get into areas subjected to famines. This is improved winter wheat and of high yielding varieties. The Department of Agronomy has been experimenting with them for five years and this year had seed for about 100 mow. It is for Autumn 1924 planting. Your co-operation or suggestions will be very greatly appreciated.

THESE CHINESE WORKMEN PREFER FOREIGN PLOWS

In placing an order for a dozen \$12 and \$14 foreign plows which we are trying to introduce into China, a Chinese landowner stated that he had difficulty in getting his workmen to use the Chinese plow after they had once used the foreign plow. This answers a multitude of questions.

CHINESE CHESTNUTS AND AMERICA

The American chestnut tree is already a thing of the past in many parts of the United States. The chestnut blight has killed it. One species of Chinese chestnuts, *Castanea mollissima*, is the most blight resistant species yet discovered, and the United States Department of Agriculture is very anxious to get hold of as many strains or varieties of this species as possible. Most of the chestnuts North of the Yangtze are of this resistant species. Do chestnuts grow in your district? If they do and you can secure up to five gin of them, will you please send them to us by parcel post at our expense, giving us the Chinese name of the village or mountain where they were grown, or otherwise locating them as definitely as possible for future reference. We are making up a collection to be sent to the Department of Agriculture at an early date. After fumigation and careful packing in charcoal grains, they will be sent by parcel post. We realize this is rather late for chestnuts but we still hope for a generous response.

These seeds will be planted by the Department and after several years, inoculated with the disease to determine the relative resistance of the various strains and in the hopes of discovering a strain or strains totally resistant to the disease and in this way restore this valuable tree to America. Due credit will be given in our report to all who co-operate. This very real opportunity should appeal to many, particularly Americans, and we hope it will. The blight came originally, so it is thought, from China.

STIMULATION—WITHIN THE LAW

One of our valued co-operators—may his tribe increase—writes as follows: "I have received the 3-year cotton report and the last annual report of the College of Agriculture and Forestry as a result of my name being on your mailing list, and I want to thank you for putting me there. They stimulate my imagination as wine could never do, and I hope that in spite of lack of technical training I may have some success in promoting this form of missionary work where I am working."

INTERESTING PROGRAM FOR AGRICULTURAL COMMITTEE MEETING

Among the topics coming before the meeting of the Agricultural Committee of the C. C. E. A. in Nanking will be an all China program of mission agricultural education, and how to finance it; training centers for rural workers; curriculum for rural primary schools;

a best village program; agricultural extension work, etc. One of the evening entertainments will be a play being used by the Extension Department of the College to stir up interest in rural improvement among the villagers.

SPECIAL RURAL TEACHER TRAINING CLASS

Quite a number of applications have come in for a place in the special class for training rural teachers in agriculture and rural community service, the details of which were published in the December issue of these notes. It is undoubtedly difficult to take away good teachers from your country schools, but we hope many will do it. The inconvenience for a short time we believe will be repaid many times in the enlarged interest and opportunities for greater usefulness of the teachers. Correspondence regarding this special course should be addressed to Mr. J. B. Griffing.

MR. LOWDERMILK STUDIES FORESTRY CONDITIONS IN NORTH CHINA

The following interesting observations on forestry in Honan and Shantung have been made by Mr. W. C. Lowdermilk, of our Department of Forestry, in charge of Forest Research, after a month's trip in these provinces. Government nurseries generally are overstocked and are used too much as show places rather than as sources of stock to be planted on the mountains and hills. Village trees are important and should be very greatly multiplied and supplemented with village or communal forests. The number of village trees can often be taken as an index to the prosperity of the village. Arboriculture rather than forestry is being practiced. The latter condition should be arrived at as soon as possible. The forest nursery must serve and exist because of the forest plantation. "Protection is one of the key problems to the extension of forests in this region. Forests with their economic, beneficent and aesthetic effects and influences are the products of deep soils and moisture and *no less of peace and security.*"

"An outstanding demonstration of forestation and of forestry in Northern Honan is to be found along the several hundred miles of the Lung Hai Railroad. These railroad plantations serve as criteria of unit costs, efficient organization of forestry work and of effective methods in planting and combining trees in mixtures."

A full report of his investigations and observations will be published shortly by the College.

DR. GIBBS FINDS CHICKEN DISEASES ABUNDANT

During the Autumn Dr. Charles S. Gibbs, Ph.D., our Bacteriologist, has examined twenty chickens for diseases, and found one and two diseases in all except two of them. During the summer he worked out a vaccine for chicken pox which was used successfully by a large packing house in Shanghai. The diseases found are as follows: three, fowl diphtheria alone; one, fowl diphtheria complicated with coccidiosis; one, fowl diphtheria complicated with pinworms; one, fowl diphtheria complicated with fowl cholera; three, fowl cholera alone; one, fowl cholera complicated with coccidiosis; one, chicken pox alone; seven, fowl ascaris (worms).

Dr. Gibbs is anxious to learn of outbreaks of animal and poultry diseases and will help wherever possible. Perhaps a visit can be arranged if the distance from Nanking is not too great. He is preparing a pamphlet of instructions indicating how diseased specimens should be prepared for sending to him for diagnosis. Your co-operation will be greatly appreciated.

**ONE COTTON PLANT IN FIVE YEARS PRODUCES TEN
PICULS OF THE BEST CHINESE COTTON
SEED IN CHINA**

In the fall of 1919, near Shanghai, the College made several thousand selections of individual cotton plants that looked promising. In all over 12,500 such selections have been made. Among them was one plant whose product when studied carefully in the laboratory showed unusually high quality for Chinese cotton. The seed of this plant was planted the next year and seven plants were grown from it. This year we have about ten piculs of seed, enough to plant about two hundred mow next spring. In a few years there should be seed for thousands of mow. The students have named it "Million Dollar." It is the best Chinese cotton in China, giving a staple of a full inch, finer than the ordinary Chinese cotton, and has good color and luster. We are sorry there will be none of this seed for general distribution until another year.

**PRACTICAL MILLING TESTS INDICATE SUPERIORITY OF
UNIVERSITY'S IMPROVED COTTON**

Through the co-operation of members of the Cotton Millowners' Association of China practical milling tests have just been completed on three of our improved cottons, two American and one Chinese variety. These tests have been most successful and full reports made by the mills will be published shortly. A well known cotton mill superintendent is responsible for the statement that if they could have a continual supply of the improved "Million Dollar" Chinese cotton mentioned above, the output of yarn by their plant could be doubled and the number of operators could be reduced at the same time. This was due to the ease and rapidity with which it was handled by the machines. Still more remarkable was the fact that he was able to spin of this cotton, yarn of the fineness known as 42s, whereas ordinary Chinese cotton is never spun into counts ranging higher than 10s to 16s.

THIS LETTER WINS OUR 100 PER CENT. APPROVAL

"Many thanks for including me on the list to whom you send "Agriculture and Forestry Notes." I am much interested in the developments."

"We shall be glad to receive also copies of whatever material you send out in Chinese for general distribution. I enclose a list of preachers in our outstations to whom we would like to have sample copies of the Newspaper in Chinese sent. I also enclose a list of teachers of primary schools who might be interested in information regarding your training offered to rural teachers." A. D. H.

RECENT VISITORS

Among our recent visitors have been the following: Dr. N. R. Stall, Sc.D., of the Rockefeller Foundation, who is studying Hookworm in China; Rev. C. E. Patton, vice-Chairman and Secretary of the (Presbyterian) China Council and Dr. Frank Rawlinson, Editor of the *Chinese Recorder*, both of whom are members of the China Famine Fund Committee; Mr. Frank Niles, Presbyterian Mission of Hwai Yuan, N. Anhwei, and Dr. Barbour of the Department of Geology of Peking (Yenching) University, Mr. J. Harold Dollar, Chairman of the Shanghai American Chamber of Commerce and a member of the China Famine Fund Committee; Dr. J. F. Illingworth, Ph.D. Specialist in parasites, U. S. Department of Agriculture.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Dean

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Number 4.

POSITIVE PROOF

"A positive proof of my abiding interest in your line of work is that I read every line of "Agriculture and Forestry Notes" the first thing on arrival. I rejoice with you in the success you are having along so many useful lines to China. God bless you and give you many years in this wide field of endeavor." S.E.S.

DR. GIBBS' WORKS ON RINDERPEST

Upon receipt of word from the agricultural missionaries of the Southern Baptist Mission at Kaifeng that an epidemic of rinderpest was raging in parts of Honan, Dr. Gibbs went to Kaifeng on the 14th of January and is still there. The Kaifeng Baptist College herd, containing some very excellent cattle was inoculated as were also the herds at Chengchow, Kweitch and Pochow. In this latter district in northern Anhwei he learned that in many villages every animal (cattle) had died and in other villages every animal had contracted the disease which meant that practically all would die. At Kaifeng several villages were visited. Instead of being suspicious as we anticipated they might be the farmers brought out their cattle and besought the men that they would do something for them. It was difficult to get away.

Thousands of cattle have died. The farmers have to bear the loss. It not only means that the farmer's work animals are gone, with which he plows his fields and draws his products to market but that he has lost the means to an annual increase in his herd and his productive capacity is greatly reduced. It is a frightful loss which the Chinese farmer has been suffering for a long time but for which there is no ready remedy available to the farmer during the present Chinese political and economic chaos. While scientists have already made considerable advance in methods of control and protection against rinderpest the larger problems have not yet been solved and in the meantime the farmer will continue to absorb the shock of losses by this dread disease.

THE EDITOR TAKES A TRIP

In January the editor of "Agriculture and Forestry Notes" visited the Northern Presbyterian station at Nansuchow, North Anhwei, the Southern Presbyterian Station at Hsuechowfu, Kiangsu, the Southern Baptist station and the Canadian Church station at Kaifeng, and the latter mission's station at Kweitch, Honan.

The Nansuchow station started agricultural work in 1915 with the coming of Mr. J. L. Buck, now head of the Department of Agricultural Economics and Farm Management of the College. Mr. H. H. White arrived in 1922 as resident agricultural missionary. The work started by Mr. Buck has been maintained and enlarged through co-operation with the College of Agriculture and Forestry, and an excellent beginning in selection of wheat and cotton, coupled with the in-

roduction of new varieties, and in nursery work, has been made. A co-operative experiment is being carried on in the spring, irrigation of wheat and in the introduction of a newly designed irrigation pump. Considerable extension work in seed and tree distribution has been done. The main part of the station is situated outside the walled city, on the very edge of typically rural country, with hospital and school as important features of their work.

A rural conference of all teachers, preachers and fifteen laymen connected with the country schools was arranged and will be held about the middle of February. In addition to the local missionaries the college is sending several teachers and extension workers as well as an extensive agricultural exhibit for the conference.

At Hsuchowfu because of lack of time it was possible to meet with only one group of missionaries, those on the new site outside the city. They have however a big and developing country work.

At Kaifeng there are three trained missionary agriculturists and the possibilities for developing an important rural training center are most encouraging. An excellent beginning has already been made and details will appear in the next issue of these "Notes."

117 STUDENTS GIVEN INSTRUCTION IN SERICULTURE LAST YEAR

During the past year instruction in sericulture and mulberry culture was given to 117 different students, including 26 in the special short course in sericulture enrolling country boys with previous experience in silk worm rearing; 41 students from the special one year short course in agriculture, 34 students from the Senior College of Agriculture and Forestry and 16 students from the University summer school.

NEW SERICULTURE BUILDING NOW IN USE

The Sericulture building, for which the members of the Silk Association of America contributed \$21,000 gold, is completed and practically equipped. Both the spring and summer crops were reared in it. The building is 47 x 118 feet, two stories, with basement and attic, of brick construction, with concrete floors and cement tile roofing. The attic is fitted for dormitory use to accommodate fifty students. It has a capacity of sixty piculs of cocoons. It is equipped with class room, laboratories, offices, storage, four large rearing rooms on each floor, has running water and electric lights which makes it one of the best equipped sericultural establishments in China. The spring and summer crops of cocoons netted 346,000 layings of eggs, the moths of which have been tested microscopically for pebrine.

A 25,000 MULBERRY TREE ORDER

Quantity production of good mulberry trees has been a part of the work of the Department of Sericulture. Extension of mulberry plantations must precede any marked extension of raw silk production. The University fills many orders for good mulberry trees at a low price in order to encourage the farmers to plant more trees. One such order was recently received for 25,000 mulberry trees. Last season we grafted over 90,000 seedlings and this season the number will be much larger.

THE UNIVERSITY MULBERRY ORCHARD AND COLLECTION

The University mulberry orchard used to provide leaves for our silkworms and scion wood for our mulberry production consists of 21,500 trees occupying about 90 mow of land.

The mulberry collection secured from the principal silk producing provinces in China, from Japan and the United States, consists of 330 different varieties (or lots). There are 109 varieties from Japan and 13 from the States. The remainder are from China. So far as we can learn this is the most complete mulberry collection in China, and extremely valuable from both a scientific and practical standpoint. Mr. A. N. Steward of the Department of Botany has undertaken a classification of them. Several of the varieties from the United States were bred for their fine fruit, and in due season we hope to be in a position to distribute them among our foreign friends. Naturally our greatest interest is in the varieties providing greatest leaf production.

A NEW IRRIGATING DEVICE FOR FAMINE AREAS

Mr. Griffing has under construction an endless chain pump for use in North China, particularly in those areas where the winter grain crop suffers from drought in the autumn or in the spring and where water can be easily tapped a few feet below the ground level. Preliminary experiments at Nansuchow in North Anhwei have clearly indicated its possibilities from the standpoint of cost, simplicity and general efficiency both in the use of water and labor. The pump is now being perfected along lines suggested in the trial test.

A "FRANK AND EARNEST" CONFESSION REGARDING THE FUTURE OF OUR MISSION COUNTRY SCHOOLS

"Earnest" in the letter which follows—being an exact copy of the original—wrote to "Frank," head of the mission higher primary and middle school which receives its students in large part from mission lower grade day schools, for several teachers for the country schools under his station. "Frank" faces and states the situation boldly and honestly with reference to the country school. "Frank's" school from which he writes is an excellent and successful mission school. The situation will become worse rather than better until we "ruralize" our whole mission country school program. Rural leaders are not made by training them towards arts and literature but towards a better country life. The letter follows:

January 11, 1924.

Dear "Earnest":—

Did I write you about the boys? There are no boys who seem to be applying for country day school teaching jobs except some rather mediocre undergraduates. It seems a strange thing, but no one seems to want to teach school any more, at least not in the country districts. If they go through to graduation, they all want to go on to college. If they don't get through, the good ones seem to want to study nursing, as do also some of the poorer ones, and a few of the dumbest seem to think they will be good teachers. Apparently it is because there is a very limited future for the country school teacher.

That is the kind of men and boys, I am sorry to say who are teaching in our schools in the country with a few very brilliant exceptions.

Sorry.

"FRANK"

LET US RURALIZE OUR COUNTRY SCHOOLS

This is one of the objects we have in mind in offering the special short course February 15th to August 20th, open only to experienced country school teachers. This is one of our objects also in developing a rural normal training school of Junior Middle school grade, to open

next fall. The majority of mission school teachers are in country places. The Educational Commission says that the Christian ministry will be predominantly a rural ministry. These two facts are becoming universally recognized by all who know anything at all about Christian education or evangelization in China. Then why delay the normal processes by insisting on a type of training that DERURALIZES? The problems involved are not easy ones, but eminently important and demand the best thought from every Christian leader in China.

A PERSIMMON EXCHANGE

The College is working towards complete varietal collections of the principal temperate climate fruits. This year we are concentrating on persimmons. We already have available in Nanking a rather large collection of Chinese and Japanese varieties. We also have in our nursery wild seeding stock on which to graft them. We are anxious to secure grafting wood of good varieties from all over China. In return for this we will send you a grafted tree of the variety you send to us, plus one new variety from a district other than your own but which should be adapted to your region.

Grafting wood should be secured of the last season's growth (one year old), about the thickness or over of a lead pencil. These whips should be cut into 10 inch lengths, five to ten of them, each variety numbered and tied separately, and sent parcel post, wrapped in moist paper, then oil paper if available or heavy newspaper and on the outside wrapped with a good wrapping paper.

The Chinese name, in character and the place where secured should be given for each variety. We shall be glad to pay all charges, if you do not want persimmon trees in exchange. If you do, the expense of getting the wood to us will be borne by the co-operator, and all expenses of grafting and returning the two trees to you will be borne by us. The young trees will be ready to send you, some next spring (1925) and the balance the following spring, depending largely upon the condition of grafting wood on arrival.

The offer is open to every one interested and we hope it will have a hearty response. Please send the cuttings at once.

NEW PUBLICATIONS

The following publications have been recently issued by the College of Agriculture and Forestry and will be gladly sent on request to any one interested.

Annual Report of the College of Agriculture and Forestry and Experiment Station for 1922-1923, by the Dean.

Report of Three Years' Cotton Improvement Work; Observations on the Behavior of Cotton Plants Especially During Acclimatization, by J. B. Griffing.

A Social and Economic Survey of 102 Farms near Wuhu, Anhwei, by J. Lossing Buck.

The 1924 Nursery Stock and Seed List.
School Nurseries, by John H. Reisner.

JANUARY VISITORS

During January we had the pleasure of visits from the follows: Messrs. H. M. Harris, Missionary of the Southern Baptist Convention, Kaifeng; W. H. Mallory, executive Secretary of the International Famine Relief Commission, Peking; O. J. Todd, engineer-in-chief of the same Commission; and Sam. E. Woods, Secretary of the Honan International Famine Relief Association; A. C. Bro and Miss Harmon of the Christian Mission at Luchowfu.

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SUMMER CONFERENCES

Requests are coming in to the College to provide teachers to take part in mission or regional conferences of Christian workers to be held during the spring and summer. Naturally we are being asked to provide something along definitely rural lines. We desire to serve the missions in the largest possible way and are glad to accept as many invitations as we have teachers to attend such conferences. It will help us greatly if missions wanting to emphasize the rural aspects and needs of their work in their conferences and desiring our co-operation will write us as early as possible so we can plan our summer's work.

THE RINDERPEST EPIDEMIC

Dr. Charles S. Gibbs, our bacteriologist, is still in Kaifeng, Honan, working on rinderpest. This winter's epidemic seems to be particularly virulent and wide spread. It has been reported from Shansi, from Shantung (unless the disease there is other than rinderpest) and Nanhsuchow in Northern Anhwei. The incidence of disease is high; in many cases 100% of all the cattle of a village die. Mr. W. E. Sallee of Kaifeng estimated about a month ago a mortality of 50,000 head of cattle, with a value of \$1,000,000, which would seem conservative in view of the wide area affected and the virulence of the epidemic. By now the loss is undoubtedly very much greater. Our last letter from Dr. Gibbs says he has arranged for an experiment in several of the villages near Kaifeng, using products which he has made in Kaifeng, and which he has already used with success on the mission herd.

We are watching Dr. Gibbs' experiments with the keenest interest and hope, as the control of rinderpest is absolutely essential to the development of a safe and profitable animal industry in China.

THE COLLEGE HERBARIUM

The herbarium of the College of Agriculture and Forestry, of which Mr. A. N. Steward is curator, contains 1,500 named species, 3,500 specimen sheets and 10,000 unmounted duplicates. There is probably sufficient unnamed material collected recently to bring up the number of named species to 3,000. The herbarium contains collections from: Kiangsu, Anhwei, Kiangsi, Chekiang, Hupeh, Kwangtung, Hainan, Honan and Yunnan. An index of Chinese names is being prepared and more than 1,000 names have already been recorded in this index. The herbarium is now the largest in North China and one of the most representative herbariums to be found in all of China.

RURAL IMPROVEMENT AND THE HOLY SCRIPTURES

There is a story told of a certain minister who in a rich dairying section endeavored to get his parishioners who were dairy farmers to organize a cow-testing association in order to breed up their herds and weed out the unprofitable members of each herd. But the people would not listen, and insisted he preach what they termed "the pure gospel." One Sabbath morning he preached from the text taken from Pharaoh's dream, "The lean kine ate up the fat kine," and after making a modern appeal based upon this scriptural background which had an economic significance, for it saved Egypt and Israel, they said to the minister—"Go ahead and organize the cow-testing association, we see it has the backing of the Holy Scriptures."

Quoted from the Introduction to "Biblical Backgrounds for the Rural Message." by Edwin L. Earp.

THE AGRICULTURAL CONFERENCE

The Conference of the Committee on Agricultural Education of the China Christian Educational Association was held according to schedule, February 7, 8 and 9, at the University of Nanking. Sixty people, both men and women, Chinese and foreign, representing varied missionary activities were registered. Every session was full of interest and helpfulness. Quite a number who had attended the College Conference stayed on, and members of the National Christian Council Committee on the Rural Church and Country Life also attended the Conference. The first day was given over to the subcommittees for the preparation of their reports and recommendations to the Conference. On the second and third days reports were received from the following subcommittees: An all China Program of Christian Agricultural Education; A Village Improvement Program; Agricultural Extension Work; Curriculum for Rural Primary Schools; Rural Training Centers; and Financing an All China Program. Prof. J. B. Taylor of the Department of Economics, Yenching University, gave a paper on the Christian Church and Rural Standard of Living. The Extension Department of the College staged for the delegates one of its cotton plays that has been used effectively in cotton improvement work.

CONFERENCE OF RURAL WORKERS AT NANHSUCHOW

The Extension Department of the College co-operated with the Presbyterian Mission (North) at Nansuchow, N. Anhwei, in a four days' conference of rural workers, February 18 to 21. About sixty attended the meetings, including the pastors, evangelists, teachers and local school patrons. Messrs. Chow Ming-i, Chang Chi-wen and J. H. Reisner were present from the College. Dr. E. I. Osgood, the veteran missionary of the Christian Mission at Chuchou, Anhwei, was also present. A large exhibit of agricultural charts and products was shown. On one of the evenings a play written and coached by Mr. Chow was given, showing a successful rural teacher, a second and unprepossessing son, at work making valuable and much appreciated contributions to the community. The play was greatly appreciated and the moral went straight home to the audience. The conference was decidedly rural in its emphasis and outlook without in any way being less evangelistic. A definite attempt was made to show both teachers and preachers their larger opportunities and responsibilities for service to the community. Nansuchow is in a typically rural section where the predominant interests are those of the farmer folk. The Conference indicated a purpose on the part

of the mission and workers to co-ordinate more definitely their mission activities with the needs of the villages.

EXTENSION WORK IN WUKIANG VILLAGE, ANHWEI

On February 16 a one extension program was put on by the College in Wukiang Village near Hochow, Anhwei in connection with the rural school and cotton improvement station which we are developing there. The day before representatives of the College travelled about in the villages telling the farmers about the exhibit and the play to be given the next day. The exhibit was open and explained from 8.00 a.m. to 1.00 p.m. About 500 farmers and their wives attended. Two lectures were given to the visitors. The amount of discussion on the part of the farmers themselves was quite unusual and indicated great interest, especially in the improved cotton. The play was given in the afternoon to 600 spectators, the school yard being crowded to capacity. The school and experiment station is in charge of one of our short course graduates. Only farmers' sons are admitted to the school. The school is run for one-half day only and a share of each morning's work is done on the land by the students, in which every student is required to take part.

NATIONAL CHRISTIAN COUNCIL COMMITTEE ON THE RURAL CHURCH MEETS AT THE COLLEGE

The China Christian Council Committee on the Rural Church and Country Problems held a retreat on Sunday, February 10, and business meetings the following day at the University. Practically all of the members of the Committee had previously attended the Agricultural Conference. The points of view expressed, the discussions held and plans projected at both conferences were striking evidence of the fact that all missionary work, if done in the right spirit, is evangelistic.

OUR AGRICULTURE AND FORESTRY NEWSPAPER IN CHINESE IS BEING SENT TO YOU

Sample copies of our Agriculture and Forestry Newspaper will be sent to all our China friends soon. We hope you will be interested in it, can read it, and will hand the extra copies around to your teachers and friends who should have it. A number of Missionaries have already subscribed for their teachers and preachers. Its purpose is to create interest in rural improvement and to furnish helpful information along many lines that will be of use to rural workers, both lay and religious.

We are hoping to make it self-supporting as soon as possible. A subscription price of 30 cents, less 20 percent. discount to teachers and preachers, or in clubs of ten subscriptions, is charged. We shall be very glad to have suggestions from you as to changes or improvements that might be made.

TRAINING COURSE FOR RURAL LEADERS BEGINS

The special training course for rural teachers began February 15th. Seventeen teachers were enrolled from the following provinces: Szechuan, 2; Honan, 2; Chihli, 1; Hupeh, 1; Anhwei, 2; Chekiang, 2; Fukien, 2; and Kiangsu, 5.

Thirty-six students are also enrolled for the one year short course in agriculture making a total of fifty-three students under

special instruction this spring. The training course for rural leaders will include instruction in the following subjects: General Agriculture, Nursery Practice, Cotton, Sericulture, Rural Survey, Methods of Extension, and above all Modern Methods of Teaching, both of general subjects and agriculture.

With two exceptions, all the students in this special course are experienced mission school teachers and are entering into their new work enthusiastically.

THE EDITOR'S HONAN TRIP.—continued

At Kaifeng there are three Agriculturists, Messrs. G. K. Middleton, and J. Lee of the Southern Baptist Convention and Mr. R. M. Lewis of the Canadian Church Mission.

The Baptist Mission has a large herd of cattle, a number of them being very well bred animals. A fair amount of land is available. Yield tests on 91 varieties or selections of wheat and 54 varieties or selections of barley are being made. Varietal tests of summer crops were carried on last summer and will be expanded this season. With the present good buildings, with the needed increase in land, and a specialist on rural education, the mission will be able to develop an exceptionally strong piece of rural training work, very greatly needed for the area they serve.

The Canadian Church Mission has no facilities for agricultural work at Kaifeng so Mr. Lewis is to be transferred to Kweiteh to the mission middle school there where two excellent tracts of land are available as well as a good middle school from which the mission rural teachers are recruited.

It is to be hoped that these two institutions with such excellent beginnings will have the backing and help of other Honan Missions in developing this very essential, even if recent, line of mission work.

THAT SCHOOL NURSERY

Schools are beginning to order seeds for their School Nursery. Bulletins giving detailed directions in both English and Chinese are now available and will be sent free on request. Nursery plans for Central and North China, one half and one mow in size, have been carefully worked out. Enough seed of the different kinds of trees for the half mow nursery is offered for \$1.50, and for the one mow nursery \$3.00, postage paid, which is only a small part of their value.

Are you going to have a school nursery this year? Mission schools should lead in this movement to get the children interested in Arbor day and more trees without which higher standards of living will be most difficult if not impossible. More trees in China is a very real concern of the Church

OUR BUSY SEASON IS BEGINNING

Our busy season has begun in the nursery. Thousands of plants are being dug up for shipment or transplanting. Twenty to thirty orders for seeds are going out daily and during March these will average at least forty. Cuttings of many kinds of plants are being made. Seeds beds are being gotten into shape for planting tree seeds. Two large propagating houses are being constructed. Some five thousand mulberry trees are being bench-grafted and a number of other methods of grafting mulberry trees are being tried out. Our seed and nursery stock is having exceptionally heavy demands made on them this spring.

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Number 6

THE CHURCH AND RURAL CIVILIZATION

Does not the following statement made with reference to the United States also apply in a large degree to China? "All the great leaders in the Rural Life movement to-day are practically agreed that the country church is the most important factor in the adequate solution of the problem of the betterment of rural civilization. Theodore Roosevelt, Liberty H. Bailey, Kenyon L. Butterfield, Sir Horace Plunkett, Gifford Pinchot, and Albert E. Roberts, as well as many other writers and lecturers upon the subject, are all in accord on this point of emphasis in the modern rural situation." (Introductory paragraph, Chapter II. The Rural-mindedness of the Prophets and of Jesus, in "The Rural Church Movement," by Edwin L. Earp.

FORESTRY FUND COMMITTEE OF SHANGHAI CONTINUES GRANT TO THE WORK OF OUR FORESTRY DEPARTMENT

At a recent meeting of the Forestry Fund Committee Administering the left over funds from the Hwai River Famine of 1912 and 1913 it was voted to continue the grant of \$5,000 per annum for another three years toward the work of the Department of Forestry. The development of our forestry work since the organization of the College of Agriculture and Forestry has been largely made possible by the generous grants of this Committee.

AGRICULTURE AND FORESTRY NEWSPAPER PROSPERING

Over 500 paid subscriptions have been received for the Agriculture and Forestry Newspaper which is being published by the College. The first issue came out January 1. Recently 5 sample copies were sent to each of about 300 missionaries in various parts of China. The purpose of the paper is to make available information concerning agriculture and forestry that will be of interest and benefit to the people close to the soil and rural problems. If any who did not receive sample copies would like them and will write to us, we shall be very happy to send copies to them.

MR. LOWDERMILK IN SHENSI AND KANSU

Mr. Lowdermilk left early in March for a study of forestry conditions and the influences of lack of forests in Shensi and Kansu. He is making the trip in company with Mr. Todd, Engineer in Charge, International Famine Relief Commission, who is making a study of certain engineering problems. Part of their return will be made by raft down the Yellow River.

DR. GIBBS RETURNS FROM IMPORTANT RINDERPEST INVESTIGATIONS IN HONAN. NEW DISCOVERIES MADE.

After two months of active field work, Dr. Gibbs has returned from Honan where he treated about 350 native, foreign and half breed cattle for rinderpest. A series of experiments were gotten under way and careful records were made of treatments on 128 different heads of cattle. A full report has been written which will be printed in due time.

The Honan farmers in the villages in which work was done, when asked which they feared most, flood, drought or rinderpest, invariably answered rinderpest. Including all the provinces affected, undoubtedly several hundred thousand cattle have died, with an estimated value running into millions of dollars. The farmer stands this loss alone. Reports coming in indicate that in some places they are faced with the very serious problem of not being able to plow their fields. What cattle are left have an unusually high value, so that the winter's epidemic is causing keen distress to a large number of farmers. A report from Hunan stated that most of the animals remaining after the recent famine had died of rinderpest this winter.

There are two common methods of treating rinderpest known as the simultaneous inoculation of serum and virus, and a combined method which uses a preliminary inoculation of serum which is followed at the end of five days or a week with a second injection of immune serum plus rinderpest blood. The simultaneous inoculation has been used successfully in various countries and it was this method that was first used by Dr. Gibbs in Honan. The results were satisfactory and next year the animals will receive a second injection of serum and rinderpest blood. It will be of great consequence to the animal industry to follow up these tests for several years to determine as accurately as possible how long the immunity produced by the simultaneous inoculation lasts. Some scientists claim that simultaneous inoculation against rinderpest produces permanent immunity.

One serious objection to the simultaneous method is that 10% to 15% of the cattle develop severe cases of rinderpest and die. It was with the idea of eliminating this mortality that Dr. Gibbs tried the combined method explained above. All of the animals so treated developed clinical rinderpest, but none of the symptoms were so severe as to cause death. This combined method is a little harder on the veterinarian and the calves than the simultaneous method because two inoculations take more time, use more serum and hurt a little more than a single treatment but it is less expensive to the cattle owner in the end. If the experiments now in progress demonstrate that this method produces an immunity equal to that of the simultaneous method, then the combined method is the treatment that should be adopted for producing active immunity against rinderpest in China.

The chief difficulty encountered in keeping either of these methods under control has been due to the fact that the virus in rinderpest blood will not last more than 24 hours and the best results are secured when the blood is used in less than 12 hours. This difficulty was experienced in Honan. At first Dr. Gibbs thought his work was limited to within a radius of 12 hours' time from the laboratory in Kaifeng, consequently he was obliged to turn down many opportunities to immunize cattle in villages beyond this area. The practice of securing a fresh supply of rinderpest blood every day consumed much valuable time. It seems the virus is present in the blood in most cases only during the inset of the disease and again just before death when all resistance has broken down. This meant that the animals from which the virus blood was taken had to be under observation for some time; besides a careful examination had to be made for the presence

of other diseases. Many times a whole day's work was lost by the carelessness of an assistant during the process of collecting the blood.

The above method had so many limitations that Dr. Gibbs finally discarded it entirely and gave his time to experiments in an attempt to find some way to prolong the life of the virus from the antibacterial action of the blood serum. As the result of these experiments, it was found that the blood could be kept active from five to seven days. This result has greatly increased the usefulness of the combined method. It is now possible to keep both the preparation of serum and virus under laboratory control and to work five days journey away from the base. This discovery is of great scientific importance.

One big factor in the problem of rinderpest control is cost of the materials and treatment. To secure commercially prepared serum from the port cities and use on the native cattle is out of the question as the cost of the serum would in most cases be more than the value of the animal treated. Dr. Gibbs worked on this problem also, and was able to produce the immunizing agents so that treatments could be made for from one to three dollars. In every case treatments were paid for by the farmer. The interesting part of this is that he paid gladly, and that the demand for treatments was many times greater than could be met. The farmer may be conservative about adopting new ideas, but this winter's experience would indicate that he is keenly alive to the possibilities of the protection of his cattle and is willing to pay reasonably for it.

Plans are being made to follow up the preliminary work which Dr. Gibbs has so auspiciously started this spring. The full report of his work will be gladly sent to anyone on request. We have taken this considerable space in *Agriculture and Forestry Notes* for this preliminary report because of the importance of the problem and the significance of this new information which Dr. Gibbs has secured.

AGRICULTURAL WORK AT YIHSIEN

Early in March the writer visited the Agricultural and Industrial School at Yihsien in Southern Shantung, a station of the Northern Presbyterian Mission. About 80 boys are enrolled. Three hours of manual labor are required each day, the balance of the time being given over to classes and to study.

Everybody works and the result has been immensely satisfactory. The fine spirit of the school was evident in many ways, and this in spite of the fact that the work at present is being carried on under very cramped conditions and with lack of adequate equipment.

Agricultural work is just being gotten under way. The Mission owns 320 mow of excellent agricultural land and 390 mow of hill land. It is hoped that a number of co-operative enterprises, particularly those relating to the improvement of the fruit industry, control of fruit insects and diseases, improvement of wheat, fruit preservation, and reforestation demonstration may be gotten under way between the College and the School.

Yihsien is in both a bandit and famine area. The Mission has distributed famine funds four times within 15 years. There probably is a closer relationship between banditry and the economic conditions of the region than is generally recognized.

ORGANIZATION OF THE COLLEGE

The College of Agriculture and Forestry is organized into the following departments: Bacteriology, Plant Pathology, Forestry, Botany, Agronomy, Agricultural Economics, Farm Management, Cotton Improvement, Sericulture, Extension, and Agricultural Gardens.

The general problems of the College are handled by five committees, as follows: Executive, Instruction, Extension, Research, and Co-operation. There are nine foreigners and two returned students, and twelve of our own graduates, as well as a large number of assistants devoting full time to the work of the College, besides a number of people devoting part time.

FORESTRY INVESTIGATIONS

The Department of Forestry is carrying on investigations in storage of tree seeds, source of tree seeds, seed testing, tree studies, temple forests, timber and fuel prices, and wood distillation.

A FARM SURVEY IS BEING MADE IN EIGHT AREAS

The Department of Agricultural Economics and Farm Management has collected a total of 1,315 individual farm records from nine local areas in Anhwei, Chihli, Fukien and Chekiang Provinces. After very carefully checking the original information on each farm record, thirty-three factors are calculated for each record, including the distribution and amount of labor for each crop, the average yield per mow of the various crops, classification of the farms into groups for each set of records, according to size, amount of capital, character of operator, education of the operator, ownership, productive work units per farm and value of land per mow. The various factors are then correlated in table form under about 36 topics. This involves a tremendous amount of detail and careful work. However, it is the only way by which accurate information concerning the various factors and conditions which govern the farmer can be secured. The complete analysis of one report of 102 farms near Wuhu, Anhwei, has already been made and the report put in printed form both in Chinese and English. Both famine and non-famine areas are being surveyed in this way.

RECENT VISITORS

The following have been recent visitors to the College: Mr. Julean Arnold, U. S. Commercial Attaché, Peking; Mr. G. E. Sokolsky, Shanghai; Mr. E. T. Hildreth, American Baptist Mission, Swatow; Mr. R. A. Torrey, Jr., Presbyterian Mission, Tsinan; Mr. F. R. Wulsin, Smithsonian Institution, Washington, D. C.; Mr. C. Kearsley, Superintendent Laou Kung Mow Cotton Mill, Shanghai; Mr. N. Gist Gee, China Medical Board, Peking; Mr. B. W. Whitlock, Federal Grain Supervisor, U. S. Department of Agriculture; Mr. Arthur Sugden, Commissioner of Customs (retired) and Chairman of the International Committee for the Improvement of Sericulture in China, Chefoo.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING

COLLEGE OF AGRICULTURE AND FORESTRY

NANKING, CHINA

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WE SERVE 10,000,000 MEALS A DAY

If you do not believe it, just look in on the Department of Sericulture, with their 1,200,000 silk worms which are being fed eight times a day for the first two weeks and will be fed seven times a day the third week and six times a day the last week. To rear this crop of silk worms which will produce about thirty piculs of cocoons (two tons) about 50 tons of mulberry leaves are required. Three thousand large trays are needed to feed and care for the worms. Every tray must be cleaned at least once a day. Fifty laborers are at work each day and some of them at night, for meals must be served day and night regularly.

These silkworms are from disease free, improved seed and are to be used in disease-free egg production. After the silkworms produce their cocoons, careful selection of the best cocoons are made. Then the moths are allowed to come out, and after mating, each female moth is placed on a small piece of brown paper, under a small round lead ring, to deposit her eggs. After the eggs are laid the moth dies. Each moth and her laying of eggs are kept together until the moth is examined under the microscope for pebrine disease. Only the eggs from disease free moths are kept, and these are distributed to the farmer for his next season's silk crop. The present crop of silk worms should produce over 400,000 layings of eggs. It is a long tedious process, but the only one known by which this common disease, pebrine, can be eliminated from the silk crop.

MR. PORTER INVESTIGATES PLANT DISEASES IN NORTH ANHWEI

Mr. R. H. Porter, head of the Department of Plant Pathology, spent several days during the latter part of April at Nansuchow looking into the huge losses which have been sustained by the farmers of that area due to the depredations of plant lice. The winter wheat, weakened by a long winter drought, became infected with lice. Soon a large area, several hundred miles square, became infested. In many parts the farmers have already plowed the wheat under, indicating of course a total loss of their wheat crop for this spring.

An experiment being carried on by the College in co-operation with the Agricultural Department of the Presbyterian Station at Nansuchow on winter irrigation of wheat indicates that the stronger growth made by the irrigated plots have been more resistant to the attacks of the lice and would give a good crop of wheat. This suggests a method of preventing such losses in the future as well as guaranteeing against failure from drought.

SUMMER SCHOOL COURSES IN AGRICULTURE

The College of Agriculture is offering the following courses in the University Summer School which starts early in July and lasts for six weeks: General Agriculture, Rural Education, Rural Improve-

ment, Cotton Improvement, Principles of Silk Worm Rearing, Principles of Silk Worm Egg Production, Principles of Mulberry Culture. All these courses will have laboratory and field practice. Detailed information regarding the Summer School or the special work in Agriculture can be secured by writing directly to the Dean of the Summer School, University of Nanking.

In the course in Rural Improvement, training will be given in Rural Surveys, Extension Methods, Rural Health and Sanitation, Community Games and Recreation, Conducting of People's Schools, and other forms of Community Service. The idea will be to inspire the teacher or preacher to take a larger place in rural leadership and guide him into the ways of bettering his local community. We know of one mission who is planning to send one-half of its country teachers to the summer school this year in order to take advantage of these special courses, and sending the second half for training the following summer.

25,000 PEOPLE SEE EXTENSION EXHIBIT DURING THE HSUANG YANG CELEBRATION.

The Department of Extension of the College recently took part in the 134th Celebration of the "Hsuang Yang Hwei" in the Wukiang district, Kiangsu. This celebration is in honor of Prince Li Ming of the Tang dynasty, who by using money for the relief of floods and famines instead of forwarding it to the Emperor, won the admiration of the people of his District, though he lost his life because of the anger of the ruler. The celebration comes once every 10 years and thus has been handed down for the last 1,340 years.

Seventy-two villages took part and there was an estimated attendance of 200,000 people. Inasmuch as this is a rich silk district, the extension exhibit centered about the improvement of sericulture. More than 25,000 people visited the exhibits. About four-fifths of the visitors were farmers and many of them returned with friends and their families to see the exhibit and have it explained to them.

The exhibit was held in three villages during a period of 14 days. Many cards of improved disease free silk worm eggs were sold and distributed to the farmers. One old farmer was heard to exclaim after the exhibit had been explained to him, "Ah, now I know that pebrine disease of silk worms is not caused by the evil spirits, but is caused by the diseased particles inside of the silk worm body."

AMERICAN FAMINE FUND COMMITTEE MEETS.

The annual meeting of the American Famine Fund Committee, supervising the expenditures of funds allocated to the University of Nanking and Peking University for famine prevention purposes was held in Nanking, April 28th. Reports of the work accomplished by the two universities were presented. Financial statements for the past year were also presented, and budgets for 1924-1925 approved. The members of the Committee present were Messrs. J. H. Dollar, J. B. Powell, F. Rawlinson and C. E. Patton.

The morning was spent in inspecting the work of the College. Mr. W. E. Chamberlain, head of the Department of Agriculture of Peking University, represented Peking University at the meeting. Mr. J. H. Reisner represented the University of Nanking.

AN EXCELLENT IDEA FROM MR. ARMSTRONG.

Mr. O. V. Armstrong of the Southern Presbyterian Mission and principal of the middle school at Hsuchowfu, Ku, in sending sixty-two subscriptions to the Agriculture and Forestry Newspaper said that fifty-two of these were for boys in his middle school. These boys come from the country. The newspaper is written in simple language such as the boys can understand. By reading it they will

receive new ideas of rural life and problems and should get information that will be suggestive and helpful to their parents and fellow villagers. It is easy to see what Mr. Armstrong had in mind when he got the boys interested in the paper for which they had only to pay twenty-four cents a year and which most of them could easily afford to do.

We hope the idea of getting middle school boys interested in the paper and through the paper, interested in rural conditions appeals to you also. We should be glad to send as many sample copies of the paper as you will write for. The paper comes out every two weeks and is a constant reminder of our rural problems, our responsibility to them, as well as being a practical guide to rural improvement.

AGRICULTURE AND FORESTRY NEWSPAPER PROSPERING

The paid subscription list to the Agriculture and Forestry Newspaper now numbers about seven hundred names. The paper started on January 1st, 1924. Two special issues recently were on Arbor Day and Silk Improvement.

DR. GIBBS INVESTIGATES CHICKEN CHOLERA IN SOUTHERN SHANTUNG

On learning from Mr. H. C. Romig of the Presbyterian Mission, of a serious epidemic of chicken cholera in and about Tenghsien, Shantung, Dr. Gibbs made a trip to investigate. He found the disease widely scattered throughout the district and the situation such as to make impractical the instituting of control measures. In view of the fact that most of the chicks in this region are incubated, by immediately killing off and burying the diseased chickens and quarantining the balance for a period, the spring hatch of chickens could be easily protected. This measure, while practicable in itself, would require more educational effort than could be undertaken.

Dr. Gibbs spent a good part of April in Nansuchow, again working on rinderpest. Quite a large number of animals were treated along the same lines as carried out at Kaifeng, Honan. Plans are being made for a much more extensive work on rinderpest another year.

100,000 MULBERRY TREES GRAFTED THIS SPRING

The work of mulberry grafting for the present season has been finished. Ninety-one thousand plants were crown grafted according to the Chinese and a modified Chinese method. Three thousand plants were budded, and another six thousand plants were used in about thirty experiments on various methods of grafting and treatment of grafts. Foreign, Japanese and Chinese methods and combinations were used in the experiments. Experiments in propagating mulberry by summer cuttings will be started shortly.

SILT, NOT WATER, THE PRIMARY REASON FOR NORTH CHINA FLOODS. INTERESTING OBSERVATIONS BY MR. W. C. LOWDERMILK, OF THE FORESTRY DEPARTMENT MADE ON A SEVEN WEEKS' TRIP THROUGH YELLOW RIVER BASIN

"On the recent extended trip into Honan, Shensi, and Shansi, I had an opportunity to study at first hand one of north China's primary problems in conservation and famine prevention. It is startling to realize that the flood damage in China is greatest where the rainfall is least. It is in north China where the precipitation averages less than 20 inches per annum rather than in southern China with three to five times as much rainfall that flood waters sweep beyond

the confines of natural and artificial stream channels and bring destruction to property and life. On the other hand, north China is the region of the extensive loess or wind blown deposits. Although the downpour type of summer rainfall creates flash floods, the volume of water is not the primary difficulty. *It is the silt contained in the flood waters that is fundamentally the cause of the extensive flooding.* The loess material being wind blown is very finely divided. Water flowing through it is quickly charged to its capacity of transport. Flood waters rushing out of the gullies bear great burdens of this silt; but on reaching the plain the speed of the waters are checked and their transporting power is many times reduced. A corresponding amount of silt must be dropped. The result is that the stream channels are choked and elevated until the flood waters wander beyond the natural and artificial channels to cause general destruction. The flood problem of north China is essentially a silt problem and cannot be divorced from the problem of erosion.

"I joined Mr. O. J. Todd, Directing Engineer, and Mr. W. H. Mallory of the International Famine Relief Commission's Executive Committee at Kaifeng. We then proceeded to Sianfu in Shensi where we looked over the Wei Peh irrigation project as a possible famine prevention measure. From Sianfu Mr. Todd and I proceeded northward with mules to make a study of a cross section of the Yellow River watershed. Aside from studying general rural conditions I made a study of the runoff, vegetative cover and erosion conditions of the country. The journey took us northward over three hundred miles, most of which distance was done on foot. Then we crossed the Yellow River near Liulin and travelled over the Red Cross famine motor road to Fenchowfu, Shansi. Thence we travelled through Taiku and Taiyuanfu and returned to Nanking via Peking. Mr. Todd studied particularly the engineering projects of irrigation, road construction and flood control. We covered about two thousand miles in the seven weeks.

"The itinerary lay chiefly in the famous loess deposits of north China. The wind blown yellow earth lies like an enormous blanket up to a thousand and more feet thick over hundreds of thousands of square miles of area. The watershed of the Yellow River (300,000 square miles) for the most part lies within the loess deposits. This fine material is subject to rapid erosion. The outstanding impression on the traveler is the evidence of erosion on a tremendous scale. Time after time we estimated the percentage of the landscape occupied by erosion gullies. Fully fifty percent of the landscape of north Shensi is in gullies. These gullies are enormous gashes, with steep sides of unprotected or poorly protected soil. Many are over 500 feet deep. They have dug back in the loess deposits and have forced the trails up on to the highest peaks and ridges. This fact gave us excellent views of the country. This erosion has carved the land into grotesque and fantastic forms and has rendered enormous areas unsuited to agricultural crops.

"The prevention or material checking of erosion is not such a formidable task when analyzed. Nature, in fact, has already pointed out the way as a study of portions of the watershed made evident, where a reduced population has given the vegetative cover a chance to return. The key to the prevention of erosion is in the talus slopes of the gully walls. If these are fixed the situation is saved. These talus slopes must be fixed and reinforced by trees and vegetation. The remedy calls for a consistent planting of the gullies densely with a mixture of trees. The remedy lies rather in the filling the gullies with trees than the covering of the hills with trees. Along with irrigation and river training, the prevention of erosion in this way is one of the urgent problems of the vast loess region of north China and must be met if conservancy work in the plains region where destruction by floods is greatest is to become permanently effective."

Agriculture and Forestry Notes

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AGRICULTURE AND FORESTRY NOTES WILL NOT BE ISSUED IN JULY AND AUGUST

There will be no issues of Agriculture and Forestry Notes in July and August. The next issue will be in September, and will be sent to you as heretofore.

SEVENTY-SEVEN GRADUATES FROM AGRICULTURE AND FORESTRY COURSES IN 1924

There will be seventy-seven graduates from Agriculture and Forestry courses during the present year. Twenty-six of these will be given the degree of B. S. in Agriculture or in Forestry to students who have completed the full college course in agriculture and forestry. Practically all of these graduates have already been placed in positions as teachers, extension workers, assistants, associates, experiment station managers, etc. We would be able to place more agricultural graduates if we had them.

Thirty-four men will receive certificates from the Special One Year Short Course in Agriculture. All the students in this course are middle school graduates. Several have gone farther than middle school and a number of them had practical experience of one kind or another before entering the course last September. In addition, there will be seventeen graduates from the Special Normal Training Course which has been given since February. The majority of these students were teachers or preachers connected with missions and were sent to us for the special work. They will, in practically all cases, return to mission work.

PROBLEMS OF THE RURAL CHURCH RECEIVE SERIOUS CONSIDERATION BY THE NATIONAL CHRISTIAN COUNCIL

The report of the Committee on Rural Church and Country Problems submitted to the National Christian Council at their annual meeting in May was the cause of much interest and discussion. Rightly the rural church is coming to the fore in the consideration which it is receiving from the missionary body. For the following year, the National Christian Council approved of the securing of two full time Chinese secretaries, largely for travel and conference work. Also that all conferences during the year 1925, of students, teachers, preachers and missionaries and all summer schools, be requested by the National Christian Council to take as their dominant theme Rural Church Work and Rural Problems. An attempt will be made to secure the services of a rural church specialist from the West to spend twelve months in China beginning with the winter of 1924 in connection with the work of the N. C. C. Rural Church Committee.

IMPROVED WINTER WHEAT FOR DISTRIBUTION

Since the notice appeared in Agriculture and Forestry Notes several months ago that we would have a considerable quantity of seed wheat from improved and high yielding varieties for distribution this coming Autumn, eighteen requests have been received. This

wheat is for fall sowing. We still have a considerable quantity of it and shall be glad to send further quantities to any who are interested. We prefer the wheat to go into districts that are affected by famines. No charge is made for the wheat but all transportation or parcel post charges must be met by the one receiving it. Requests should be sent in at once.

SPECIAL TRAINING COURSES FOR RURAL WORKERS

The College of Agriculture and Forestry offers four special training courses for rural workers as follows:

Courses in Agriculture in the University Summer School.

The Rural Normal Training School.

The Special One Year Short Course in Agriculture.

The regular four-year College Course in Agriculture and Forestry.

A special bulletin giving the details of these courses has just been printed and will gladly be sent to anyone upon request.

DEPARTMENT OF EXTENSION CO-OPERATES WITH METHODIST PASTORS' ANNUAL CONFERENCE

The Department of Extension took part in the Central China Methodist Annual Conference of preachers and evangelists which met in Nanking from April 30th to May 3rd and in Wuhu from May 6th to May 14th. There were lectures, demonstrations, and two plays given at each place. A great deal of interest was indicated on the part of the pastors, and particularly those who were responsible for the rural districts. So much interest, in fact, was aroused that a number of them are planning to attend the University Summer School and avail themselves of the special courses in agriculture and rural training which the College is offering.

MOVING PICTURES FOR EXTENSION WORK

In order to make the work of the Department of Extension more effective, the College has recently ordered a moving picture outfit and is now co-operating with the Mission Photo Company of Shanghai in the production of suitable films for use among the farmers. We hope to produce several thousand feet of film illustrating the best Chinese methods of agriculture in its various phases as well as modern methods which show a real improvement over methods which are now being commonly used in China.

COCOON AND SILKWORM EGG PRODUCTION REACH NEW HIGH MARK

The 48 piculs of spring crop cocoons produced by the College in its new sericulture building during the present season probably marks the largest production of cocoons that has ever taken place under any single roof in China up to the present time. From these cocoons between eight and nine hundred thousand layings of silk worm eggs will be secured. It required over two hundred men and women laborers per day at the height of the egg laying period, working from 5.30 a.m. to 10.00 p.m. The mother moth of each one of these layings will be examined separately under the microscope, and layings of eggs from those moths in which pebrine particles are found will all be discarded and only those layings of eggs from moths without disease will be retained. These will be used for distribution to the farmers next year. It is estimated that the total production for the year will be from twenty-five to thirty thousand standard cards of twenty layings each.

We have had an especially successful rearing season in spite of the fact that throughout there were only three full days of sunshine. The success was due in a large measure to the vigilant and efficient care given by Mr. Kuh Ying in charge of the silk worm rearing and egg production, and the very excellent facilities offered by our new sericulture building.

PREACHERS' BIBLE STUDY CONFERENCE WILL INCLUDE RURAL TRAINING

On the program of the Preachers' Bible Study Conference being held June 10-20 under the auspices of the Nanking Union Theological Seminary at which there will be more than 100 preachers and evangelists, a place has been given for a discussion each day on the general subject, "the preacher and rural problems." The series of lectures will be given by Mr. Chow-Ming-I, and is designed not only to indicate to the rural pastors and evangelists the large opportunities for rural service, but also to give them definite suggestions which can be put into practice by them.

TENTH ANNIVERSARY OF THE COLLEGE OF AGRICULTURE AND FORESTRY

This coming Autumn marks the Tenth Anniversary of the organization of the College of Agriculture and Forestry by Mr. Joseph Bailie. The college grew out of Mr. Bailie's famine relief work in an attempt to bring about famine prevention through the training of young men in scientific principles of agriculture and forestry. In 1914 there was a faculty of two devoting full time to the college. At the present time various phases of work under the direction of the College of Agriculture and Forestry require the full time of fourteen foreigners, twenty-four of our own graduates and two returned students. Our annual budget for the past year has been approximately \$120,000 Mex. Our student body has grown to 120. There are about 200 English acres of land under cultivation. The college is carrying a big program of extension both in agriculture and forestry, instruction to the 120 students noted above and carrying out important agricultural and forestry research projects. Plans are being made for the celebration of this Tenth Anniversary, announcement of which will be made in the September Agriculture and Forestry Notes.

A NEW ELEMENTARY TEXT BOOK IN AGRICULTURE WITH TEACHERS MANUAL SOON TO APPEAR

This announcement will be welcomed by a great many who are interested in introducing some agricultural teaching into their primary and middle schools. The text and teachers manual are being written by Mr. Griffing who had experience in rural normal training work before coming to China. The book is being prepared in such a way that it can be used for the fifth and sixth grades of primary school and for the seventh and eighth grades of Junior middle school. The book will be published by Edward Evans & Sons, and a big demand is anticipated for it. Such a book has always been recognized as one of the outstanding needs in the development of agricultural educational work in connection with our mission schools. The book will be equally suitable to government schools and should have a big demand there.

RECENT PUBLICATIONS BY THE COLLEGE

The following publications have been recently issued by the College of Agriculture and Forestry. Upon request, we shall be glad to send to anyone interested.

Daily Meteorological Records, Freeman Meteorological Observatory, for October, November and December, 1923.

Summary Meteorological Records, The University of Nanking, 1895-1923.

Famine Prevention Program as approved by the American Famine Fund Committee.

Rinderpest Control in Honan and N. Anhwei.

SUMMER ACTIVITIES

Among the summer activities of the College of Agriculture and Forestry will be: co-operation in the large conferences of preachers

and teachers to be held in Shansi Province at Fenchow and Taiku during the latter part of June; co-operation in the Union Peking University-Shantung Christian University Summer School in which we are offering several courses in agriculture; a special trip of investigation by the Forestry Department into Shansi; the Department of Farm Management and Agricultural Economics will have a number of men on the field collecting farm records from a selected number of villages, and a number of the faculty will be teaching in the University Summer School. The summer for the faculty of the College of Agriculture and Forestry is always one of its busiest times.

RECENT VISITORS

Among the recent visitors to the College of Agriculture and Forestry have been the following: Mr. C. J. Huber, Far Eastern representative of the United States Testing Company, with headquarters at the Shanghai International (Silk) Testing House, Shanghai, and Mrs. Huber; Mr. O. J. Todd, Engineer in Charge, International Famine Relief Commission, Peking; Dr. Edward L. Bliss, Medical Missionary of the A. B. C. F. M. mission, Shaowu, Fukien; Mr. O. D. Frost, President of the Champlain Silk Mills, New Jersey, and member of the Silk Association of America, and Mrs. Frost and son; Mr. Morton Chu, Pastor, A. C. M. Hanchuan, Hupeh; Miss Emily Hartwell, Head of the Christian Herald Industrial School, Foochow; Mr. R. M. Vanderburgh, Mission Photo Company, Shanghai; and Mr. B. C. Bess, Far Eastern representative of the Atlantic-Pacific Press Syndicate.

CONSIDER THE PEANUT—A MISSIONARY CONTRIBUTION TO THE IMPROVEMENT OF CHINA'S AGRICULTURE

The foreign peanut, by which name the large peanut now grown in China is commonly called, was introduced into China from the United States about 35 years ago by Archdeacon Thompson of the American Church Mission. Archdeacon Thompson brought four quarts of peanuts to Shanghai and there divided them equally with Dr. Charles R. Mills of the American Presbyterian Mission (North) who was on his way to Tengchowfu in Penglaihsien, Shantung. This district was already noted as a large peanut growing section.

Dr. Mills divided his two quarts of peanuts equally with two of his church members on the condition that they should increase them for three years and at the end of that time use them for general distribution. One of the farmers at the end of the first year ate all his crop. The second farmer, however, fulfilled his contract faithfully and distributed them at the end of the third year. Because of their size they were acceptably received and grown as widely as the three years increase permitted.

Hopes in the rapid spread of the large foreign peanut were somewhat shaken when, after trying to express the oil as was their custom by grinding up both the hull and the kernel previous to applying the pressure to extract the oil, it was found that the thick shell of the peanut absorbed practically all the oil. Then someone got the happy idea of shelling the peanuts before expressing the oil. This was done and the value of the foreign peanut was clearly demonstrated. This saved the day for the foreign peanut and ever since its production has been increasing yearly until at the present time it enters into China's foreign commerce to the extent of millions of dollars annually. The introduction of the peanut into Penglaihsien was considered such an important event that a large stone tablet memorializing the virtues of the foreign peanut was placed in the grounds of the Yamen of the Magistrate of the district.

It is difficult to estimate the benefits which the farmers have derived from this missionary introduction. It has become indigenous, to say the least, and its area and its production are still on the increase. Land too poor for other crops will usually produce a fair crop of the large peanuts.

Agriculture and Forestry Notes

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Number 9

RURAL GODS AND RURAL PROGRESS

In making plans for bringing about progress in rural China, the rural gods are too often forgotten. Lack of roads, bridges and dikes; destructive insects and diseases, unmolested by human agencies, taking their annual toll of valuable plants and animals; absence of forests; poor crops; poor people; droughts, floods and famines; lack of schools and the like are, after all, only outward manifestations of an inner social and national life.

The rural people for the most part, whether their condition be better or worse, manage to suffer quietly among themselves, leaderless and voiceless in provincial, national and international affairs. For acute situations, remedies in the form of reduced or excused taxes, temporary repairs, and food, in these latter years, often representing gifts from foreign sources, are applied.

Fundamentally, general conditions do not change much, or but slowly. The gods dominate the situation. Witness the following typical scene pictured by Professor Ip, of our department of forestry, during a summer field trip: "Southern Anhwei is having a great drought now. The natives informed me that the last rain they had was 47 days ago. Thousands of people are marching to Kimen every day, and the poor magistrate has to prostrate himself before every idol they bring. To-day there were as many as 68 idols and each came at a different time."

Many missionaries may not feel that they are directly concerned with roads, dikes, better agriculture and village improvement programs, but we cannot expect essential rural progress or rapid development of the church except as the rural gods are being dethroned. In this latter process modern agricultural discoveries helpful to the farmers the world over will be the gods' most subtle enemy and may be made the rural church's most helpful ally.

CONTROL OF WHEAT DISEASE.

Mr. H. R. Porter of the department of plant pathology, has left for the North setting up demonstrations on the control of the nematode and smut diseases of wheat. Co-operative demonstrations are being arranged at Yihsien, Weihsien and Ling-I in Shantung, Kaifeng, Honan and Nansuchow, northern Anhwei. The annual losses to the farmers as a result of the lack of control of these diseases amount to many million dollars. These demonstrations are being carried out in connection with our famine prevention project on the control of plant diseases.

DISTRIBUTION OF SEED WHEAT.

A large number of people took advantage of our offer/made last spring through Agriculture and Forestry Notes to supply seed of improved wheat, especially for famine areas. The demand has been greater than we have been able to supply. This improved wheat seed, in quantities of ten pounds to ten piculs, has been sent to 129 different people in 18 provinces and represents a total of about 41 piculs distributed.

IMPROVED CORN SEED FOR 1925.

We have had a good corn crop this last summer and we will be in a position to supply fairly large quantities of improved seed for spring and summer 1925 planting. This will be distributed on the same basis as was the wheat. The recipients pay transportation charges and are responsible for seeing that the seed gets into the hands of reputable farmers, each farmer paying his share of the cost. This is in line with our experience that improved seed given away is very little appreciated.

CO-OPERATION WITH NORTH CHINA SUMMER SCHOOL.

The College of Agriculture and Forestry co-operated in the North China Summer School, which is under joint direction of Yenching University and Shantung Christian University, in offering three courses in agriculture. Large classes in general agriculture, rural economics and village improvement were enrolled. The instruction was given by Mr. Chow Ming-I of our faculty.

UNIVERSITY OF NANKING SUMMER SCHOOL.

The University of Nanking Summer School had the largest enrollment in its history. The courses offered in general agriculture, rural education, rural improvement, cotton improvement, principles of silk worm rearing, principles of silkworm egg production, and principles of mulberry culture were all well attended. Most of the students were rural teachers and preachers.

SHANSI SUMMER CONFERENCES.

Mr. J. B. Griffing and Mr. Li Ying-hwei from the department of rural education, attended the annual preachers conference held in June in Fenchow, and also the conference of teachers held in Taiyuanfu. A number of lectures were given at both conferences. An agricultural exhibit was also on display.

YELLOW RIVER WATERSHED RUN-OFF STUDIED IN SHANSI.

Mr. W. C. Lowdermilk, accompanied by Mr. Li Teh-i, Mr. Ren Chen-tung and Mr. Tsiang Ying of the department of forestry, and Mr. C. O. Lee of the department of chemistry, spent the summer in northern Shansi, carrying on studies of the water runoff of several typical areas tributary to the Fen river and within the Yellow River watershed. Important data were collected. Virgin forests still remain in the area studied, but are rapidly being devastated by the lumbermen. Hundreds of thousands of dollars are being spent to

grow forests in Shansi where none grow now, and at the same time the remaining forests are being destroyed at a faster rate than new forests can be produced.

It is becoming more and more evident from studies being made by the department of forestry that forest protection and scientific forest management of existing forest areas are for the present more important than reforestation of barren areas so far as China's timber supply is concerned. A full report of these studies will be forthcoming later on.

GOVERNMENT RECOGNITION.

The College of Agriculture has received formal government recognition and been registered by the Ministry of Education at Peking. This recognition was accorded in 1922 after an investigation made by a special committee appointed by the Ministry. The department of forestry was not registered, however, partly on a point of technicality and partly because it was understaffed. Since the College of Agriculture was registered it has practically doubled in number of faculty and size of budget, with a commensurate increase in the work of instruction, research and extension. The department of forestry has been greatly strengthened and its program enlarged so that we hope to have it also recognized at an early date.

TRIP INTO SOUTHERN ANHWEI.

Messrs. N. K. Ip and K. Ling of the Department of Forestry, and Mr. A. N. Steward of the Department of Botany, took a month's trip into Southern Anhwei during August. Mr. Ip studied forestry conditions and Mr. Steward and Mr. Ling made extensive collections of the wood and herbaceous plants in the region traversed. One of the interesting items of the trip was a gorilla (?), or near relative, seen by Mr. Steward.

AGRICULTURAL TEXT BOOK FOR RURAL SCHOOLS.

The first volume of Mr. Griffing's series of elementary agricultural text books for use in primary and middle schools has just been published by Edward Evans & Sons, Shanghai. The text is suitable for the fifth and sixth years of higher primary schools or for the first and second years of junior middle school. The subject matter is arranged according to the seasons of the year in which various forms of practical work can be carried on, and each lesson relates to specific projects or experiments that makes possible learning by doing, rather than the old fashioned process of memorizing the literature on the subject. The teacher's manual for Volume I is about ready for the press. Both texts and manuals are being illustrated with original drawings. The translation is being done by Mr. Shao Teh-hsing of our faculty and the high character of the Chinese edition has already been most favorably commented on. This series of text books now make it possible for many interested people, who have felt the lack of suitable text books, to introduce agricultural courses in their schools.

COLLEGE OF AGRICULTURE AND FORESTRY FACULTY.

The faculty of the College of Agriculture and Forestry for the coming year will consist of 9 full time foreigners, 6 part time foreigners, 2 returned students, 23 associates who are graduates of the

College of Agriculture and Forestry, two full time English secretaries and one-half the time of a third and 25 assistants.

TENTH ANNIVERSARY POSTPONED.

The Tenth Anniversary of the organization of the College of Agriculture and Forestry planned for this autumn has had to be postponed on account of the unsettled conditions in East China. It is hoped to observe the anniversary next autumn at which time we confidently expect the new College of Agriculture and Forestry building to be completed.

ON THE SIDE.

During the year the office of the college has received and sent out about 10,000 pieces of first class mail in English, and about 4,000 letters in Chinese. This does not take into consideration another 8,000 postal card acknowledgements, bills and receipts which have been sent out in English in connection with our nursery stock and seed distribution work. During the year we sent out about 60,000 pieces of second class matter; about one-third of this was in English and two-thirds in Chinese, including copies of the Agriculture and Forestry newspaper. Approximately 4,000 parcels of seeds and plants have been sent out also. Quite a bit of time has been spent on our mailing lists and we now have 1,000 special names on our foreign mailing list and about 3,200 on our Chinese mailing list. In addition, we have also a general Chinese mailing list, including the following Chinese agricultural organizations: colleges, middle schools, primary schools, industrial and normal schools with agriculture courses, agriculture experiment stations; various kinds of agricultural organizations, such as commercial and educational associations, rural educational bureaus, newspapers, seed and nursery companies, libraries, museums, etc.

34,382 DAYS OF LABOR.

The Annual Report of College of Agriculture and Forestry shows that during the year 34,382 days of labor were used in connection with various field projects. This is equivalent to 112 laborers per day throughout the year.

GOVERNMENT SCHOLARSHIPS.

In the College of Agriculture and Forestry, Anhwei Province maintains eight scholarships for agriculture and forestry students from Anhwei; Shantung Province maintains three scholarships for forestry students, and Shansi Province has three scholarship students.

SUMMER VISITORS.

Among the summer visitors to the College of Agriculture and Forestry have been the following. Mr. P. H. Dorsett, Agricultural Explorer, U. S. Department of Agriculture, and his son, Mr. J. H. Dorsett; Mr. C. J. Huber, Far Eastern Representative of the United States Silk Testing House; Dr. Samuel Cochran, Dean of the Medical College, Shantung Christian University; Mr. Morton Chu and Mr. H. C. Chang, travelling in the interests of the Church Committee of the National Christian Council; Mr. Otto Braskamp of the Presbyterian Mission, Ichowfu, Shantung.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Dean

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Number 10

DO THE FARMERS RESPOND TO BETTER THINGS?

The following paragraph is taken from a letter received from Mr. Chen Yen-shan and Mr. Chow Ming-I of the Department of Extension, describing their experiences at Wukiang, Anhwei, while on an extension field trip. It answers in a very positive way the question so often asked, do the farmers respond to better things? The College is maintaining a one half day rural school emphasizing school garden and nursery work, and a cotton demonstration farm at this place. The Mr. Li referred to is a product of our one year course in agriculture. In addition to his teaching, he conducts an evening course in popular education with the 1,000 character lessons. On Sunday, he conducts a Sunday School and sometimes preaches. His first problem was to gain the confidence of the farmers. How well he has succeeded is indicated herewith.

"At Wukiang, (Anhwei) Mr. Li had prepared well for the meeting. The door was beautifully decorated with a cedar arch, paper flowers, big sign for the exhibition and the national flag flying. The next morning we arranged the exhibit material in the school room and were ready by ten o'clock. Many people passing here came in to see our exhibits. We talked to them and asked them to come again in the afternoon at two o'clock. In the morning we received various lots of cotton from the farmers and arranged it all in exhibit order. We put the names, places, amount of land, amount of cotton harvested, and the total money gotten, on the bag of each farmer. In the afternoon we started our meeting at two o'clock. Both farmers and farm ladies, merchants and merchant ladies, gentry and gentry ladies, were present. We rang the bell to call the meeting to order. Then I went up to the platform to announce the purpose of the meeting. Mr. Li told his experience with the farmers in the beginning and their attitude toward him now. He made them all laugh and again sorry for their ignorance. He also told the result of our cotton and of all the farmers' cotton in the exhibit bags. He also chose four farmers to come to the platform to bear witness and asked them to tell the audience about their good harvest, better cotton and more money received. They believe in us now and want to grow more cotton next year. We had our movie in the afternoon instead of in the evening, because Wukiang is also under martial law now. The room was fully packed with about three hundred people and the meeting was adjourned at half-past five. The meeting was a very successful one as Mr. Li is the right kind of man to work for it."

**COTTON MILL OWNERS' ASSOCIATION OF CHINA MAKES
CONTRIBUTION TO COTTON IMPROVEMENT WORK.**

At a recent meeting of the Cotton Mill Owners' Association of China, representing for the most part foreign cotton mills of Shanghai, a contribution of \$1,000 was voted toward our cotton improvement budget for 1924-1925. The cotton improvement work of the University was undertaken and was maintained entirely for three years through appropriations made by the Cotton Mill Owners' Association of China and the Shanghai Cotton Anti-Adulteration Association. For the past two years further generous contributions have been made by the Cotton Mill Owners' Association of China. During the last five years these two associations have contributed a total of approximately \$35,000 Mexican to the college for cotton improvement. Our production of improved cotton seed this year will be about five hundred piculs grown on seven hundred and fifty mow of land either by ourselves or under our control.

147 STUDENTS ENROLLED IN THE COLLEGE THIS TERM.

The College of Agriculture and Forestry this term has the highest student enrollment in its history. There are 93 students enrolled in the college course, 63 of these being registered for agriculture and 30 for forestry. There are in addition 41 students enrolled in the one year short course in agriculture, all of them graduates of middle schools, and in addition there are 13 students enrolled in the recently organized rural normal training school.

DEPARTMENT OF BIOLOGY REORGANIZED.

The Department of Biology has been reorganized and its administration, which was formerly in the College of Arts and Science, placed in the College of Agriculture and Forestry. The three departments of plant pathology, bacteriology and botany in the College of Agriculture and Forestry have been merged with the former department of biology into a department of biology with divisions of botany, bacteriology, plant pathology and zoology. The organization will aid in the planning of courses of study in the biological sciences and in the efficient use of all biological supplies and equipment.

COLLEGE OF AGRICULTURE AND FORESTRY BUILDING.

Recent word received through Bishop Birney of the Methodist Episcopal Missions North, just returned from America, indicates that we are now within \$2,000 Gold of the \$100,000 Mexican needed for the construction of a second science hall which will be used to house the College of Agriculture and Forestry. This building has been recognized as a pressing need for over five years. The recent rapid increase in the faculty and the enlarged program of the College of Agriculture and Forestry has brought about very crowded and undesirable conditions, affecting all our work. It is hoped that it will be possible to begin construction on the new building before long and that it will be ready for occupancy by September 1st, 1925.

BOTANY MANUAL IN PREPARATION.

Mr. A. N. Steward, botanist, of the department of biology, is preparing a manual of the flora of Nanking and vicinity, suitable for use in middle school and college botany classes in this part of China.

MARK TWAIN AND SOME OTHERS.

Unsuccessful projects undertaken by missionaries looking to agricultural improvement in one way or another, such as better seeds, deeper plowing, improved machinery and so on, have often left them with the feeling that agriculture in China can not be improved; that the West has nothing of advantage for the Chinese farmer, and that missionaries and the church should leave such matters strictly alone. Erstwhile interest and enthusiasm have turned to doubt and indifference. All such experience is very unfortunate both for the missionary and for those whom he tried to serve. A friend called attention to the following story of Mark Twain, which seems to be so apt in this connection that it is worth quoting. "Apropos of permitting experience to teach too much, Mark Twain, somewhere in his writings, tells of a cat which sat down on a hot stove-lid. The cat learned a lesson. Thereafter it never sat down on a hot stove-lid. But it never sat down on a cold stove-lid either." Even our highly competent doctors have been known to change the prescription for a sick patient rather than declare his patient well because he had not responded to the first medicine. If the Christian forces of China cannot help rural conditions and produce Christian leaders for the rural population, pray—who, then, can?

NOTES ON RECENT PUBLICATIONS.

Mr. Griffing's article, "Saved Again," which has appeared in several publications in China was recently reprinted and copies in both English and Chinese sent out to many of our friends. There have been many written requests for extra copies. Copies in both English and Chinese are still available, which we shall be glad to send upon request.

The paid subscription list to the Agriculture and Forestry Newspaper, "Nung Ling Sin Pao," is now 980. A number of letters have recently been sent out to principals of middle and primary schools soliciting their interest in getting the paper before the reading student body. The response to this publication in terms of paid subscriptions has been much greater and better than we had anticipated, and the encouraging letters which we receive lead us to believe it is performing a very useful service.

The 1925 Nursery Stock and Seed List it back from the printers and will be mailed out within the month.

RESEARCH LIBRARY.

The College of Agriculture and Forestry is co-operating with the University Library in developing a research library chiefly for agricultural and forestry purposes. The following classes of publications are included: official gazetteers, books on agriculture, geographical works, books on famine, encyclopedias and collectanea which contain agricultural material. On June 30th, the collection totaled 694 different works with a total of 20,804 volumes.

RURAL NORMAL SCHOOL BUILDINGS.

New buildings for the rural normal school have just been completed. These are situated in the farming section about three-quarters of a mile northwest of the University. The buildings include dormitories to accommodate 32 students, class rooms and laboratories, dining room, kitchen and out buildings. Close by, and as a part of the normal school, a small rural school has been built which will be used as a practice school for the normal school students.

EXTENSION WORK ON THE METHODIST CHINKIANG COUNTRY CIRCUIT.

Between September 15th and 22nd, Messrs. Chow Ming-I and Chen Yen-shan of the Department of Extension, visited eight out-stations of the Chinkiang Methodist Mission, having agricultural exhibits and giving stereoptican lectures, moving pictures and educational plays at each place. There were 13 meetings with a total attendance of 2,300 people. The local pastors co-operated at the points visited.

CROP DISEASES ABOUT NANKING.

It is taken as a generally accepted fact that crop diseases in China are very prevalent. Last spring Mr. R. H. Porter, plant pathologist in the department of biology, carried on a number of field surveys about Nanking, and made the following estimates of damage caused by various diseases. Among the important diseases about Nanking it was found that flag smut of wheat was common in practically every farmer's field, reducing the yield from five to thirty percent. An average of fifteen percent loss is fairly representative of the whole. In addition to smut, all wheat was infected with leaf rust. This first appeared about April fifteenth but as the warm, moist weather came on, this rust spread very rapidly, killing the lower leaves and reducing the vitality of the plants. A conservative estimate of the loss caused by this rust alone is eight percent. About ten days before the wheat ripened the black stem rust appeared and caused a slight loss. Following is a brief list, by no means complete, of other plant diseases observed this year around Nanking and an estimate of the loss caused by these diseases.

Other diseases of wheat: loose smut, 2%; powdery mildew, 5%; barley diseases: covered smut, 5%; loose smut, 5%; powdery mildew, trace; stripe disease, 2%; broad beans: rust 4%; leaf spot, 8%; rape: downy mildew, 4%; peach: brown rot, 4%; pear: cedar rust, leaves killed, 75% infection, yield reduction possibly 15%. In addition to the diseases caused by fungi, it was noted that plant lice were very prevalent on many crops. On the broad beans, the lice were so severe that large patches of the beans were killed before the pods were matured. Lice also did serious damage to peach trees, wheat and barley.

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CHRISTIAN INTEREST IN RURAL AFFAIRS INCREASING RAPIDLY.

There is no better indication of the rapidly increasing interest in rural affairs on the part of the Christian church in China than the special attention recently given by Christian publications. A recent number of the National Christian Council Bulletin, in Chinese, on the rural church had to be reprinted twice, with a total issue including the first printing, of 35,000 copies. "The New Life Magazine" recently issued a Rural Church Number; as did also the "Lingnaam Agricultural Monthly Magazine" published at the Canton Christian College. The December issue of "The Chinese Recorder," the foremost of missionary journals published in English in China deals exclusively with the rural problems and rural responsibility of the Church in China. Chinese rural life constitutes the greatest present day challenge to the Christian Church in China.

RURAL NORMAL SCHOOL BUILDINGS DEDICATED

On Thursday afternoon, November 20th, the new Rural Normal School Buildings were dedicated. Dr. A. J. Bowen, President of the University, and Pastor Li of the Kuleo Christian Church were the principal speakers. After the dedicatory services, a play was given setting forth the value of popular education. In the evening there were moving pictures, including the special films made of the work of the College of Agriculture and Forestry. The assembly room was crowded to capacity both afternoon and evening. The Department of Extension supplied an interesting exhibit of charts and improved farm crop materials. The rural practice school opened about two weeks ago with more than 20 of the neighboring children in attendance.

THE PERSIMMON COLLECTION.

Last spring we obtained grafting wood of persimmons from about 30 different sources. This material was grafted on locally grown stock and we now have trees growing from these 30 different sources. There are probably not more than 20 distinct varieties among this number owing to duplication. Both Japanese and Chinese varieties are included. It is intended to continue this work as far as possible or practicable and to make a thorough study of the varieties. We shall very greatly appreciate anyone sending in grafting wood of good varieties. This should not be done, however, until

next spring, and in return for the services, we shall be glad to send two good trees from our present varieties for the grafting wood of each variety sent.

SAVED AGAIN

Our reason for calling this story to your attention again is due to the exceedingly enthusiastic reception with which it has met on the part of a large number of missionary educators and evangelists. One middle school principal in writing for 50 copies each of the Chinese and English editions, said, "Saved Again is a wonder. We spent one whole week of Chapel services on it." Another writes in, "I have just read your bulletin 'Saved Again.' It is a corker. I am sorrier than ever that your extension worker and his helper missed us in their invasion of Shantung." There is real inspiration in "Saved Again" for anyone interested in rural China. If you have not seen it, by all means send in for sample copies of it and then, for as many more copies as you can use effectively.

COOPERATIVE EXTENSION PROJECTS.

The following institutions are cooperating with the College of Agriculture and Forestry in its famine prevention program. The individual projects which have been worked out relate to the principal agricultural needs of the region and constitute definite famine prevention measures.

Kaifeng Baptist College, Kaifeng, Honan, with five projects; namely, (1) farm crops improvement, (2) fertilizer tests, (3) improving native cattle, (4) rinderpest control, and (5) spring irrigation of grain.

Agricultural Department of the Presbyterian Mission at Nansu-chow, Northern Anhwei, with five projects; namely, (1) irrigation of winter wheat, (2) new design for irrigation pump for local use, (3) improvement of wells for extensive irrigation, (4) rinderpest control, and (5) pure seeds farm.

Shantung Industrial School, Yihsien, Shantung, with five projects; namely, (1) improvement of winter wheat, (2) improvement of fruits, (3) preservation of fruits, (4) control of fruit diseases and insects, and (5) utilization of waste land by practice of reforestation.

Central China Teachers College, Wuchang, Hupeh; with whom we are cooperating in the development of a department of rural education that will provide more specific training in agriculture and village improvement for their students, the large majority of whom become teachers of rural schools.

Scholarships to provide training in agriculture have been granted to a number of missions interested in rural improvement but lacking in adequate personnel to project a program.

CONFERENCE PREACHERS VISIT COLLEGE.

Through the courtesy of Bishop L. J. Birney, Mr. Chow Ming-I of the Department of Extension, addressed the recent Central China Methodist Conference on the subject of rural church work. After the conference a large number of preachers visited various points of interest in the College of Agriculture and Forestry, particularly the cotton ginnery, the sericulture building, the plant breeding laboratories, the agricultural gardens and the department of extension. Definite arrangements were made to supply the pastors with improved seeds for distribution to the farmers in their area.

NOTES ON RECENT PUBLICATIONS.

The Annual Report of the College of Agriculture and Forestry has just been issued including report on the various projects of our Famine Prevention Program. Copies of this report will be gladly sent on request.

During November 187 paid subscriptions to the "Agriculture and Forestry Newspaper" were received, bringing the total number of paid subscriptions up to 1167. We have appreciated the hearty cooperation on the part of many missionaries in getting it into the hands of preachers, teachers, students and farmers.

A second edition of "Saved Again" in English has been necessary to meet the large demand for it. Requests for both English and Chinese editions have come in for from one to two hundred copies.

RURAL COMMUNITY SURVEY BLANKS.

Mr. J. L. Buck, with the cooperation of the members of the department of agricultural economics and farm management, has worked out a very complete blank in both English and Chinese for the survey of rural communities. This survey is intended to be an inventory of a region large or small and for the person with limited time at his disposal, and yet who really desires to learn something about the community in which he lives. The information called for by the survey pertains to all rural problems, social and economic, as well as the more strictly agricultural conditions. There are nine schedules in the blank dealing with fifty nine main subjects. Each subject has from one to twenty topics upon which information is asked. In addition to uses which shall be made of the survey blanks by the department, its chief use will be in aiding the preacher, teacher, community worker and student to get a better understanding of the problems of particular rural communities. It has already been adopted for class use in several colleges and seminaries. A nominal charge of 10 cents is made for either the English or Chinese edition.

DEPARTMENT OF EXTENSION BUSY—BIG SHOW AT WEIHSIEN, SHANTUNG.

During the latter part of October and the early part of November, Messrs. J. B. Griffing and Chow Ming-i made an extended trip into Shantung Province, visiting the Southern Baptist Mission at Hwang-hsien, the Northern Presbyterian and Southern Baptist Missions in Tunghsien from which center the foreign peanut introduced by the late Dr. Mills was distributed, and the Presbyterian Mission at Weihsien. At Weihsien we cooperated with the Department of Agriculture of the Point Breeze Academy in their Farm Products Show which was instituted this year for the first time on a large scale for the benefit of the students and the nearby farmers. The Department of Extension supplied an exhibit of charts and improved farm crops including corn, cotton and silk; organized two plays relating to the improvement of rural life and kept up a continuous showing of the agricultural movies. More than 3,000 people were in attendance. During the entire trip, the Extension Department served more than 7,000 people through their lectures, exhibits and the still and moving pictures. The Farm Products Show at Weihsien was a great success and we would heartily recommend it to other missions as having in it great possibilities in connection with their

village school and pastoral work. A number of other dates arranged for the Shantung trip had to be cancelled on account of the cutting off of communications due to the war.

WITH THE 100 PLUS COLLEGE LABORERS.

Adequate care for our large number of workmen has always been a serious problem for us. Primarily through the interest and efforts of Mr. Shao Teh-hsing, the superintendent of the agricultural gardens, who has charge of all labor, conditions have been very greatly improved. Our scattered farms have always made supervision difficult and discouraging. To reduce the turn over has been a big problem. The living conditions for the workmen have usually been crowded though this has been remedied. Mr. Shao has been trying to make and is succeeding in making more than just "coolie workmen" out of the laborers. This is being accomplished by evening schools, Sunday services, and Bible classes, and antigambling and antidrinking club, plays and other forms of recreation during the year. At the evening school, conducted this past year by students in the Short Course in Agriculture and financed by the college students' Agriculture and Forestry Society and the Agricultural Gardens, there has been an average attendance of fifty, mostly adult workmen. Too much credit can not be given them for going to school in the evening after a hard day's work. Rev. A. Sydenstricker, veteran missionary and a member of the Theological Seminary faculty, has had regular preaching services in the morning and Bible classes in the evening for them. Every Thursday evening the City Y. M. C. A. also has Bible classes for them. Mr. Shao after preaching services each Sunday has given a talk on sanitation and other items of practical knowledge, of interest and help to them. The suggestion for the antigambling and antidrinking club came from the workmen themselves.

Regular increases in salary are given to the workmen and they are urged and encouraged to save something of each month's wages. This is being done increasingly. Sick laborers are sent to the University Hospital for treatment at the Gardens' expense.

BIBLIOGRAPHY OF CHINESE AGRICULTURAL LITERATURE.

In June, the University Library published an exhaustive bibliography on Chinese agricultural literature. More than two thousand separate and distinct titles were listed. In compiling the titles the Chinese libraries in Nanking and in neighboring cities of Kiangsu Province and various library catalogues were utilized. It is not generally known that China possesses a fairly rich literature pertaining to agriculture; in horticulture; sericulture, irrigation, land tenure, botany, zoology, entomology, farm crops, forestry, animal husbandry, fish culture, etc., etc. Much of this old literature is as useful in many ways for present day China as the more modern books, and the possession of the knowledge which it contains will be not only valuable but should also be considered an absolute necessity in any serious study of many phases of Chinese agriculture. In carrying out several minor investigations of Chinese crops, we have found that some of the most useful information has come from this little known literature. The bibliography is of course printed in Chinese and may be had from the library at \$1.00 per volume.

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UNIVERSITY OF NANKING
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OUR MONTHLY AUDIENCE IS 60,000.

A conservative estimate of the number of people whom the College of Agriculture and Forestry is now coming in contact with each month outside of our immediate work in Nanking, and particularly through our Agriculture and Forestry Newspaper, our extension workers and our bulletins, is 60,000. May our tribe increase greatly during 1925!

CORNELL UNIVERSITY PROFESSORS TO COOPERATE IN OUR PLANT IMPROVEMENT WORK.

For some time the College has been carrying on negotiations with Professors Love and Myers of the plant breeding department of the New York State College of Agriculture at Cornell University, to come to China to cooperate in the plant improvement project which we have undertaken as part of our famine prevention program. The present plan is for Professors Love and Myers to come out on alternate years and thus to give continuity to such plant improvement projects as are decided upon after Professor Love's arrival this coming February or March. Both Professors Love and Myers are well known throughout the United States for their achievements in plant improvement. The College feels very fortunate, indeed, in being able to secure the services of these two noted plant breeders. The International Board of Education, 61 Broadway, New York City, are cooperating at the home end in carrying certain expenses incident to necessary adjustments in work and salaries. The College is bearing the expenses of travel and operations on the field.

10,000 EARS OF CORN TESTED.

The department of agronomy is just completing a germination test of 10,000 ears of seed corn harvested from our improved seed fields this last autumn. Two months were required for the test. About ten per cent of this was found to be of low germination and was discarded. The balance will be used for our planting next spring and for distribution throughout China. We have already had a number of requests for quantities varying from one gin to one picul of this seed corn. A small quantity remains which we shall be glad to send to anyone interested in getting improved seed into the hands of the farmers. Transportation charges are to be

borne by the receivers. Our rather wide experience indicates that the farmers appreciate good seed more if they help to pay for it.

DISEASE FREE SILKWORM EGGS.

Our net production for 1924, of disease free silkworm eggs, is approximately 350,000 layings, which makes 17,500 standard egg cards of 20 layings each. These are now being offered for sale. We have received one order for 3,000 cards. The price is 20 to 25 cents per card. These silkworm layings are those that remained after a very careful microscopic examination of the moths resulting from our spring production of cocoons after the latter had been carefully selected. They are all of the spring crop varieties.

NEWSPAPER CELEBRATES FIRST ANNIVERSARY.

On January first our Agricultural and Forestry Newspaper celebrated its first anniversary by publishing a special six page issue. Congratulatory articles were printed from Civil Governors Yen of Shansi and Han of Kiangsu. At the end of the year the paper had 1,328 paid subscribers, 216 of these having been added during December. We believe the paper has more than earned its right to recognition and we are planning further developments for it in order to increase its circulation as well as its unquestioned usefulness in the interests of better agriculture and a better rural life for China.

60 BALES OF IMPROVED COTTON GINNED.

The department of cotton improvement has, to date, ginned 60 bales of cotton and there remains enough seed cotton to gin out 20 bales more. This is for the most part from our improved varieties, Acala and Trice, the seed of which we introduced five years ago from America, and which in the meantime has been carefully selected and acclimated. The third variety is "Million Dollar," a Chinese cotton, the single plant of which came from a field near Woosung, near Shanghai in 1919.

The total production of improved seed for distribution from these three varieties will be around 700 piculs, which is equivalent to about 45 English tons. This is now being used in our extension service for distribution. There has also been a large mail demand for it from many parts of China. It is quite evident that we shall be able to supply but a small part of the demand for this improved seed. The supply of the improved Chinese seed is already taken up.

EXTENSION DEPARTMENT IN CHEKIANG.

Messrs. Chow Ming-i and Chen Yen-shan of the department of extension spent three weeks on the Northern Baptist country circuit in Chekiang with Ningpo and Shaohing as bases. Lectures, charts, exhibits and moving pictures were all used. The latter invariably drew big crowds. The various audiences and visitors to exhibits totaled more than 10,000 people.

COOPERATION IN WAR DEVASTATED AREA.

The College has been requested by the Provincial Committee appointed by Civil Governor Han, of Kiangsu for agricultural relief

in the devastated area to supply as much cotton seed as possible for distribution to the farmers. Inasmuch as foreign cotton cannot be grown successfully near the coast, the department of cotton improvement is arranging to place in as concentrated an area as possible about a ton and a quarter of seed of the Million Dollar variety of our Chinese improved cotton. We consider this the most valuable improved Chinese cotton seed in China, and the stipulation was made that it should be distributed under the direction of our own extension worker who will not only oversee the details of the distribution, but will also instruct the farmers how to grow it. We hope in this way to concentrate the seed, manage it on a community basis, and from this original area to expand as rapidly as the natural increase in seed production makes possible.

AGRICULTURAL EDUCATION HAS OTHER VALUES THAN INCREASED PRODUCTION.

Mr. A. L. Carson, agricultural missionary at Weihsien, Shantung, in answering a letter recently, emphasized a point in our Christian education that is often dulled in our striving for quantity and efficient production from our school plant, which is worth passing on as follows:

"I would like to mention that one boy who did know how to work and was not ashamed of it, was a student who had come from the Agricultural and Industrial School at Yihsien where he had received several years of such training. He showed the effect and it is such results in character building which would justify agricultural education even if we never increased production by one blade of grass."

WANTED—ANSWERS.

The writer has been able to get but one answer to the following question which has been asked of a number of missionaries: "Do you know, on the basis of personal observation, of any group of Christians, either in the city or country, who have come to dominate (or at least influence markedly) the economic or religious life of the whole social group of which they are a part?" Answers to this question will be very greatly appreciated, with as full information as possible concerning the group.

AGRICULTURE AND FORESTRY SCHOLARSHIPS.

The following scholarship funds are available for scholarships in the College of Agriculture and Forestry. The Forestry Fund Scholarship Loan Fund has been operating for five years. Loans made to students and fallen due have so far all been paid promptly.

Forestry Fund Committee Loan Scholarship Fund. The Forestry Fund Committee Loan Scholarship fund of \$5,000 Mex. was established in 1919 by the Forestry Fund Committee, Shanghai, to be used as a revolving loan fund, \$1,000 being available each year. Loans made to students are repayable annually after graduation in the amount and order in which they were received until the total loans have been repaid.

Willard G. and Jennie B. Welker Memorial Scholarship Fund. The Willard G. and Jennie B. Welker Memorial Scholarship Fund established in 1924 provides \$100 Gold each year for helping boys to "get

an education in the University of Nanking—specializing in agriculture." Students receiving help from this fund must have good character, real ability, experience in the country, need financial assistance, maintain a scholarship of at least 80% and definitely plan to engage in agricultural work after graduation.

Famine Fund Loan Scholarships. The Famine Fund Loan Scholarships totaling \$1,000 Mex. approved by the China Famine Fund Committee of Five for 1924-1925, are to be used for helping needy agricultural students. Loans made are repayable after graduation in the amount and order in which they were received.

RECENT VISITORS.

Among recent visitors to the College of Agriculture and Forestry have been the following: Dr. and Mrs. Royal Meeker, recently connected with the Pennsylvania State Department of Labor, who is representing the Institute of Social and Religious Research in a reconnaissance survey which is now being made in connection with a proposed Institute of Social and Religious Research as recommended by the recent Christian Educational Commission; Dr. W. T. A. Barber, formerly a missionary under the Wesleyan Methodist Missionary Society in Wuchang, and founder of Griffith John College, now President of Richmond College, London; and Mr. and Mrs. Martin Nordegg, Ottawa, Canada.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Dean

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A CHRISTIAN THANKSGIVING DAY FOR RURAL CHINA

At a recent meeting of the Rural Church Committee of the National Christian Council, the very important suggestion was made that "the Christian Church should appropriate and celebrate the Chinese Eighth Month Festival (also known as the Autumn Festival) and thus make connection with the whole life and thought of the rural community."

The suggestion is a good one and the matter should be pushed. In America we have had for years the Harvest Home Festival, celebrated more particularly by the farming population, and our annual Thanksgiving Day is our only national holiday with a distinctly religious significance. Paul may plant and Apollos may water, but God giveth the increase. No people in China appreciate so deeply as do the farmers the significance of this increase. Would that they also knew the significance of its source.

When Christians consider the pagan origin of our much beloved Christmas, and what Christianizing this pagan feast has meant and each year means to the world, they should not hesitate to co-operate heartily in an attempt to give new content and meaning to this ancient celebration. It is interesting to know that the idea is not altogether new for a few scattered pastors here and there have been celebrating the Autumn Festival by special meetings of prayer and thanksgiving. Why not a Chinese Christian Autumn Thanksgiving Feast—nationally celebrated?

MODERN PLOWS FOR CONFUCIUS' BIRTHPLACE

Following a visit by our extension worker, Mr. Chow Ming-I to Chufu, the birthplace of Confucius, in co-operation with the Methodist pastor working in that district, an order was received through the pastor for ten Oliver chilled plows at a cost of \$22.00 per plow. This is the largest single order yet received for these plows which the University is trying to introduce as an improvement over native plows now being used.

FARMERS EAT 44% OF THE CROPS THEY PRODUCE

The recent survey of 102 farms in three villages near Wuhu, Anhwei, made by the department of agricultural economics and farm management of the college shows that the farm families use 44% of the total crops which they produce. This would indicate that these farm families in addition to producing crops sufficient for their own use, produce sufficient for approximately one and one-fourth family more. The amount of rice consumed per capita by these families was 5.6 piculs of hulled rice, which was equivalent to a

daily diet of somewhat over two pounds of uncooked rice. The proportions of the crops consumed and sold by the families is indicated in the following table:

Item	Value		Per Cent	
	Sold	Used by family	Sold	Used by family
CROPS: Rice	\$143.10	\$138.52	51	49
Glutinous rice	10.51		100	
Wheat	5.74	5.39	52	48
Barley .. ..	.87	.38	70	30
Rape	78.76		100	
Wheat and pea		5.12		100
Wheat and bean .. ..		.49		100
Straw (for fuel)		27.10		100
MISCELLANEOUS .. ..		.83		100
TOTAL	\$238.98	\$187.83	56	44

The 102 farms surveyed were equivalent to a 424 English acre farm with a total investment of \$257,362 Gold, and with a population of 102 families (588 persons) securing subsistence from the land only. The complete survey has been printed in bulletin form by the college.

FRUIT EXCHANGE

The College of Agriculture and Forestry would greatly appreciate receiving grafting wood of any varieties of good fruits, particularly persimmons, apricots and peaches, from various parts of China, in return for which we shall be glad to send grafted trees of any of the varieties of fruits listed in our catalogue. To receive grafting wood of these different fruits would be of tremendous help to us, and the introduction of new varieties of fruit in your neighborhood might easily prove to be of very great value locally. We shall be very glad to send detailed instructions as to when and how grafting wood should be sent, if interested friends will kindly write in.

THE HALF DAY RURAL SCHOOL

The half day rural school near Wukiang, Anhwei, being operated by our department of rural education, deserves the thoughtful study of everyone interested in a more serviceable type of education for the vast majority of country children.

The children of farmers are advantaged by it, so are the parents of the children, so is the agriculture of the region and so is the teacher. The advantages are not indirect or theoretical but definite, direct and contagious.

There will be many objections to this half day idea by organization educationalists, by those who believe nothing can justify a break in the systematized, nationalized and formalized curriculum, and by the defenders of educational democracy who theoretically at least would provide an opportunity for the lowliest child to climb up the graded ladder of learning to a point or beyond, where either he is able to live by his wits or more happily to serve society in constructive ways.

The teacher of the half day school at Wukiang has his school in the morning for the children. The children tend the school garden plots which he directs. In the afternoon he goes out among the farmers to interest them in new things. In the evenings he has an adult class in popular education, using the thousand character lessons. He manages a demonstration of improved cotton cultiva-

tion by the side of the road near the ancestral temple where he has his school. He directs the sale and distribution of large quantities of improved cotton seed among the farmers of the area in the spring. We cannot expect rural teachers to become rural leaders if we insist on their teaching all morning and late into the afternoon six days a week. An aroused and interested community will soon find a way to provide more adequately for the educational needs of the children which a half day school cannot.

An account of the detailed workings of this school appeared in the December, 1924, "Chinese Recorder." The College has on hand a number of reprints which it will be glad to send to anyone interested.

161 STUDENTS ENROLLED FOR SPRING TERM

The enrollment in the College of Agriculture and Forestry for the present school semester is the largest in its history. There are 105 students registered for the college course in agriculture and forestry, 40 students enrolled in the one year short course in agriculture, and 16 students enrolled in the rural normal training school.

ARE CHINESE LABOR ANIMALS USEFUL OR ORNAMENTAL

This would seem to be a perfectly fair question to ask in view of the data dealing with animal labor contained in the Survey of 102 farms near Wuhu, referred to above. The Survey showed that the labor animals worked only an equivalent of 24 full days during the whole year. Both the water buffalo and the yellow cow were included in the data. It is a matter of common observation to see farmers, their wives and children working in the field cultivating their crops while the labor animals enjoy the shade of the farmyard trees.

The problem of keeping labor animals busy is a universal one throughout the country. It could be partially solved in this region by the use of animal pumps in the place of man power pumps for irrigation such as are used in many other parts of China. This would release labor needed for cultivation of the rice, and would also allow children to attend school, and give women more time to perform their home duties.

RINDERPEST BREAKS OUR AGAIN IN HONAN

Following a very serious outbreak of rinderpest in Central China last winter and spring, another outbreak has occurred in Kaifeng. Mr. Middleton, agricultural missionary in charge of the agricultural work of the Kaifeng Baptist College, late in January telegraphed for Dr. Gibbs, who left immediately to follow up the extensive rinderpest work which he got under way last year. Fortunately, the epidemic to date has been light and in no way comparable to the unusually severe epidemic of last winter.

COST OF PRODUCING CROPS NEAR WUHU

The table of expenses as listed below representing the average of 102 farms near Wuhu and not far from the Yangtze river, indicates the kind of expenses and the relative amounts of each that farmers in this region have in connection with the production of their crops. In this country of supposedly cheap labor, it is interesting to note that labor items constitute over three-fourths of the total expenses of production.

Items	Av. Value	% of total value.
Hired labor	\$ 36.52	18.8%
Family labor	111.86	57.5
Animal labor	2.21	1.1
Building and repairs	17.11	8.8
Farm tools and repairs	7.11	3.7
Seeds .. .. .	.16	.1
Seedlings .. .. .	.03	
Seeds for animals	1.18	.6
Fertilizers .. .. .	.56	.3
Taxes	6.66	3.4
Dibao (local officer) .. .. .	.09	
Veterinarian .. .. .	.03	
Livestock purchased	4.95	2.5
Decrease of capital	6.19	3.2
Total	\$194.66	100 %

EXTENSION WORKERS CONTINUE BUSY

Mr. Chen Yen Shan of our department of extension spent three weeks in February and March with Mr. J. E. Shoemaker on his country circuit with headquarters at Yuyao, Chekiang. Mr. Chow Ming-I was present at the Methodist Pastors Conference in the Taian (Shantung) district, which was held in Chufu in February. He also represented the University at the Methodist Teachers Conference in Kiukiang and spent several days with his exhibits lecturing in the various Christian institutions in Nanchang. Mr. Chang Chi-wen and Mr. J. B. Griffing spent several days in Chuchow, Anhwei, at the opening of the Christian Mission's new rural school.

NANHSUCHOW FARMERS ARE WISE

The esteem in which their improved seed wheat is held by the farmers to whom it was distributed by the agricultural department of the Presbyterian Mission (North) at Nansuchow was well illustrated last fall when the agricultural department tried to buy some of it back. The farmers could not be induced to sell as they were guarding it very carefully for their own use, and were keeping it all for increased production purposes. This is just another indication that the Chinese farmer knows a good thing when he sees it, and that he is willing to profit by any improvement that is practicable.

The agricultural department at Nansuchow planted 40 mow of this improved wheat in the fall of 1924 in addition to distributing considerable quantities of it to other mission stations and to neighboring farmers. An average harvest this year should give a production of at least 150 bushels of improved seed, which will be used for general distribution next year. Last year the improved varieties gave 327 and 320 cattles per mow as against 176 cattles yield for the native wheat grown on adjoining land.

The College of Agriculture and Forestry has been co-operating for a number of years in the agricultural work of this station, which is located in a chronic famine area north of the Hwai River. Mr. Harry H. White, a graduate of Massachusetts Agricultural College, is the agricultural missionary in charge, and beginning this year will be devoting his whole time to the development of this part of their missionary program.

Agriculture and Forestry Notes

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Edited by JOHN H. REISNER, Dean

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1,000 COPIES OF AGRICULTURE AND FORESTRY NOTES.

Our mailing list for Agriculture and Forestry Notes has been growing steadily until it becomes necessary with this issue to print 1,000 copies. About three-fourths of this number are mailed to friends in China and the remainder go to foreign countries, chiefly the United States.

DEPARTMENT OF FORESTRY TO STUDY EROSION AND RUN-OFF CONDITIONS OF HWAI RIVER WATERSHED.

Mr. W. C. Lowdermilk, of the department of forestry, in charge of forest investigation and research, is preparing to make a study of the erosion and run-off in the Hwai River basin. He is very anxious to secure information pertaining to the area involved on (1), natural forests; (2), temple forests and groves; (3), striking instances of erosion; (4), striking instances of silting up of stream beds; (5), mountain streams which have been converted into torrents as the result of denudation or for other reasons.

Temple forests are very valuable as an index of the former forest cover of a locality and of the possibility of a future forest cover. They are, therefore, particularly sought out for study. Evidences of the development of mountain torrents, that is, the conversion of perennial mountain streams into intermittent sudden discharge of run-off with consequent transport of rock and silt, are particularly useful to indicate the processes at work within the watershed. Those who have this type of information will greatly assist in this important investigation of the Hwai River watershed by sending it to Mr. Lowdermilk.

PROFESSOR LOVE TO ARRIVE APRIL 10TH.

Professor H. H. Love of the Plant Breeding Department of the New York State College of Agriculture at Cornell University is due to arrive in Shanghai on April 10th in connection with our famine prevention project of farm crops improvement. Professor Love is the first of a number of professors from Cornell University who will spend sabbatical years in Nanking in following up this project. His coming is on a co-operative arrangement between Cornell University, the Board of International Education and the University of Nanking. This co-operative undertaking has stirred up very great interest in America and is probably one of the first projects of its kind to be instituted.

ONE SALE OF 10,000 SHEETS OF IMPROVED SILKWORM EGGS.

Early this month the department of sericulture sold to the Kiangsu Famine Relief Commission 10,000 of their improved silkworm egg cards of 20 layings each. These silkworm seeds had been raised from improved seed and had been carefully examined under the microscope for disease.

Our total 1924 crop of 17,500 standard silkworm egg cards of 20 layings each has already been entirely disposed of. We hope to increase our last year's production of 50 piculs of cocoons to approximately 65 piculs this season, all of which will be used in the production of improved silkworm seeds.

THANKS.

A friend in sending a check for \$50.00 to cover a bill of nursery stock which had been sent to him from our University Gardens, added the following greatly appreciated postscript: "I am also enclosing a check for \$10.00 which please accept as a widow's mite toward the splendid work you are doing for China."

STRENUOUS EXTENSION CAMPAIGN AT LUCHOWFU.

Mr. J. B. Griffing and Mr. Chow Ming-I spent ten days in the early part of the month at Luchowfu, Anhwei, the guests of the Christian Mission. During their stay they made a number of excursions into the country getting in touch directly with the farmers. They met the teachers of both the boys' and girls' schools and had one meeting with the city elders. One of the moving picture programs was given to about 700 villagers out of doors, while a special lecture illustrated with exhibits was being given to the village leaders, numbering about 100, indoors. At Lian Yen the place was crowded with farmers as it was market day and Mr. Chow made five demonstration speeches during the forenoon, two in the afternoon and one demonstration lecture in the church at night. Cotton seed was left for distribution and arrangement was made with the active and practical minded colporteur to carry on the work. A total of about 5,000 people, chiefly farmers, were reached during the campaign.

2,000 WHEAT SELECTIONS.

Mr. Gordon K. Middleton, agriculturist at the Kaifeng Baptist College, Kaifeng, who is co-operating with the College of Agriculture and Forestry in several of its famine prevention projects, last year made and planted 2,000 head selections of wheat, secured from the school fields and from the fields of neighboring farmers. These will be carefully studied and harvested and selections made of the best for further testing. Professor H. H. Love, an eminent plant breeder, of Cornell University, whose coming to China is mentioned above, will aid in the selection work.

SIGNED UP FOR FIFTY YEARS.

The University of Nanking through the department of forestry recently signed an agreement with the Christian Mission to Buddhists extending over a period of fifty years, whereby the department of forestry undertakes to reforest about fifty mow of their Ching Fen-shan property situated a few miles north of Nanking city. The area will be used for experimental forest plantings, using various tree species and mixtures,

which will serve as a source of valuable data on reforestation problems in China. The Christian Mission to Buddhists plan to put their permanent buildings on this site so that the reforesting of the hills included in this property will not only add greatly to the setting for the mission buildings but will serve practical and scientific ends as well.

80 SELECTED PERSIMMONS AND OTHERS.

Readers of Agriculture and Forestry Notes will recall our several requests for co-operation in sending to us grafting wood of varieties of various Chinese fruits. The request has had some very helpful responses so that we now have in our horticultural collections grafted persimmons from 80 different sources, some of them undoubtedly duplicates but at least 60 of them individual varieties. We also have 23 varieties of pomegranates, 20 varieties of peaches, 5 varieties of cherries, 6 varieties of apricots, 30 varieties of pears, the majority of them from America or Europe, 24 varieties of grapes and 50 varieties or strains of hardy citrus. It is evident that there is still a great deal of room for additions to these collections, and we will very greatly appreciate any help which our readers can give us. We are always glad to pay expenses involved in securing grafting wood or to send in exchange grafted fruit trees of the varieties we already have in our collection.

MR. LOWDERMILK ATTENDS HUPEH FAMINE RELIEF COMMITTEE CONFERENCE.

At the request of the Hupeh Famine Relief Committee for a representative from the University of Nanking at their conference of delegates from the thirteen districts in which they are carrying on famine relief and prevention work, Mr. W. C. Lowdermilk, in charge of our forest research projects, was present and discussed with them in what ways the College of Agriculture and Forestry might be of service in the working out of an agricultural program to be projected along with their engineering work. As a result of this conference, the College of Agriculture and Forestry will make a study of the districts in which the Hupeh Famine Relief Committee is at work, in order to secure data for working out some practical plan for agricultural improvement.

OUR SUMMER SCHEDULE FILLING RAPIDLY.

Arrangements have been made by the departments of extension and rural education to co-operate in summer conferences and summer schools by supplying special teachers, of methods in teaching agriculture and in Rural Community Service, as follows:

A special summer school for rural teachers at Nansuchow, Anhwei, under the direction of the Presbyterian Kiangnan Mission; the summer conference of teachers at Anking, Anhwei, under the direction of the American Church Mission; the Shansi annual preachers' conference at Yu Tao Ho, Fenchow; the summer school for teachers at Weihsien, Shantung, under the direction of the Presbyterian Mission North; the summer institute of teachers at Hwanghsien, Shantung, under the direction of the Southern Baptist Conference; and the North China Summer School for teachers and preachers at Tungchow, Peking, under the direction of the Chihli-Shansi Educational Association. The above conferences and summer schools are in addition to the special courses in agriculture which the College of Agriculture and Forestry will offer in the University Summer School of six weeks in July and August at Nanking.

LIFE OF OBERLIN IN CHINESE.

Some years ago the Rev. Ernest F. Gedye, then the principal of Wesley College, Wuchang, translated into Chinese a short account of the life and work of Oberlin, the great rural leader after whom Oberlin College is named. The increased interest in the Rural Church has led to re-issue of this book and copies may be had from the Religious Tract Society, Hankow, at eight cents a copy post free, with a discount of fifteen per cent on orders amounting to one dollar or over. The book is five by eight inches in size and runs to sixty-four pages. It should be gotten into the hands of every rural pastor and teacher in China.

VISITORS.

The college of Agriculture and Forestry has had the pleasure of visits from the following friends during the month of March: Sir Albert and Lady Spicer of England; Miss Marian De C. Ward of New York City, Dr. Cleland B. McAfee, D.D., of Chicago, a member of the Board of Foreign Missions of the Presbyterian Church, North; Miss Alice Gregg of the American Church Mission, Anking; Prof. N. Gist Gee of the China Medical Board, Peking; Mr. H. R. Wells of the London Missionary Society, Hongkong; Mr. Robert Chandler, Mr. Morton Chu and Mr. H. C. Chang, of the Rural Church Committee of the China National Christian Council, Mr. U. W. Leavell, of the Southern Baptist Mission, Hwanghsien, Shantung; and Mr. Theodore N. Hill of the Christian Mission, Domah, India.

THANKSGIVING DAY AGAIN

Following the publication of the item regarding a Christian Thanksgiving day for rural China, in the last Agriculture and Forestry Notes, in which it was suggested that the Christian Church should appropriate and celebrate the Chinese Eighth Month Festival, the following interesting and suggestive information has come to light.

The North China Mission (Shantung) of the Southern Baptist Conference has been celebrating Thanksgiving for a number of years in the following manner: The day conforming to the time of the American Thanksgiving, is freed from all other activities and all the church members and those connected in any way with the North China Baptist College, the seminary, the middle school, the normal school for boys, the normal school for girls, the primary school and the hospital, as well as the constituency of the city church meet together in the big auditorium for a Thanksgiving service. Everybody brings some thank offering, usually of the fruits of the field. The meeting begins at nine o'clock and often runs until after noon. After the service, the thank offerings are distributed among the poor of the city and surrounding villages under the direction of the Thanksgiving committee. Money offerings are usually given to the mission orphanage. The service is of a real thanksgiving nature. After the main address, the meeting is thrown open for the testimonies of those who desire to express their thankfulness for the blessings which they have received during the year. This Thanksgiving service is considered to be the most helpful and most spiritual meeting of the whole year.

Why not plan now to have a Thanksgiving service next autumn in every mission school and organized Christian group in China adding such other features to it that will secure the interest of the whole community?

MAY 9 1925

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MAKING A RECORD

The spring silkworm rearing season came to a close when the last of 1,124,400 laying of eggs, each laying attached to its mother moth, had been tied up into bundles of 100 and now waiting to be tested microscopically for pebrine during the summer and autumn months. The spring crop, undoubtedly, represented the largest single crop of cocoons and silkworm eggs that have ever been raised in China. The total production of cocoons amounted to ninety and one-half piculs, approximately six English tons. Seventy-five piculs of these cocoons were selected out and used for the production of silkworm eggs. The total number of silkworms reared was between 3,500,000 and 4,000,000. The silkworms ate a total of one hundred and sixteen tons of mulberry leaves. The weight of the silkworms at the time of hatching was only thirty-five ounces. About six weeks elapsed from the hatching of the eggs to the laying of the eggs again by the moths.

During the rearing season the largest number of laborers for any one day was two hundred and thirty and during the egg laying season for several days the number of women laborers ran up to four hundred and sixty and men laborers an additional twenty more. One day we began work at 5.30 a.m. and stopped the next morning at 4 o'clock with time out only for meals. Several days it was necessary to work from 5.30 a.m. to midnight. In spite of the long hours for several days for which extra pay was given, everyone kept smiling and happy all the while. The season has accordingly been a very successful one from every point of view.

TWO HUNDRED BUSHELS OF IMPROVED WHEAT SEED

Although our wheat harvest was greatly decreased on account of the drought of last fall, giving a very poor stand, our spring harvest gave us over 200 bushels of improved wheat from our pure seed fields. After retaining sufficient for planting our own pure seed fields this coming fall, the balance will be distributed to farmers. Inspection was made of the fields of wheat planted by the eighty-two farmers to whom improved wheat seed was given last year in the vicinity of our pure seed farms. It was a very simple matter to locate the fields of wheat grown from our improved seed as they were in marked contrast to the less uniform and less productive fields which were planted to the local varieties. This is what we modestly call a successful piece of combined experimental and extension work.

RURAL CREDIT SOCIETY SUCCESSFUL

In co-operation with the China International Famine Relief Commission, Mr. Hsu Chen of the department of agricultural

economics and farm management, organized the Feng Rui Co-operative Credit Society in Nanking. A report of the first year workings of the society shows that all payments were made promptly and that the society repaid in full its first loan with interest. A second loan has already been made to them. The loans were used for buying fertilizer, liquidation of old debts, breaking up uncultivated lands, the purchase of new land, and one loan went for funeral expenses. The membership has increased from sixteen last year to thirty-eight at the present time. The meetings are held regularly once a month. Minutes of the meeting have been kept since February 1925. Careful accounts of all items of expenditure and receipt are kept. An inspection committee to see that the loans are used for the purposes for which they were made is functioning. The members of the society seem to understand the principles of co-operation very well. A second society has been organized in the Kung village in North Anhwei.

THE COLLEGE OF AGRICULTURE AND FORESTRY HAS HEAVY SUMMER EXTENSION SCHEDULE

The schedule noted below indicates the seven places at which the College is co-operating in teachers and preachers institutes and conferences during the summer. Courses in agricultural improvement and rural community projects will be given at each place to a total of from twelve hundred to fifteen hundred teachers and preachers.

Yutaoho, Shansi: Conference of Christian workers, June 19th to 27th. Mr. Chow Ming-I.

Tsingtao: Presbyterian Mission (North). Teachers Conference. June 24 to July 4th. Mr. Tsui Ruh-tsuin.

Tungchow, Chihli: Chihli-Shansi Christian Educational Association Summer School. July 1, to July 31. Mr. Hoh Lien-chen (full time). Mr. Chow Ming-I—July 16 to 31.

Hwanghsien, Shantung: Southern Baptist Convention Teachers Institute. July 1 to 14. Messrs. Tsui Ruh-tsuin and Chow Ming-I.

Weihhsien, Shantung: Presbyterian Mission (North). Teachers Institute July 1 to 15. Mr. Chow Ming-I.

Nanhsuchow: Presbyterian Mission (North). Summer School for rural teachers, July 2 to 31. Mr. Fan Chen-yoh, Mr. Liu Chinghsien, Mr. Chen Yen-shan, and Mr. Reisner.

Liaochow, Shantung: Southern Baptist Convention Teachers Institute. July 16 to 30. Mr. Tsui Ruh-tsuin.

Arrangements had also been made to give courses in the University of Nanking Summer School, Nanking, and in the American Church Mission Teachers Summer Institute to be held in Anking during the first three weeks in July. On account of the strike and general feeling of unrest these two schools had to be cancelled.

TO STUDY FOREST AND WATER CONSERVATION IN SHANSI

Mr. W. C. Lowdermilk of the forestry department will this summer continue the studies of forest conditions and erosion in Shansi which were begun last summer. The party from Nanking will comprise the following persons: W. C. Lowdermilk, Li Teh-I, Ling Kan, Ren Chen-tung, and Shen Hsioh-li of the Forestry Department, and Chang Wen-tah, a forestry student, and Philip Bowen. At Taiyuanfu, Mr. Tseh Tsuen-chen, director of the First Provincial Forest Station of Shansi, an alumnus in forestry of the University

of Nanking and one or possibly two more University of Nanking alumni will join the party.

The investigations to be carried on during the summer will include comparative rain run-off from eight plots of 1,000 square feet in area; the deterioration of soil fertility and porosity due to the erosive action of run-off on mountain slopes which have been dug up for agricultural crops; and studies of forest economics and conservation of mountain resources. Besides these specialized investigations, botanical and zoological collections are to be made from the mountainous areas of Shansi. The investigations will take place in the remaining forest areas of Shansi.

PROFESSOR LOVE AND MR. RITCHEY VISIT CO-OPERATING STATIONS

During the middle of May Professor Love and Mr. Ritchey visited Yihsien, Shantung, Kaifeng, Honan and Nanhsuchow, Anhwei in connection with the wheat improvement projects which are being carried on co-operatively at these places. At Yihsien study was made of the 1,000 head selections of wheat which had been made by Mr. Gordon, and at Kaifeng a study was made of the 2,000 head selections of wheat which had been made by Mr. Middleton. The best of these were selected for trial next year. Further individual selections of wheat heads were made at these three places for planting this fall.

AGRICULTURE AND FORESTRY NEWSPAPER GAINING IN POPULARITY

The following paragraph came from Mr. H. V. Lacy, Futsing, Fukien, in sending in 60 subscriptions for the Agriculture and Forestry Newspaper: "The preachers in a number of their meetings of late have remarked regarding the value of this Agriculture and Forestry newspaper, and I am sending you herewith a complete list of all of our preachers on these districts, with their post office addresses. Will you please have the newspaper mailed to each one of these men and send me the bill for the same?"

A few days ago we also received a letter from Mr. O. V. Armstrong, Suchowfu, Ku., enclosing check for sixty-eight subscriptions which he had gotten through the students of his middle school. This makes approximately two hundred subscriptions or renewals which Mr. Armstrong has secured for the paper within the last year. It is needless to say that we deeply appreciate such helpful co-operation.

UNIVERSITY SILKWORM EGGS PROVE HIGHLY SATISFACTORY

The following paragraph from a missionary in Chekiang indicates that our disease free silkworm eggs produced from selected cocoons are pleasing the farmers. He wrote: "A week ago yesterday I was at Kwo-lih in the 'So-di' silkworm district. They are so pleased with Nanking eggs that they are getting ten dollars together to buy for next year."

Mr. Kuh Ying, head of our department of sericulture, during a recent trip to Wusih where we had distributed a large quantity of our silkworm eggs reported that cocoon merchants were paying \$20.00 to \$30.00 above the market price for cocoons raised from our tested eggs. He also reported that individual farmers were paying as high as \$1.50 per gin (\$1.20 per pound), about double the market

price, for cocoons from our eggs which they desired to use for egg production purposes for their next year's cocoon crop.

Excellent reports were also received from several centers in Shantung where our eggs had been sent.

NORMAL SCHOOL HOLDS CELEBRATION

On May 26th, the rural normal school, administered by the department of rural education, held a May Festival throughout the afternoon and evening. The afternoon program consisted of exhibits of the work of the normal school, the day school, the woman's club, a display from the extension department, and a track meet of the practice school pupils. In the evening prizes were awarded and a play given by the students of the normal school.

A SIGNIFICANT EXPERIMENT

Mr. Lowdermilk in company with Professor Love and Mr. Ritchey went to Yihsien, Shantung, in order to inspect the experimental work which had been carried out by the South Shantung Industrial School in connection with a co-operative project on reforestation of mountainous areas. The experiment called for the slopes and benches along the sides of the mountains to be cultivated in so far as possible, seed broadcasted and then covered by further cultivation. The experiment was successful in every way, and many strong fine seedlings resulted. The root development of the seedlings was particularly noticeable. The experiment indicates that in North China in areas where the spring rainfall is very low or entirely lacking the hills can probably be better reforested by direct planting of seeds than by transplanting of seedlings. A further direct seed planting on a hill slope was made during the time of Mr. Lowdermilk's visit, the laborers using small hand hoes and dropping a number of seeds in each hole. The data already secured is very significant in relation to the problem of reforestation in North China.

PLAN TO ATTEND THIS CONFERENCE

The College of Agriculture and Forestry is making tentative plans for a rural conference to be held at the college during the next Chinese New Year vacation, to which all who are interested in the problems of rural education, rural evangelism and the rural church will be invited. In addition to discussion of rural problems as they affect the Christian movement, short courses in rural improvement extension projects will be offered. The object back of the conference is to link up just as closely as possible the facilities of the College of Agriculture and Forestry to the various Christian rural agencies in China. Suggestions will be gladly received.

FACULTY FURLOUGHS

Mr. J. B. Griffing and family left Nanking on June 2nd for a year's furlough. Mr. Griffing will spend the year at Cornell University where he has been appointed to an instructorship in the department of rural education of the New York State College of Agriculture.

Mr. J. L. Buck and family who have been spending the past year at Cornell University will return to Nanking the latter part of August. Mr. Buck received his Master's degree in the department of farm management at the New York State College of Agriculture this June.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING

COLLEGE OF AGRICULTURE AND FORESTRY

NANKING, CHINA

Edited by JOHN H. REISNER, Co-Dean

October, 1925.

Number 17

MR. T. S. KUO APPOINTED CO-DEAN

It gives us very great pleasure to announce the appointment on September first of Mr. T. S. Kuo as Co-Dean of the College of Agriculture and Forestry and Co-Director of the Experiment Station. Mr. Kuo is a graduate of Nanyang University, Shanghai, and of the New York State College of Agriculture at Cornell University with the degree of M.S.A. For four and a half years he was President of the First Provincial Agricultural School at Nanking and for one year Director of the cotton improvement program of the China Cotton Mill Owners' Association. For the last four and a half years he has been Associate Dean of the College of Agriculture at Southeastern University. Mr. Kuo is very widely and most favorably known as one of the leading agriculturists in China. He has full responsibility for all instruction work, for the building up of our student body, for all Chinese administrative work, for representing the college in all official Chinese relationships, in developing Chinese contacts, and in helping friends in China to become interested in the work and plans and ideals of the College of Agriculture and Forestry.

I knew Mr. Kuo as a student at Cornell and have been in very close touch with him during the past ten years in China. His coming to us fulfills a long cherished hope and I am sure that the College is now in a position very greatly to increase its contacts and to extend its sphere of usefulness.—J.H.R.

AGRICULTURE AND FORESTRY NOTES IN CHINESE TO BE EDITED BY MR. KUO

Beginning October first, the College will issue a monthly four page leaflet similar to this, in Chinese, and edited by Mr. T. S. Kuo, Co-Dean, in order more frequently and intimately to acquaint our many non-English speaking Chinese friends with the work of the College.

DEPARTMENT OF EXTENSION AT YOUR SERVICE

The schedule of our department of extension for this autumn and next spring is already rapidly filling up. All dates to December 1st have been taken and a number of tentative engagements have been made for the winter and spring months. Any missionary or pastor desiring the services of the extension department should write immediately. The College pays all major travel expenses, but expects local travel expenses and entertainment to be provided by the local mission or church.

SIGNIFICANT EVIDENCE OF CHURCH'S INTEREST IN RURAL NEEDS.

The enrollment for the special one year short course in agriculture for the autumn semester is sixty-four and for the rural normal school is twenty-six, making a total of ninety students. Of these, thirty have been sent by missions in various parts of China. This indicates as clearly as anything else possibly could the rapidly increasing interest on the part of missions in agricultural work, and its essential relation to the rural program of the church.

PLANT IMPROVEMENT PROJECT MOVES FORWARD

During the past summer, with the help of Professor H. H. Love of the plant breeding department of the New York State College of Agriculture, our department of agronomy has worked out most of the details of the plant improvement project which it is carrying on as a part of our famine prevention program. The extent of this project will be indicated by the fact that during the past season some 8,000 head selections of wheat were made and that 10,000 head rows of wheat and 4,000 rod rows of wheat for experimental testing are now being planted out not only at the central station here at Nanking, but at the co-operating stations at Kaifeng, Wuchang, Yih sien, Weihsien, Nanhsuchow and Wusih, as referred to below. In addition to the 14,000 rows of wheat, representing almost entirely Chinese varieties, we will test out 380 new wheat introductions, all of which will be tried out here in Nanking and most of which will be tried out either in the Hwai River area or the Yellow River area or both. Seed to plant three thousand rows of barley, representing head selections made in farmers' fields this last spring, have been inoculated with smut diseases and will be tested out in order to find a strain that is resistant to either or both smut diseases which at the present time are causing tremendous losses to Chinese farmers.

PLANT IMPROVEMENT CONFERENCE

At the invitation of the College, Messrs. Gordon K. Middleton, agricultural missionary at Kaifeng Baptist College, Kaifeng, Honan; Henry H. White, agricultural missionary of the Presbyterian, North, station at Nanhsuchow, North Anhwei; and Arthur L. Carson, agricultural missionary of the Presbyterian, North, station at Weihsien, Shantung, spent September 25th to 28th in Nanking, going over the details of the co-operative plant improvement projects in which they and the college are co-operating. This project is one of the important items in our famine prevention program. In addition to co-operative stations at the foregoing places, the college is also carrying out plant improvement projects at Wuchang in connection with the Central China Teachers College, and in Yih sien, Shantung, in connection with the South Shantung Industrial School.

GIFT OF MULBERRY ORCHARD

During the summer word was received from the Silk Association of America through their Shanghai representative, Mr. C. J. Huber, manager of the Shanghai International Testing House, that they had appropriated \$4,500 Gold to the University to purchase land for a mulberry orchard sufficient to supply all the mulberry leaves which are needed in connection with our sericultural work. Last year our silkworm crop consumed one hundred and twelve and a half tons of mulberry leaves. Inasmuch as this was one of the outstanding needs in connection with the further development of our improved silkworm egg production work, it is especially appreciated.

CONFERENCE OF CHRISTIAN RURAL LEADERS

Plans for the Conference of Christian Rural Leaders to be held this coming China New Year vacation under the auspices of the College of Agriculture and Forestry are developing nicely. The Committee on Arrangements has already been appointed and a preliminary meeting of the Program Committee will be held in Shanghai early in October. Quite a number of people have been approached informally in connection with the Conference and all have been enthusiastic about it. All those interested in any phase of Christian rural work in China will be welcome. It is hoped that many will plan now not only to be present themselves but to bring with them their leading Chinese associates. As arrangements progress, they will be announced in Agriculture and Forestry Notes.

SHEEP WITHOUT SHEPHERDS

My fourth lecture was "How to change farmers and to help them." I recommended rural credit societies for solving the farmers' financial difficulties, people schools as a remedy for illiteracy, the extension of good agricultural products from technical institutes to farmers for improving their industries, every preacher himself working on the farms, taking an interest in all farm operations and showing his sympathy and offering his help in order to bring Jesus into the life of the farmer, and thus do away with their superstitions. I named many of the Gods that farmers have in their villages. I said, "farmers feel that there is no help from other sources; that when they have locusts, they burn incense before the God of Locusts; when there is no rain, they worship the God of the Dragon; when there are no crops, they worship the God of the Land; and when in trouble, they pray to the Kwan-fu-tse of Wu-miao." "Therefore, if we Christian preachers can help them to get rid of insects, reforest the land, improve their crops and teach them co-operation in everything they do, and how to be cheerful and happy in working together, these farmers will not go to these other gods again, but will come to Christ because they see we are working for the Lord Jesus and from Him they will get all these blessings." Many of them were moved in heart at the end of this speech. . . . Extract from a lecture delivered by Mr. Chow Ming-I, of our extension department, at the annual Shansi preachers conference, Fenchow, June, 1925.

SHANSI SUMMER TRIP NETS VALUABLE DATA

During the summer a party headed by Mr. W. C. Lowdermilk returned to Shansi to follow up the work of the previous year in connection with run-off studies of the Yellow River watershed. The immediate object of the present summer's trip was to secure comparative run-off data on forested, semi-forested and deforested mountain slopes. Two sites were located, one in the mountains in the north, and the other in the mountains in the southeast of the province. A large amount of data from practically all of the summer rains was secured. These data are now being worked up and it is hoped to publish the results of these significant studies soon.

AS FARMER WANG SEES IT NOW!

"On the 27th of July I went to Wukiang to see our demonstration farm which is in charge of one of our short course graduates, Mr. Li Chih-chiai. Our rural school has been closed for summer vacation and the students are all helping in their homes. Mr. Li and I went around to visit some of the farmers who have used our cotton seed. Our improved American Acala cotton is being more widely grown

this year as we had distributed more than eight tons of seed this spring to the farmers. They are not only using our improved seed, but many also use our method of planting in rows, while ordinarily farmers plant their seeds by broadcasting. We also loaned our five-tooth cultivators to those who planted their cotton in rows in order to show them the value of planting in rows. It will save them a great deal of labor and that means a saving of much money. When we went to see them, they greeted us with smiling faces as their cotton is good this year. The weather so far has been favorable so the native cotton is also better than last year, but our improved cotton is much better than theirs. While we were talking with a farmer named Wang who was hoeing in the cotton field, another farmer also hoeing in his field beyond came over and yelled to me, "Sien seng, your cotton is very good this year." I said to him, "why dont you grow our cotton?" He said, "I will grow your cotton next year," and then he asked me to reserve some seed for him. These two fields stand side by side. The plants in the field sown with improved cotton seed are tall and full of flowers and bolls, while the other field planted at the same time with the native degenerate seed contains small plants and bears less bolls. Farmer Wang is very happy and said that he will grow our seed on his whole farm next year." (Extract from Extension Worker Chen Yen-shan's report.)

RECENT VISITORS

Among the recent visitors to the College of Agriculture and Forestry have been: Dr. G. D. Wilder, missionary and naturalist, member of the American Board Mission at Peking; Mr. P. H. Reimer, representative for the Far East of the International Harvester Company; Dr. Edward L. Bliss, medical missionary of the American Board Mission at Shaowu, Fukien; Dr. Frank D. Gamewell, for many years general secretary of the China Christian Educational Association and now secretary of the Methodist Board of Foreign Missions, New York City; and Mr. Roger S. Greene, Director of the China Medical Board, Peking.

SEVEN SUMMER SCHOOLS AND CONFERENCES

The College of Agriculture and Forestry took active part in seven summer schools and conferences in various parts of China during June and July. Two hundred and forty-eight different students were in two classes a week for a period of two weeks to one month, and six hundred and eighty different teachers and preachers attended from one to five special lectures. All the classroom work and the lectures were related directly either to rural schools or to rural evangelistic efforts.

Mr. Tsui Ru-tsun offered classes in the Presbyterian summer school at Tsingtao and in the Southern Baptist Convention's teachers institutes at Hwanghsien and Laichowfu. Mr. Chow Ming-I gave a series of lectures to the two hundred and forty preachers present at the Shansi annual preachers conference held at Fenchow, and taught classes of rural school teachers at Weihsien and Tungchow. Mr. Hoh Lien-chen taught several classes in general agriculture and rural problems at the Chihli-Shansi educational association summer school at Tungchow, Peking. Messrs. Fan Chen-yoh, Lu Ching-hsien, Cheo Tih and Chen Yen-shan all took part in the summer school at the Nansuchow station of the Presbyterian (North) Mission, and Mr. Chen Yen-shan met a large number of teachers and preachers at the annual conference at the Hwaiyuen station of the Presbyterian Mission (North).

Agriculture and Forestry Notes

UNIVERSITY OF NANKING 1925
COLLEGE OF AGRICULTURE AND FORESTRY
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Number 18

SPECIAL PLANT IMPROVEMENT NUMBER

THE BACKGROUND OF OUR PRESENT PROGRAM

The plant improvement work of the College has developed to such an important extent that this number of Agriculture and Forestry Notes is being devoted entirely to a report of it. This project represents one of the special phases of our Famine Prevention Program, made possible with funds allocated by the American Committee for China Famine Fund from a surplus remaining in the hands of the Committee at the close of the recent appeal for Famine funds in the United States. The College started its plant improvement work in 1914 on wheat, and during the intervening time has developed and put into circulation among the farmers four improved high yielding varieties of wheat, three at Nanking and one at Nansuchow, two acclimatized varieties of American cotton, one high yielding variety of Chinese cotton, and an improved strain of Chinese corn.

CO-OPERATING WITH GOD

In attaining the successful results noted in the preceding paragraph, it should be clearly understood that the men who have been working on plant improvement did not create any new thing. Man does not create plants. Only God does this. All we did was to apply the scientific knowledge which has been vouchsafed to man concerning the nature and behaviour of plants, and by so doing to make these plants more useful to him. We believe that a plant is a manifestation of God's love for the human race as is the sun or the rain or the soil, and that in improving and increasing the productivity of these plants we are co-operating with God in His plans for the development and improvement and for the immediate protection and benefit of mankind.

A CORNELL UNIVERSITY—INTERNATIONAL EDUCATION BOARD—UNIVERSITY OF NANKING TRIANGULAR PLANT BREEDING PROJECT

Our present plant improvement project has been made possible by the interest of Cornell University and the New York State College of Agriculture at Cornell in sending to the University of Nanking each year for a period of from five to ten years, a member of the staff of the Department of Plant Breeding to help organize and carry forward the work. The International Education Board, one of the Rockefeller Foundations, has very generously aided in financing the project from the Cornell end. The University of Nanking finances

the travel of the Cornell plant breeding experts to China and meets all express in China connected therewith.

PROFESSOR H. H. LOVE IS FIRST REPRESENTATIVE

Under the co-operative arrangement, Professor H. H. Love, a plant breeder of international reputation, arrived in China on April 10th and returned home October 27th. During his stay he taught classes in plant breeding and biometrics, helped to standardize our plant breeding methods, collect and organize experimental data and interpret results. He traveled about to co-operating stations, directed large field selections of different crops from given areas, prepared a simple manual of plant breeding methods for use by our department of agronomy and by our co-operators and for translation into Chinese. He worked out a "Memorandum of Understanding for Co-operative Work in Plant Improvement between the College of Agriculture and Forestry and Co-operating Agencies," and the "Articles of Agreement" under which the co-operation will operate. The extent of the co-operation is indicated below.

CO-OPERATION WITH MISSION STATIONS

The co-operative plant improvement project with agricultural missionaries and mission stations is based on the existing co-operative extension project of our Famine Prevention Program under which certain financial aid is being extended to the mission stations involved. These stations with the personnel directly responsible for the plant improvement work are as follows:

- Kaifeng Baptist College, Kaifeng, Honan, Gordon K. Middleton and assistants.
- Nanhsuchow Station of the Presbyterian Mission (North) Nanhsuchow, Anhwei, Harry H. White and two assistants.
- South Shantung Industrial School of the Presbyterian Mission (North) Yihsien, Shantung, Karl M. Gordon and one assistant.
- Central China Teachers College, Wuchang, Hupeh. One assistant.
- Point Breeze Academy of the Presbyterian Mission (North) Weihsien, Shantung, Arthur L. Carson and two assistants.
- Kweiteh Station of the Canadian Church Mission, Honan. Rundall M. Lewis (Delayed).

THE CHOICE OF CROPS

Concentration of effort on the most important crops of the area in which the co-operating stations are found, rather than an attempt to do less work on a larger number of crops is the principle on which the plant breeding work has been projected. With this in mind, the three most important crops of the regions were selected for improvement. At every station there is the same winter crop, namely—wheat. At every station but one there is one major and one minor summer crop. At Nanking, because of the greater personnel available, work on a larger number of crops was undertaken. The choice of crops to be worked on at the various stations is as follows:

Station	Winter Crop	Major Summer Crop	Minor Summer Crop
Kaifeng	Wheat	Kaoliang	Beans (Millet)
Nanhsuchow	Wheat	Beans	Kaoliang
Yihsien	Wheat	Kaoliang	Beans
Weihsien	Wheat	Kaoliang	Beans
Wuchang	Wheat	Kaoliang	Beans
Kweiteh	Wheat	Cotton	Rice
Nanking	Wheat, Barley	Corn	Beans

WHEAT SUBSTATIONS AT SOOCHOW AND WUSIH

At Soochow with the co-operation of the Provincial Second Agricultural School, and at Wusih with the co-operation of the Wusih Wheat Experiment Station, the best of the wheat varieties in our advanced tests and the best local varieties are being grown for comparative results. If any of the Nanking varieties prove superior to the local varieties, steps will be taken to produce supplies of such seed for general distribution to the farmers.

WORK UNDER WAY ON WHEAT

Work on wheat represents the largest single undertaking, and this autumn 20,222 head and rod rows have been planted at the eight co-operating points including Nanking. This must be taken as the largest wheat improvement experiment ever undertaken in China, and one of the largest wheat experimental planting projects undertaken anywhere in the world. The head rows represent over 8,000 individual head selections. Four hundred and sixty-five varieties of foreign wheat are included in the test. For these we are under much obligation to the Office of Cereal Investigations, United States Department of Agriculture, and members of several state experiment stations. Nearly 400 varieties, including both foreign and Chinese, have been inoculated with flag smut by the division of plant pathology in an attempt to discover a flag smut resistant strain. The distribution of the wheat work is as follows:

Station	Rod Rows	Head Rows	Foreign Varieties
Nanking	1,927	6,322	465
Kaifeng	1,283	2,360	345
Nanhsuchow	153	1,198	340
Yihsien	658	2,016	
Weihsien	243	1,084	
Wuchang	128	1,244	
Wusih	228		
Soochow	228		
	4,848	14,224	1,150
Grand total of rows	20,222		

SEEKING A STRAIN OF SMUT RESISTANT BARLEY

Loose and covered smuts of barley are very common and cause heavy losses to the farmers. To discover a strain resistant to these diseases, over 1,000 head selections were made. The seed was divided and each half was inoculated with loose and covered smuts and then planted. In addition, the test includes a number of barleys obtained from the United States Department of Agriculture, Office of Cereal Investigations, and from state experiment stations, all of which were inoculated. Altogether there are 2,440 rows of barley in this test.

SOY BEANS

This last year in Nanking there were under test 400 individual soy bean plant selections in addition to a large number of varieties from various parts of China. In line with the enlarged program for next year's test, 1,000 individual plant selections were made at Weihsien, 1,250 selections at Nanking and 60 selections at Yihsien. Large individual selections were made at Kaifeng and at Nanhsuchow, final reports of which are not yet in. The test will, therefore, include more than 3,000 individual plant selections.

WORK WITH KAOLIANG

This is a new project but a very important one as kaoliang is one of the most useful of the crops of North China. Extensive selections were made at Yih sien, Kaifeng, Nansuchow and Weih sien and a few at Nanking, totaling 1,248 individuals. Each strain will be tested at all of the stations co-operating in kaoliang work so that information will be available as to the reaction of the individual strains in the different environments. As many selections as possible will be tested next year for smut resistance.

CORN IS NOT KING IN CHINA

It is, however, in many places an important crop. Improved strains have already been developed by selection and the work is being continued at Nanking. Hybridization experiments are also under way, one for inheritance studies, and the other with the object of obtaining a deeperkerneled variety. A two-ear plant selection experiment has already given interesting results.

WORK ON RICE IS LIMITED

Work on rice has been limited largely because of the fact that our greatest interest has been in the food crops grown in famine areas. In 1925, a rod row test of a large number of varieties was conducted, and in addition, 360 rows of individual head selections. The test this year was conducted on the same plan as rod and head rows for wheat, a departure from the present methods of testing rice selections in China, where transplanting is the rule. The new method was successful and should supplant present Chinese methods because of the unavoidably large error introduced into the test by transplanting.

COTTON IMPROVEMENT

In addition to continued selection among the improved strains of American and Chinese cotton, the department of cotton improvement in co-operation with the division of plant pathology is attempting to secure by means of breeding and selection a strain of cotton which is resistant to cyrtosis, a common disease caused by insects known as leaf hoppers and quite destructive wherever cotton is grown extensively. Our production of pure seed last year was approximately 40 tons, including three tons of seed of the "Million Dollar" Chinese cotton which has been developed from a single plant found near Shanghai in the fall of 1919.

CO-OPERATION WITH TSING HUA EXPERIMENT STATION

At the request of Tsing Hua College, the services of the visiting professor from Cornell will be made available to advise and help in the work of the Tsing Hua College Agricultural Experimental Station, of which Mr. C. C. Chen, M.S.A., is Director.

UNIVERSITY PLANT IMPROVEMENT PERSONNEL

The personnel responsible for the plant improvement work during the past year at the University have been Mr. George E. Ritchey, Professor H. H. Love, Co-Dean T. S. Kuo, Mr. Heh Chin-ming, Mr. Wang Sheo, Mr. R. H. Porter, Mr. Yu Ta-fu, and three assistants.

CHINA UNIVERSITY
CENTRAL OFFICE

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
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Number 19

THE COMING RURAL CONFERENCE

Much interest is developing in the Conference of Christian Rural Leaders to be held in Nanking next February 2nd to 5th inclusive, under the auspices of the College of Agriculture and Forestry. Applications for special railway rates are coming in from as far away as Hwanghsien, Sung., and Yochow, Hunan. Copies of the tentative program in English were mailed out with November Agriculture and Forestry Notes, and copies in Chinese are being enclosed to our missionary friends in the December Notes. More copies can be had on application.

The two main purposes of the conference are to concentrate our thoughts on the problem of ruralizing the program of the rural church and to bring rural leaders in China into closer touch with the work of the College of Agriculture and Forestry to the end that it may more effectively serve the rural church in China. Meetings will be conducted in Chinese. Entertainment for all out of town delegates is being provided by the College of Agriculture and Forestry. Application has been made to the Ministry of Communications, Peking, for special conference rates which will be half or a little less than half of the round trip fare. Application should be made directly to the College for the special railway rate blanks which must be filled out in order to obtain the special rates.

The College will very greatly appreciate it if those who expect to attend the conference will send in word as soon as possible so that we may plan for entertainment accordingly. All who are interested are invited.

PROFESSOR MYERS TO REPRESENT CORNELL NEXT

Professor C. H. Myers of the Department of Plant Breeding of the New York State College of Agriculture will be Cornell's next representative to Nanking. In addition to his field work Professor Myers will teach a class in plant breeding in the College, which we hope will help to stimulate interest among our own undergraduates in the useful field of plant improvement. Professor Myers will be accompanied by Mr. T. H. Shen, at present a graduate student at Cornell, specializing in plant breeding for special work under China conditions.

THE COLLEGE OF AGRICULTURE AND FORESTRY MOVES

We are delighted to be able to tell our friends that Bailie Hall, the new building for the College of Agriculture and Forestry, situated on the main University campus, has been completed and that we have

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moved into it from the various corners which we have been occupying on and off the University campus during the last few years. The outside architecture conforms to the general architectural scheme laid out for all the University buildings. The building is of brick and concrete construction and practically fireproof. The full space on the ground and attic floors has been utilized. The building contains one lecture room, large enough to accommodate 160 people. The building is piped for gas and water and wired for electric light. Bailie Hall gives ample room, for the present, for all administration work, all offices, class rooms and laboratories to be used in connection with the work of the College of Agriculture and Forestry, except for those parts of our work which are already housed in separate special buildings. We feel as if we had been given a new lease on life, and certainly we have been given most efficient quarters in which to carry on our work and which are highly appreciated by us all.

STUDENT BODY NUMBERS 200

The enrollment in the College for the fall semester shows 110 students taking the five year college course, 64 students taking the one year short course in agriculture, and 26 taking the rural normal school course. In addition there are 56 students registered in the forestry correspondence course on nursery practice. This is by far the largest registration of students which the College of Agriculture and Forestry has ever had.

SPEAKING OF OUR 102 GRADUATES

The College has graduated 102 men in agriculture and forestry since the college was organized in 1914. The first class of six graduated in 1918. Of these 102 graduates, 75 are now in work directly related to agriculture and forestry, either in teaching, research, extension or supervisors of practical projects. Another five are in other lines of teaching work. Seven of the graduates are in the United States continuing their study. Six have become officials and five are in business. Of one graduate at the present we have no record, and two are deceased. Four of the graduates now in business or official life are definitely responsible for work relating to agriculture or forestry. Of the 100 living graduates, therefore, 86 are at the present time directly related to agriculture and forestry work in some one of its many phases. We feel that this is a very unusual record and it is one of which we are very proud.

SECOND GIFT FROM SILK ASSOCIATION OF AMERICA

Shortly after receiving word from the Silk Association of America that they had appropriated up to Gold \$4,500 for a mulberry orchard, a cable was received through Mr. C. J. Huber, General Manager of the Shanghai International Testing House, Shanghai, and China representative of the Silk Association of America, to the effect that an appropriation of G. \$4,000 had been made by them for the general expenses and development of our department of agriculture; a most timely and much appreciated gift.

EXTENSION DEPARTMENT ACTIVE DESPITE DIFFICULTIES

Mr. Chow Ming-i of our department of extension has been in the north since October 11th on an extensive extension trip which has

included an English Baptist conference of Christian workers at Choutsun, Shantung; the annual agricultural fair at Point Breeze Academy of the Presbyterian Mission, Weihsien, Shantung; two weeks work with Mr. R. A. Torrey, Jr., in his Ling-I field, Shantung; five days at Tsangchow, Chihli, in the field of the London Missionary Society; and early this month he will go to Kaifeng for an agricultural fair which is being organized by the agricultural department of the Kaifeng Baptist College. Mr. Chow's activities have been very greatly handicapped on account of the movements of the armies, to say nothing of the bandits, in the areas in which he has been at work.

Mr. Chen Yen-shan also of the extension department, has fared much better and is busy putting in a full six weeks program in Chekiang Province under the direction and with the co-operation of the Northern Baptist Mission.

A GIFT OF COMMERCIAL FERTILIZERS

A recent and much appreciated gift to the College of Agriculture and Forestry came from Arnhold & Co., Shanghai, in the form of one ton of nitrate of soda fertilizer and one-half ton of phosphate fertilizer to be used on the mulberry orchard which was recently given to the College by the Silk Association of America.

NEW BARN FOR RINDERPEST RESEARCH

In connection with Dr. Gibbs' research work on rinderpest, a new barn is being constructed near the University campus in which to carry on experimental work in the immunization of cattle against the much dreaded rinderpest.

NANHSUCHOW STATION DISTRIBUTING IMPROVED WHEAT

This last season about twenty-five piculs of improved seed wheat were distributed by the Presbyterian Station at Nansuchow under the direction of Mr. Harry H. White. Previous distributions of this wheat had given very satisfactory results, especially for the lake lands. A large area has been planted for next season's distribution to meet the increasing demands for it by the farmers.

IMPORTANT CHINESE PLANT EXCHANGE CONSUMMATED WITH UNITED STATES NATIONAL MUSEUM

Word has come from the Smithsonian Institution, Washington, D.C., that they have approved of a proposal made by the University of Nanking for an exchange of herbarium specimens of Chinese plants with the United States National Museum, which involves on the part of the University, sending to Washington a complete duplicate set of the Chinese plants now in the University Herbarium, and on the part of the United States National Museum, sending to the University a duplicate set of the Chinese plant collections now in their possession as follows: The Rock collection of nearly 10,000 numbers, 1920-1924; the first Wulsin collection, 1923, from Kansu and Inner Mongolia; the second Wulsin collection, 1924, from the mountain region between the provinces of Fukien and Chekiang, and the third Wulsin collection, 1924, from the North River region.

The exchange arrangement is on a continuing basis so that the University of Nanking will send duplicate sets of all its collections of Chinese plants to the Smithsonian Institution and the University will receive in exchange duplicate sets of such Chinese collections as may come to them. When the exchange of the present collections now in the possession of the United States National Museum is made, the herbarium of the University of Nanking will have one of the largest reference files of Chinese plants in Asia, the scientific value of which will be readily appreciated. It is needless to say that the University is very greatly delighted at the favorable outcome of our negotiations for the exchange.

THE UNIVERSITY HERBARIUM

The reference file of the University Herbarium on November first contained about 9,000 numbers, representing over 2,600 species, of mounted and authentically named specimens from various parts of China. There is in addition approximately 10,000 unmounted duplicates for sale or exchange. The identifications have for the most part been made by Dean E. D. Merrill of the University of California, College of Agriculture, formerly Director and Botanist of the Bureau of Science of the Philippine Islands. The grasses have been identified by Dr. A. S. Hitchcock, Agrostologist of the United States Department of Agriculture, and most of the ferns have been named by Dr. William A. Maxon of the United States National Museum. An index to the Chinese names of plants has been developed, so that it is possible for us to identify many of the plants by their correct scientific name as well as by the Chinese names which have been given to them. This index now includes over 1,430 Chinese names, applying to a somewhat smaller number of species. The collection of fungi including lichens now contains over 1,100 field numbers representing about 400 different species, of which 213 species of parasitic fungi have been authentically named and mounted.

The administration of the herbarium is provided by a curator, who is responsible for the collections, and by a herbarium committee to secure correlation and co-operation of the several departments. The curator at the present time is Mr. Albert N. Steward, botanist.

AMONG THE RECENT VISITORS

Among the recent visitors to the College have been the following; Dr. Henry H. Sweets, Secretary of Christian Education, Southern Presbyterian Church, Louisville, Ky.; Mr. J. W. Jones, of the U.S. Department of Agriculture, Director of the Biggs Rice Field Station, Biggs, California; Mr. Lewis Irwin, Presbyterian Mission, Nansu-chow, An., Dean K. C. Babcock, University of Illinois; Rev. Alexander Paul, Secretary of the United Christian Missionary Society of St. Louis, Mo.; and Dr. J. Russell Smith, Professor of Economic Geography, Columbia University.

IMPORTANT PLANT COLLECTION MADE IN SHANSI

During the summer an important collection of Shansi plants was made by Mr. Ling Kan of the department of forestry, who accompanied Mr. Lowdermilk and his party in connection with their Yellow River water shed run-off studies. More than five hundred different numbers were secured, with five to ten specimens of each number, making a very valuable addition to the University herbarium. JAN 18 1926

CHINA UNION UNIVERSITIES
CENTRAL OFFICE

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Co-Dean

January, 1926.

Number 20

LAST CALL FOR FEBRUARY CONFERENCE OF CHRISTIAN RURAL LEADERS

Will all those who are planning to attend the Conference of Christian Rural Leaders to be held under the auspices of the College of Agriculture and Forestry, February 2nd to 5th, please send in their names at once so that these may be forwarded to the Ministry of Communications to secure the special railway rates which have been granted.

The College of Agriculture and Forestry will provide entertainment in the University buildings. Out of town guests are asked to bring their bedding with them. Tentative programs for the Conference will be gladly sent to anyone who has not yet seen them. A very large conference is already promised.

DEAN RUSSELL, REPRESENTATIVE OF THE INTERNATIONAL EDUCATION BOARD INVESTIGATES AGRICULTURAL WORK IN CHINA

Dr. H. L. Russell, Dean of the Wisconsin State College of Agriculture, representative of the International Education Board, New York City, has been spending the past two weeks here investigating the educational work being carried on by various agricultural institutions in Nanking. The International Education Board, one of the Rockefeller Foundations, is interested primarily in giving opportunities for men now engaged in agricultural research and the pure sciences to fit themselves better for their work through a series of travelling fellowships and professorships. The Board is particularly interested in young men who have received a doctor's degree in agriculture and who are still under thirty-five years of age. Unfortunately this very largely excludes all agricultural workers in China at the present time. China in her agricultural science has not yet arrived at such high standards but it is expected that out of Dean Russell's investigations of the situation in the Orient, some plan may be devised whereby the International Education Board with its tremendous resources may be able to help solve some of the many pressing agricultural problems of China.

Dean Russell is accompanied by his secretary, Mr. Wyman S. Smith, B.S., former assistant to Dean Russell at the University of Wisconsin, and recently contributor to various American magazines.

THESE FARMERS CONSUME 60% OF THEIR PRODUCTION

A study made by the department of agricultural economics and farm management shows that the producers on 1534 farms in nine typical regions in China consume about 60% of the farm products which they raise. The other 40% are sold away from the farm. In other words, the producers on these farms produced only enough for themselves and three-fifths of a person in addition. This 40%, a small amount in actual quantity of the various products, goes to make up its share of the enormous agricultural exports from China each year, the main items in balancing China's increasingly large imports.

IMPROVED CORN SEED FOR DISTRIBUTION

From our 1925 field production of improved corn seed, the College will have about 100 bushels of seed for distribution this coming spring. A recent germination test by the department of agronomy of 10,000 ears show the very exceptional germination of 99½ percent. Small quantities of the seed will be sent to friends desiring to introduce it among the farmers, charge being made only for postage. Larger quantities will be charged for at market rates of ordinary corn.

This improved variety of corn has in previous years been sent to many parts of China and has given uniformly good results.

SECOND ANNIVERSARY OF NEWSPAPER

January 1st, 1926, the Agriculture and Forestry Newspaper Nung Ling Sin Pao, celebrated its second anniversary. On this date the list of subscribers numbered over 1800. During the last year the newspaper has shown a steady growth in its subscription list and we have every reason to feel that its value is becoming increasingly recognized among the literate people of rural China. Beginning with the forty-ninth issue on January 11th the newspaper will be published every ten days instead of twice a month as heretofore. Newspaper advertisements relating to agricultural matters will be accepted. It has been registered as a Class "B" Newspaper, with special franking privileges at the Chinese post office. Mr. Li Teh-hsing, a graduate of the College of Agriculture and Forestry, 1918, has been elected editor in chief and business manager and began work December 20th. He will devote his full time to the further development of the paper. The co-operation of all friends interested in the dissemination of helpful information among the farming population is greatly desired.

1,133,000 MICROSCOPIC EXAMINATIONS OF SILKWORM MOTHS

Week before last the department of sericulture finished its task of examining microscopically our spring and summer crops of silkworm moths which amounted to about 1,133,000 individuals. Some of the moths were examined two and three times so that the actual number of microscopic examinations was considerably greater than the number of moths. The eggs of moths that showed disease were destroyed and the good ones have been kept for propagating pur-

poses. The percentage of disease found in the 1925 silkworm egg crop has been about 16½, which is the lowest we have yet attained and is considered very good.

SILKWORM EGGS FOR DISTRIBUTION

Disease free layings of silkworm eggs are now being prepared for marketing this coming spring. The total number of disease free layings is between 950,000 and 1,000,000. After deducting for scant layings there will be for distribution about 45,000 standard egg cards of 20 layings each. These will be sold at from fifteen to twenty cents per card, depending upon the number of cards purchased at one time.

The department of sericulture is developing its own "chop" which we hope to get established among the farmers who use our eggs and in this way be able to conserve the demands which we are able to create from year to year for them.

OUR MONTHLY AUDIENCE ONE HUNDRED THOUSAND

Through the medium of our Agriculture and Forestry Newspaper and our traveling extension workers and bulletins, as the chief extension agencies of the College, we estimate that our monthly audience is around one hundred thousand people. With an every-ten-day issue of the Newspaper, the number will be considerably large than this.

THREE YEARS INCREASE IN STUDENT BODY

The gradual increase in our student body is clearly shown in the table given below. There is a greater demand for the graduates of the full college course than we are at the present able to meet. About twenty-five students of the present short course in agriculture and rural normal school will return to positions which they left in order to get the year's special study. The college courses in agriculture and forestry is given in English and the other two courses are given in Chinese. The admission requirement of the short course is senior middle school graduation, and of the rural normal school higher primary graduation. College entrance examinations are required of all candidates for college courses.

Year	Full College Course	Special Short Course	Rural Normal School
1923-1924	67	36	—
1924-1925	93	41	13
1925-1926	110	63	29

EXTENSION DEPARTMENT ADDS SECOND MOVING PICTURE OUTFIT

The demands for moving pictures in connection with our extension work has been so insistent that the department of extension has added a second moving picture outfit consisting of a Pathe projector and hand generator so that we are able to generate our own electricity as it is needed. The college of agriculture and forestry also has several reels of films describing its own activities.

SUMMER SCHOOL OF AGRICULTURE

Preliminary arrangements are being made for carrying on here in Nanking under the auspices of the college of agriculture and forestry a summer school of agriculture designed primarily for teachers of government and mission country primary schools. The summer school which the University has previously held is to become a part of the summer school of the East China Christian Educational Association so that the summer school under the direction of the College of Agriculture and Forestry will be confined strictly to rural interests. Formal announcements will be sent out at a later date.

RECENT PUBLICATIONS

Weather Records at Co-operative Stations by Mr. Walter C. Lowdermilk of the department of forestry, has recently been issued as *Agriculture and Forestry Bulletin*, Vol. 1, No. 10. After discussing the importance of weather records and the relation of weather records to schools, complete information is given with reference to three types of co-operative observatories in which are listed the various items of equipment needed, costs, and methods of recording the data. The bulletin also includes a bibliography and a list of firms supplying meteorological equipment.

The bulletin was written in the hope of securing the co-operation of a considerable number of schools throughout China in gathering very much needed and important meteorological data from various parts of China.

THE RESEARCH LIBRARY AT WORK

The Research Library is a department of the University Library and its staff are members of the faculty of the College of Agriculture and Forestry. It has had only a brief history of less than two years; but its origin extends back two years further to the Co-operative Work with the United States Department of Agriculture. It has now four members on its staff.

The aim of the Research Library is to make known both the extent and the content of the literature pertaining to agriculture and famine, especially in old Chinese works.

Up to the end of June, 1925, this Research Library collection amounted to 30,759 volumes of Chinese books, covering the following kinds: (1) official gazetteers; (2) other geographical works; (3) books on agriculture; (4) books on famine; (5) books on administration, economics, official duties, etc., all of them containing parts which deal with famine; (6) *Lei Shu* or encyclopedias; (7) *Ts'ung Shu* or collectanea which contain works on agriculture and famines.

**CHINA UNION UNIVERSITIES
CENTRAL OFFICE****Agriculture and Forestry Notes**

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

Edited by JOHN H. REISNER, Co-Dean

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Number 21

CONFERENCE OF CHRISTIAN RURAL LEADERS HELD

The Conference of Christian Rural Leaders was held in Nanking according to schedule February 2nd to 5th. In spite of its nearness to China New Year and the interrupted communications, particularly in the north, which kept quite a number of prospective delegates at home, there were 217 out-of-town delegates, of whom only 16 were foreigners. All meetings were held in Chinese. In addition to these delegates there were at each session many members of the faculty and student body of the College of Agriculture and Forestry and of the Nanking Theological Seminary. The attendance at the various sessions averaged about 250. Thirteen provinces and eighteen denominations were represented. There were a total of 29 ordained pastors, 84 preachers, 24 farmers, 3 business men, 35 teachers, and 27 students registered as delegates, not counting visitors.

The College of Agriculture and Forestry provided entertainment for the out-of-town delegates. Daily afternoon excursions were arranged so that delegates could visit the various College activities. So far as the College is concerned we enjoyed very greatly having the delegates here and appreciate the hearty interest taken in everything and the enthusiastic way in which the delegates entered into the conference. We hope that many new contacts have been established and that the services of the College as a result of the conference may be very greatly extended.

SUMMER SCHOOL OF RURAL TRAINING

The College of Agriculture and Forestry is planning to have a Summer School of Rural Training for four weeks during the summer, beginning July 7th and ending August 7th. This summer school supersedes the former University Summer School which has merged with the summer school organized and administered by the East China Christian Educational Association. The College of Agriculture and Forestry hopes to make this Summer School of Rural Training an annual affair. A charge of \$12.00 will be made to cover tuition, food, room, light, hot water and incidentals for the full four weeks. Special announcements are now being printed and will be distributed widely among the missionary body in China.

COOPERATION WITH THE NANKING THEOLOGICAL SEMINARY

The Nanking Theological Seminary has kindly consented to cooperate in the Summer School of Rural Training and will be responsible for the courses which are offered in religious education.

SUMMER SCHOOL COURSES FOR PREACHERS

In order to make the summer school work as concise and effective as possible, special courses will be worked out for preachers. One course will be on methods and material of extension work. Another course will consist of a study in rural sociology and economics, including rural cooperative organizations. Two courses will be in the form of daily conferences; one on rural religious ideals and practices, and the other on ruralizing country church work. In the afternoon there will be a number of elective courses, including courses in religious education, improvement of small grain crops, community health, etc.

SUMMER SCHOOL COURSES FOR TEACHERS

In order to help rural teachers in their school work, special courses have been worked out as follows: methods and materials for teaching elementary agriculture, nature study with practice in school gardening, nurseries, and improved crop demonstrations, using Mr. Griffing's agricultural readers and teachers' manuals. Another course will be on methods and material for extension work, and a third course will be on educational psychology and methods of teaching. The above courses will be required of all teachers. In the afternoon there will be a number of elective courses as indicated under the special courses for rural preachers.

ONE GOOD THING LEADS TO ANOTHER

The following letter received a few weeks ago from North Kiangsu is self explanatory, and I am sure will be appreciated.

"Formerly I was a farmer but now I am compelled to engage in a pawn-shop by the failure of my farm and the burden of my family. Since I subscribed to your Agriculture and Forestry Newspaper, I am very much interested in it and learn lots of new methods from it. Besides this, I should give my gratitude to you for your good silkworm eggs and cotton seeds. Both of these produce a very good yield, better than any other body along our neighborhood. This information was reported to me from my home a week ago. Now I have a very difficult problem to meet which I don't know whether you can help me to solve it or not, as I am so poor and uneducated in science, but I like to study some more. An earliest answer will be very much appreciated."

REPORTS OF THE CONFERENCE

Reports of the Conference have been prepared in both English and Chinese by the English and Chinese secretaries. The College is planning to publish both reports and we are hoping to secure the cooperation of the National Christian Council in having them widely distributed.

PASTOR AN EVALUATES THE CONFERENCE

Pastor An Tsi-ming of the Southern Presbyterian Mission, Hsuechowfu, said that the value of the Conference had been in turning the attention of the church more to the rural field and church. The change in program cannot be effected in a day. The College of Agriculture and Forestry and the Nanking Seminary should combine for training of rural preachers. And financial contributions, schools, missions, churches must give the rural church a more central place. (From report of Conference).

RELIGIOUS LIFE OF THE FARMERS

Pastor Sang Chen-tang, Presbyterian Mission, Tehtsing, Chekiang, in discussing the religious life of the rural people at the Conference said that the chief elements in it are: a. The worship of heaven and earth. Paper idols are bought for the 24 festivals of the year, sacrificed to and then burnt; b. Ancestor worship; c. The prayer of fear, chiefly to escape spirits. Magical methods of driving away the spirits (as in some places of Chekiang by pigheads) becomes quite a business. Magic formulas and prayers are used to drive evil spirits of disease and misfortune and the effort is sometimes made to drive the spirits to the Christian Church; d. The idolatrous festivals which are as much an opportunity for recreation as for worship. The ordinary farmer has no desire to become a Buddha or holy man; he will do just what is necessary to "get by" the evil spirits and secure the most material happiness. (From report of Conference).

THE RURAL CHURCH AND ANCESTOR WORSHIP

During the Rural Leaders Conference discussion on this vital topic Rev. K. T. Chung, made the following remarks which were heartily received. He said that the National Christian Council Committee on Home Education and Committee on the Indigenous Church are working on this problem. Bibles are now being printed with blank pages for family records, pictures, history, birthdays, etc. and records of weddings, deaths, marriages. The church can promote special ancestral memorial services at Easter, at Chinming at the graves and on special occasions. It can also start a memorial hall for church members. Ancestor worship is not a serious problem for the more highly educated and returned students as for the older type of people and the rural people. Country Christians are often excommunicated from the ancestral register and are not given further share in ancestral heritage or property. Formerly Christians could appeal for protection from such persecution under the toleration clauses in the treaties but the unwillingness of the church now to depend on the treaty rights increases the problem of the rural pastor. The church can promote special days for remembering ancestors and advocate thinking of ancestors and prayer services at the regular times of ancestor worship. (From report of Conference).

AN IMPORTANT FACTOR

On Wednesday evening of the Rural Leaders Conference the teachers and students of the College of Agriculture and Forestry presented a four-act play, "An Important Factor." The play opened with a farmer and some hands at work in a field. They are visited in turn by the di-pao or local constable, a fortune-teller, a priest and the landowner. All of these are intent on getting money. While some ruffian friends are joining them, a preacher appears. His fervent but abstract preaching of the gospel angers the farmers who drive him away. The scene changes to the farmer's home. It has been a poor year and the farmer is in debt. His wife and mother spend money against his will on the priest and fortune teller. The ruffian friends appear and ask for a loan. When it is denied, they make off with what little cotton the farmer has.

Finally the landowner and his agent appear and are ready to take the farmer to court for not having paid his rent when the preacher appears again. This time he makes a plea for the farmer, stands security for his rent payment the following year and secures

his temporary freedom. Then realizing his need for better agricultural training, the preacher takes a course at Nanking University, College of Agriculture and Forestry. On his return he distributes better seed and promotes improved farming in the community. He organizes a country fair at which the farmers exhibit their produce. The farmer landowner is asked to be a judge and unknowingly he gives the first prize for cotton and other produce to the farmer Wang he had wanted to imprison. Farmer Wang is now able to pay his rent. The last scene shows the rural, practical school which the preacher promotes in the community and which is attended by the children of the farmers he has helped through practical service motivated by the spirit of Christ. (From Report of Conference).

CONFERENCE EXHIBITS

There were quite a number of interesting and valuable exhibits at the Rural Conference. The Department of Agricultural Economics and Farm Management prepared an exhibit of literature in both English and Chinese made up largely of material from our library and from publications of the College. The Hankow Religious Tract Society and the Christian Literature Society of Shanghai both sent exhibits of literature, particularly adapted for rural use and in addition there were a number of commercial firms who had exhibits of literature dealing with agriculture and rural life. There was also an exhibit from the Daily Vacation Bible Schools of China and the National Council on Health Education. Practically all of the departments of the College of Agriculture and Forestry had exhibits illustrating the work which they are doing and particularly of that which was available for country workers including teachers and preachers. The departments of agriculture of the Kaifeng Baptist College and the Presbyterian Mission Station at Nansuchow, Northern Anhwei also had interesting exhibits.

CONFERENCE DELEGATES ENTHUSIASTIC PURVEYORS OF BETTER SEED

Hundreds of bags of improved cotton and corn seed and many sheets of improved silkworm seed were carried back from the Rural Leaders Conference by two hundred and forty-four delegates or visitors into fifteen provinces. Forty bushels of improved corn seed was included in the distribution, besides a large quantity of cotton seed.

AFTER THE CONFERENCE WAS OVER

The following paragraph is taken from a letter from a foreign delegate to the Conference written some days after he had returned home.

"It was a great week at a great conference. I enjoyed it all. I have talked with our Chinese delegates and feel sure that there has been a change in their philosophy that will slowly but surely bear fruit in our district."

AGRICULTURAL GARDENS BUSY

From the way orders for seeds and nursery stock are coming in to the office every day it is quite evident that the services which are performed in connection with our nursery and seed room are being appreciated more than ever before. One big difficulty is in keeping up with the demand which for some items is much greater than we are able to meet.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
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SERICULTURE SEASON IN FULL SWING—25,000,000 MEALS SERVED DAILY

The sericulture season is in full swing. It started with the hatching of 800 egg cards of 20 layings each from which were saved 35 ounces of baby silk worms. These 35 ounces of baby worm constitute somewhere around 3,000,000 individuals. For the first two weeks they have been fed eight times a day. This is somewhat smaller number than we reared last year, but we are hoping due to more efficient methods of handling the crop and a smaller incidence of diseased moths, to end the season with a production equal to the 1925 spring crop. Last year our gross layings of eggs amounted to 1,240,000 and after examination of the moths under the microscope and further selection of only the best layings, we had a net total of 800,000 layings of high grade, saleable eggs. The sericultural building, a gift of the Silk Association of America, is one of the sight places in Nanking during the silk worm and the egg laying season.

COOPERATION WITH THE CHINESE-FOREIGN FAMINE RELIEF COMMITTEE OF SHANGHAI

We are glad to announce a cooperative undertaking with the Chinese-Foreign Famine Relief Committee of Shanghai, a well-known famine relief organization which has been sponsoring the reclamation of the Hwai river. The project is in the form of a field study of the watershed conditions of the Hwai river and the establishment, with the cooperation of the Zi-Ka-Wei Observatory, Shanghai, of a comprehensive system of meteorological stations in the watershed area. This project is in charge of the research personnel in the Department of Forestry. The field party under the direction of Mr. W. C. Lowdermilk left Nanking the latter part of March and will return about the 10th of May. The College of Agriculture and Forestry is providing the personnel and the Shanghai Foreign Famine Relief Committee is providing the expenses of travel and the expenses incident to the establishment of the meteorological stations. The studies now being made should prove a very important contribution to the knowledge of the conservancy problems involved in this great undertaking.

PROFESSOR MYERS AND MR. SHEN ARRIVE FROM CORNELL

Professor C. H. Myers, a member of the Department of Plant Breeding of the New York State Agricultural College, at Cornell

University, the second Cornell representative in connection with the cooperative plant improvement program between Cornell University, the International Education Board and the University of Nanking, arrived in China on March 25th and is busily carrying forward the projects which were started last year. Professor Myers is accompanied by Mr. T. H. Shen, a student registered for his doctor's degree in plant breeding in the graduate school at Cornell. Mr. Shen received a scholarship from the International Education Board that enables him to accompany Professor Myers for this year's work in China. He will return to Cornell in the fall and there finish the requirements for the doctor's degree. We are very happy to be able to announce that Mr. Shen will be connected with our plant breeding work after he finishes his work at Ithaca. This is the first instance that we know of where a Chinese student studying in America has received an American scholarship to return to China for study and experience as part of the training for a degree in an American university. It is needless to say that the plan is an admirable one.

800,000 "GOLDEN BUTTERFLY" SILK WORM EGG LAYINGS DISTRIBUTED

A piece of work that has given us very real satisfaction this last spring has been the successful disposal of our improved disease-free silk worm eggs produced during the past year. 30,000 standard cards of 20 layings each, making a total of 600,000 layings of eggs, were sold to the International Committee for the Improvement of Sericulture in China. The International Committee in turn asked us to see that these eggs were distributed to the farmers in the general area of Wusih, which was done. In this we also had the cooperation of the Wusih Cocoon Guild and individual silk filatures in that city. In addition several thousand standard cards each were sold and distributed in Kiangyin, Changchow and Ihsing. We had orders of from a few cards to a thousand cards from other parts of China. Several orders of a thousand cards each were sent to several points in Anhwei. This year for the first time the Department of Sericulture adopted what is known as the "Golden Butterfly" chop, in order to conserve the good reputation in the various districts in which our eggs are distributed and in this way build up a permanent demand for them.

ANNUAL MEETING OF THE CHINA FAMINE FUND COMMITTEE

The annual meeting of the China Famine Fund Committee administering funds allocated to Yenching University and the University of Nanking for famine prevention work by the American Committee, China Famine Fund, was held in Shanghai on Wednesday, April 21st, to hear reports from these two institutions and to act on the budgets submitted for the year beginning July 1st, 1926. There were present: Mr. W. A. Main, elected chairman; Rev. Frank W. Rawlinson, acting secretary; Mr. J. B. Powell and Mr. J. E. Shoemaker.

A SUMMARY OF THIS SPRING'S IMPROVED SEED DISTRIBUTION

Our distribution of improved seed this spring includes 40,000 standard cards of improved silk worm seed; 1,000 bushels (16 tons)

of cotton seed of three varieties and 100 bushels of improved corn seed. About 30,000 mulberry trees of a good variety were also distributed. We shall harvest a large crop of three improved varieties of wheat the latter part of May for distribution to farmers for their autumn planting.

PROMISING OUTLOOK FOR SUMMER SCHOOL OF RURAL TRAINING FOR TEACHERS AND PREACHERS

Even before the announcements in English and Chinese of the Summer School of Rural Training for teachers and preachers were sent out, a good enrollment had already been assured by individuals writing in, after having seen early notices of the Summer School appearing in various periodicals. The course in religious education will be cared for by members of the faculty of the Nanking Theological Seminary. The courses being offered to both teachers and preachers will be made as practical as possible. The Summer School will last for four weeks, beginning July 9th and ending August 7th. A charge of \$12.00 will cover expenses of tuition, food, room, light, hot water and incidentals for the full four weeks. The present outlook indicates that it may be necessary to limit the number of registrations. It is suggested that missions or individuals make their registrations as early as possible.

OUR NEW 150 MOW MULBERRY ORCHARD

During the spring the College of Agriculture and Forestry has secured land for and has planted out 150 mow of mulberry trees. This new orchard meets a very great need. At the present time the Department of Sericulture is annually compelled to buy large quantities of mulberry leaves, in the care and production of which they have no control. This new mulberry orchard should not only materially reduce the cost of our mulberry leaves but by being able to cultivate it under our immediate direction there will be less danger of introducing infections into the silk worm crop. It will also be an important factor in making our egg production work more nearly self-supporting.

100,000 MULBERRY TREES GRAFTED

During the spring the Department of Agricultural Gardens grafted over 100,000 wild mulberry seedlings with cion stock from the best cultivated varieties. These seedling trees were raised from seed which was collected in May 1924 and immediately planted. These seedlings were in turn transplanted in the spring of 1925 and were grafted this last April. The grafted trees will be distributed to the farmers in the spring of 1927.

30,000 ROSE CUTTINGS MADE

This is the time of the year when we are busy making soft wood cuttings, particularly of flowering shrubs. During April more than 30,000 rose cuttings alone were made. Many thousands of cuttings of other shrubs have also been made in anticipation of the rapidly increasing demands for this class of nursery stock.

CORNELL-IN-CHINA CLUB CONTRIBUTES \$200 GOLD

A recent mail from United States brought a letter with a check for \$200 gold from the secretary of the Cornell-in-China Club, Mr. Buell Trowbridge, for use in fixing up the Student-Faculty Social Room in Bailie Hall, the new building of the College of Agriculture and Forestry. A room of this kind for social intercourse between students and faculty fills a very great need and this generous gift will help to make it possible to develop it in an attractive way.

RECENT VISITORS

Among the recent visitors to the College of Agriculture and Forestry have been the following members of the British Indemnity Delegation: The Viscount Willingdon, G.C.S.I., G.C.I.E., B.G.E., (chairman), Dame Adelaide Anderson, D.B.E., Professor Hu Shih, B.A., Ph.D., Professor W. E. Soothill, M.E., V. K. Ting, D.Sc., C. C. Wang, C.E. Ph.D., LL.D., and R. F. Johnson, C.B.E., (secretary); the following members of the Commission of the United Christian Missionary Society: Rev. Cleveland Kleihauer, Seattle, Rev. John H. Golden, Decatur, Ill., and Rev. Robert Simpson, Birmingham, Ala.; Rev. W. R. Warren, editor of the "World Call," St. Louis, Missouri; Mr. Fletcher Brockman, Associate General Secretary of the International Committee of the Y. M. C. A., New York and Shanghai; Mr. B. B. Chapman, principal of the Central China Teachers College, Wuchang; Mr. Gordon K. Middleton, in charge of the agricultural work at the Kaifeng Baptist School, one of our cooperators; Mr. H. G. Brown in charge of the Department of Education, West China Union University, Chengtu, Szechuan; Mr. E. C. Lobenstine, Secretary, National Christian Council of China, Shanghai; and Prof. Edwin G. Conklin, head of the Department of Biology, Princeton University, Princeton, N. J.

PUBLICATIONS

The following publications have been recently issued by the College of Agriculture and Forestry: Eleventh Annual Report of the College of Agriculture and Forestry and Experiment Station for 1924-25; Bulletin of Special Training Courses for Rural Workers offered by the College of Agriculture and Forestry, 1926-27; Circular No. 7, "Revaluating the Rural Church"; Circular No. 8, "Kernel Smut of Kaoliang and its Control"; Circular No. 9, "Plant Lice and Methods of Control"; Circular No. 10, "Rediscovering the Rural Folk"; Miscellaneous Series No. 5, "One of the Least," has been reprinted. A reprint has also been made of the annual report of the Department of Sericulture for 1924-25. These publications are available free of charge to any one wishing them.

THE EDITOR STUDIES RURAL PROBLEMS IN KOREA

The editor recently spent two weeks in Korea at the request of and in company with Mr. Fletcher S. Brockman, associate general secretary of the International Committee of the Y.M.C.A., New York City, studying rural problems in relation to the work of the Christian Church in Korea and particularly to the work of the Young Men's Christian Association.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Co-Dean

September-October, 1926

Number 23

ANOTHER COLLEGE YEAR OPENS

The College of Agriculture and Forestry, the Short Course and the Rural Normal School, along with all other departments of the University, opened September 7th. The applications for admission to the University colleges of Arts and Science and Agriculture and Forestry was greater than ever before in the history of the institution. Three times as many took the examinations for admission as the University was in a position to accept. The number of applicants for entrance into the One Year Short Course and the Rural Normal School also was greater than any previous year. Through a change of policy of the Short Course the number is being kept down to below 40, and we hope to be able to give this smaller number more personal attention and more field work. As this issue of the Agriculture and Forestry Notes is being written the total enrollment figures are not available, but will be included in the next issue. Enough information, however, is at hand to know that the full enrollment has been a record one.

SUMMER SCHOOL FOR RURAL WORKERS A BIG SUCCESS

The Summer School for Rural Workers held July 9th to August 7th in Nanking was, we feel, a very big success in spite of the handicap of very hot weather for more than half of the session. Two hundred and twenty-four students were registered from 14 provinces and about 15 denominations were represented. The largest single group in the Summer School were teachers of whom there were 84. There were 61 preachers. Among the teachers were a number who had been sent under government auspices. The American Church Mission with 25 preachers and 10 teachers had the largest group. There were 62 enrolled from Kiangsu; 55 from Anhwei; 26 from Shantung; 13 from Hupeh and from 9 to 1 each from the other provinces. There were also three missionaries, including one Y.W.C.A. worker, who attended the Summer School.

Cooperating with the College of Agriculture and Forestry were the National Council on Health Education, who were represented by Dr. Macklin of Nanking, and the Mass Education Movement, represented by Dr. Paul Fugh. The International Harvester Company put on a big demonstration of improved farm implements adapted to Chinese agricultural conditions.

There were excellent book exhibits by the Commercial Press, and Chung Hwa Book Company and the Christian Literature Society through their Nanking agencies. Arnhold and Company and Brunner, Mond and Company, Shanghai, sent up interesting exhibits of commercial fertilizers. The College of Agriculture and Forestry also had an exhibit of its own publications.

It is difficult in a short paragraph to summarize the actual work that was accomplished in the class room and field, but from letters

which we have received from various sources, from those who attended the Summer School and from missionaries who were interested in sending pastors and teachers, it is quite evident that the Summer School made a deep impression on many of those who attended. The two conference hours of the preachers' group on "Religious Ideas and Practices" and "Ruralizing the Rural Church Program" were full of ideas and suggestions and the interest and active discussion on the part of the preachers in these problems indicating their alertness and their thoughtfulness augers well for the future of the Chinese Rural Church. The Summer Institute of Crop Improvement which was a part of our Summer School work is accounted for below.

COLLEGE FACULTY WELL REPRESENTED AT THE THIRD PAN-PACIFIC SCIENCE CONGRESS

The College of Agriculture and Forestry is unusually fortunate in being so well represented in the Third Pan-Pacific Science Congress to be held under the auspices of the National Imperial Japanese Government at Tokyo, October 27th to November 16th. Mr. T. H. Shen, a member of the Department of Agronomy, will represent the Agricultural Association of China; Mr. W. C. Lowdermilk of the Department of Forestry, will represent the Society of American Foresters; Mr. R. H. Porter of the Department of Biology, will represent the Americal Phytopathological Society; and Prof. C. H. Myers, who has been spending this year in the University as Cornell's representative in our cooperative plant improvement project, will represent the American Genetic Association.

SUMMER INSTITUTE OF PLANT IMPROVEMENT

In connection with the Summer School for Rural Workers there was held a special Institute of Plant Improvement designed especially for the personnel connected with our cooperative plant improvement projects and the members of government agricultural experimental stations and agricultural schools. Twenty-three were regularly enrolled for full time work and in addition there were sixteen visitors who took part of the work. Of the twenty-three enrolled for full time, fourteen were from government agricultural experiment stations and agricultural institutions; six were from missions and three were advanced students in the College of Agriculture and Forestry. Of the visitors, six were from government experiment stations, and nine were students, including advanced students from Southeastern University and the College of Agriculture and Forestry.

We feel the Summer Institute was of very great value not only in strengthening our cooperative plant improvement project, but also in the influence which it had on the personnel and the methods in use at agricultural institutions and experiment stations under government auspices.

Special classes were offered by Professor Myers of Cornell, Mr. T. H. Shen and Mr. Porter. A number of special lectures were given by visiting experiment station workers and directors.

IMPROVED WHEAT SHOWS GOOD INCREASE OVER FARMERS' WHEAT

In a careful test made by the College along the road side near our experiment station outside of the city, demonstration plots of our three varieties of improved wheat grown side by side with the seed wheat secured from neighboring farmers, showed an average increase of 11.9%. This is a very significant increase although not so large as some of the increases reported from other individuals who used our seed last fall.

1925-1926 CROP IMPROVEMENT PLANTINGS

The total number of plantings for the plant improvement season of 1925-1926 for wheat, corn, kaoliang, rice, barley and soybeans at Nanking and at our cooperating stations at Wuchang, Kaifeng, Nansuchow, Yih sien, Weihsien, Wusih and Soochow, numbered 45,270 rows, either rod rows, head rows or plant rows.

COLLEGE REPRESENTED AT ANNUAL MEETING OF THE SCIENCE SOCIETY OF CHINA

Dean T. S. Kuo and Mr. Y. S. Chen of the Department of Extension were in attendance at the annual meeting of the Science Society of China held at Canton in August. Dean Kuo was elected chairman of the conference. He is also treasurer of the Science Society of China.

COLLEGE REPRESENTED AT ANNUAL MEETING OF THE AGRICULTURAL ASSOCIATION OF CHINA

Mr. Hsu Chen of the Department of Agricultural Economics and Farm Management was present and represented the College of Agriculture and Forestry at the annual meeting of the Agricultural Association held in Canton in August.

FIELD LETTER FROM MR. CHOW MING-I

The following letter was received from Mr. Chow Ming-I of the Department of Extension written from one of the villages which he was visiting in connection with the securing of improved seed demonstration cooperators and for the distribution of our improved wheat seed. The letter, which is of more than ordinary interest, follows:

"My dear Mr. Reisner: We can sell or exchange about 50 bushels of wheat in this area. We stayed at Kaochiaio village last night, where the people were more friendly to me than before. This was because they found our corn seed good which I had distributed to them last spring. We picked four elders who are Christian farmers to cooperate in our demonstration seed plots, and hope that more than twenty farmers will use our copper carbonate treatment for barley and wheat smuts. Kiangmingchen village has a bad epidemic of cholera now, and I caught an infection in my eye, so I am very anxious to get back, but I must get my work done. Otherwise everything is O.K.!"

LAST YEAR'S SILK WORM EGG PRODUCTION SHOWS SMALL PERCENTAGE OF DISEASE

Our Department of Sericulture has been busy since the middle of July making microscopic examinations of the 1,157,000 moths which produced our silk worm egg crop this spring. The incidence of disease is running between eight and ten per cent as against 16 per cent last year and 30 per cent the year before. We are very much pleased with the results of the microscopic examinations so far. If the present percentage holds up, it will give us a net production of approximately 900,000 disease-free saleable eggs for distribution in the spring of 1927.

MEMBERS OF FACULTY SPEND A BUSY SUMMER

There was very little vacation for any member of the faculty of the College of Agriculture and Forestry this summer. All members of the Forestry Department undertook field trips. Mr. Ip made a

study of forest conditions in Southern Kiangsu; Mr. C. T. Ren spent two months in the mountains of Northern Kiangsu; Mr. Lowdermilk secured very important data covering a large number of rains at Tsingtao on forested and non-forested areas, concerning not only the influence of vegetation on run-off of rainfall, but also secured data correlating the intensity of rainfall with rapidity of run-off. Mr. K. Ling accompanied Mr. Li and made extensive plant collections. Mr. T. I. Li made a trip into southern Shantung and also into Manchuria. Mr. Y. Chen is still in Western Hupeh.

A number of surveys were made by the Department of Agricultural Economics and Farm Management. Two trips were made by members of the Department of Agronomy to our cooperating stations in the latter part of May and the early part of August. Prof. C. H. Myers made a trip to Peking and spent a number of days with the members of the agriculture experiment station at Tsinghua College with whom the College of Agriculture and Forestry is cooperating. He also visited the agricultural work at Yenching University. Mr. R. H. Porter of the Department of Biology, during the summer visited our cooperative stations in connection with the plant disease control work which he has under way. Practically all of the members of the faculty who were not out on field trips took active part in the Summer School for Rural Workers.

PUBLICATIONS

Two Bulletins of the College of Agriculture and Forestry have appeared during the summer. Bulletin No. 11 deals with "Forest Destruction and Slope Denudation in the Province of Shansi" by Mr. Lowdermilk of the Department of Forestry, and was reprinted from the March 1926 number of the China Journal of Science and Arts. Bulletin No. 12 is a report of the Conference of Christian Rural Leaders held in Nanking, February 2 to 5, 1926 under the auspices of the College of Agriculture and Forestry, and a summary of the unpublished report of the Conference on Agricultural Education, held in Nanking, February 8 and 9, 1924, under the auspices of the Committee on Agricultural Education of the China Christian Educational Association.

450 BUSHEL OF IMPROVED WHEAT SEED FOR FALL DISTRIBUTION

The last harvest netted the college 450 bushels of three improved varieties of wheat, arrangements for the distribution of which are now being made. This wheat is particularly suitable for the area around Nanking and in the Yangtze Valley.

LOAN LIBRARY FOR RURAL WORKERS

During the summer the College of Agriculture and Forestry, in cooperation with the University Library, has worked out a list of thirty-six books to comprise a loan library for rural workers in China. The list includes books on Rural Church, Rural Sociology, Agricultural Economics and Rural Education. They have been chosen from a very large number of the best books that have appeared covering various lines of rural interests. These books will be available to any Christian worker in China under rules and regulations which are now being worked out.

It is hoped that through the use of this library Christian workers in China may be brought more closely into touch with some of the best books and facts relating to various phases of rural life. Such information is particularly significant at this time in view of the very rapidly developing interest in the problems and place of the Rural Church.

Agriculture and Forestry Notes

UNIVERSITY OF NANKING
COLLEGE OF AGRICULTURE AND FORESTRY
NANKING, CHINA

Edited by JOHN H. REISNER, Co-Dean

November-December, 1926

Number 24

STUDENT ENROLLMENT FOR THE FALL SEMESTER

The enrollment of Agriculture and Forestry students in the College for the present autumn semester shows a total of 127, distributed as follows: graduate students, 4; seniors, 8; juniors, 11; sophomores, 28; freshmen, 44; sub-freshmen, 32. This is an increase of 17 over the autumn term of 1925. In addition there are 46 students in our Special one year Course in Agriculture and 28 students in the Rural Normal School, making a total of 201 students under instruction.

ENTERTAIN NATIONAL CHRISTIAN COUNCIL WITH A RURAL PLAY

By request of the Committee on Rural Church and Country Problems of the National Christian Council, Messrs. M. I. Chow, T. H. Shao, F. Swen, and Y. W. Chang, members of the College faculty, presented a rural play in Martyr's Hall, Y. M. C. A., Shanghai, on the evening of October 18th. The play was a dramatization of Mr. J. B. Griffing's "One of the Least" which originally appeared as a College circular in both English and Chinese. Judged by the many comments made by the members of the annual meeting of the National Christian Council and other friends, the play was a good success and helped to make clearer the part that rural services might have in the work of the Christian Church in China.

FACULTY MEMBERS PRESENT PAPERS AT THE THIRD PAN PACIFIC SCIENCE CONGRESS

As noted in a previous issue, four members of our faculty attended the Third Pan Pacific Science Congress, held in Tokyo, Japan, October 30th to November 11th, under the auspices of the National Research Council of Japan. Professor C. H. Myers presented a paper, "A Program of Crop Improvement for China." Mr. T. H. Shen presented a paper, "Suggestions on Cotton Breeding in China." Mr. W. C. Lowdermilk presented a paper, "Factors Influencing the Surface Run-off of Rainfall." (Illustrated).

Mr. R. H. Porter, who was one of the English secretaries of the agricultural section throughout the congress and chairman of the second session of the agricultural section, presented three papers as follows: 1. "Some Aspects of Plant Pathology in China;" 2. "The Effect of Cooper Carbonate on Covered Smut of Hulless Barley;" 3. "Seed Disinfectants for the Control of Kernel Smut of Foxtail Millet."

PROFESSOR C. H. MYERS RETURNS TO CORNELL UNIVERSITY

Professor C. H. Myers left October 18th on his return to Cornell University after having spent about seven months in Nanking as the

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representative of the Department of Plant Breeding, New York State College of Agriculture at Cornell University, in connection with the triangular cooperative plant improvement project between Cornell University, the International Education Board and the University of Nanking. Dr. Myers made an outstanding contribution to the development of our plant improvement program. In addition to a heavy schedule in Nanking, he visited our cooperative stations at Nanhsuchow, North Anhwei; Kaifeng, Honan; Yihsien, Shantung; and Soochow and Wusih, Kiangsu, not only to inspect and advise on cooperative projects under way, but to help in the actual field work. He spent part of a week at Tsinghua College, Peking, in conference with the members of the Tsinghua Experiment Station in line with our cooperative agreement with this institution. Dr. Myers also carried a large share of the work in the Summer Institute of Crop Improvement held in Nanking last summer by the College of Agriculture and Forestry and without whom the Institute would have been impossible.

MAKING THE CUCUMBER SAFE FOR AMERICA

Last spring Mr. R. H. Porter, our plant pathologist, sent to Prof. I. E. Melhus, plant pathologist of the Iowa Agricultural Experiment Station, some seeds of the Chinese cucumber for the purpose of testing the resistance of this species to mosaic, a very severe and destructive virus disease throughout the United States. Observations made by Mr. Porter for two years in China indicated that the Chinese cucumber is quite free from mosaic. Recently the following very interesting note was received from Dr. Melhus: "You will be interested to know that the cucumber that you sent us proved immune throughout the season to mosaic. This is a very unusual find. I know of nothing that has happened to the cucumber mosaic problem since the disease was first found which bids fairer to the future of mosaic control than the finding of this variety."

DEPARTMENT OF SERICULTURE TAKES PART IN INDUSTRIAL EXHIBIT OF THREE PROVINCES

At the invitation of the Special Commissioners responsible for the Industrial Exhibit in Nanking during October and November, of the products of the three provinces of Anhwei, Kiangsu and Chekiang, the Department of Sericulture contributed a fine exhibit, illustrating its work along the lines of improved disease-free egg production, distribution of improved silkworm eggs, and the production and distribution of improved mulberry trees. The exhibit was of interest not only because of its commercial significance, but because of its application of educational methods to the improvement of the silk industry and agriculture.

AN IMPORTANT CONTRIBUTION TO OUR KNOWLEDGE OF RURAL CHINA

College of Agriculture and Forestry bulletin No. 13, "An Economic and Social Survey of 150 Farms, Yenshan County, Chihli Province, China" by J. Lossing Buck, has just been issued by the Department of Agricultural Economics and Farm Management. The study not only goes into detail for almost every phase of the farm business, but it also gives much data relating to the farm family and population problems, including that of farm diet and relationship of size of farm to size of family. It contains 110 pages, 70 tables of valuable data and 24 illustrations. The expense of printing the bulletin has been so great that a cost charge of 50 cents Mexican or 30 cents Gold, postpaid, is being made. All students of economics, sociology and agriculture and all who would know something definite about rural China, will find this

study very illuminating. It is equally valuable for reference purposes or for consecutive reading and study. The general reader who abhors tables will find all important findings in the text. The study is by far the most detailed and comprehensive investigation of farm conditions that has ever been made in China.

LOAN BOOKS FOR RURAL WORKERS

Plans have been completed for making available to missionaries and rural workers throughout China a list of books dealing with various phases of rural life such as the rural church, rural sociology, rural economics and rural education. The rules under which the loan will be carried out and reviews of the 29 books that make up the first list are being issued as Bulletin No. 16, "Loan Books for Rural Workers." Quite a number of the books have already been received by the University of Nanking Library, who will administer the loans. These bulletins will be sent out some time during January.

This is an attempt on the part of the College of Agriculture and Forestry, with the cooperation of the University of Nanking Library, to make available to rural workers in China this important literature that has been rapidly developing during the last few years.

MR. T. H. SHEN TO RETURN TO THE COLLEGE

We are happy to announce that Mr. T. H. Shen, a graduate student in plant breeding at Cornell, who accompanied Professor C. H. Myers on his trip to Nanking and has been working under the latter's direction in connection with our cooperative crop improvement program and who has returned to Cornell to complete his work for the Ph.D. degree, has accepted a position in plant breeding in our Department of Agronomy, and will return to Nanking next autumn to take up his new work. Mr. Shen was granted travel expenses and an allowance by the International Education Board, New York City, to make possible this year's practical work in China under Dr. Myers' direction.

SEVEN NEW CHINESE PLANTS

Word has come from Dr. E. D. Merrill, Dean of the State College of Agriculture, Berkeley, California, formerly Director of the Bureau of Science of the Philippine Islands, that in a collection of plants sent to him recently by the division of botany for determination, there were seven plants that were new to China and had not been hitherto reported or described. Dean Merrill has for the last five years made all determinations of the species of plants in our herbarium which has grown rapidly since his visit to Nanking in 1922 when he aided in the reorganization of the herbarium, which has grown into one of the largest in China.

EDITOR MAKES AN EXTENDED TRIP NORTH

During the latter half of September the editor of these Notes had the very great pleasure and privilege of visiting in North China a number of mission stations where agricultural work is now being actually undertaken, or contemplated, including South Shantung Industrial School, Yihsien, Shantung, of the Presbyterian Mission (North); the Methodist Mission, North, at Taian, Shantung; the School of Theology of the Shantung Christian University, Tsinan, Shantung; the Porter Middle School of the American Board Mission at Tehchow, Shantung; the London Missionary Society, Tsangchow, Chihli; the agricultural demonstration being made by Dr. Charles A. Stanley, American Board Mission, at Tientsin; the American Board Mission work at Tunghsien, Peking, and the Department of Agriculture at Yenching University, Peking. Opportunity was also taken to visit the Agricultural Experiment Station at Tsinghua College.

One of the outstanding impressions of the trip was the growing interest in agricultural work on the part of the many church and mission leaders visited and the conviction that ways and means must be found for the rural church to meet more adequately its responsibilities for serving the every day needs of the rural communities of which it is a part.

RECENT PUBLICATIONS IN ENGLISH

The following Bulletins and Circulars have recently been issued by the College of Agriculture and Forestry:

Bulletin No. 13, "An Economic and Social Survey of 150 Farms Yenshan County, Chihli Province, China." (50 cents). By J. Lossing Buck, M.S.A.

Bulletin No. 14., "Flacherie or 'Wilt Disease' of Silkworms." By Chas. S. Gibbs, Ph.D. and Chen Ken, B.S.

Bulletin No. 15, "A Glimpse at the Rural Church and Rural Needs in China." By Frank W. Price, B.D.

Circular No. 11, "Nematode Disease of Wheat and its Control." By R. H. Porter, M.S.

Circular No. 12, "Planting the Church in our Land."

Circular No. 13, "Notes on Rose Culture." By M. L. Hancock, B.S.

The above publications will be sent free on request, except Bulletin No. 13, as indicated.

RECENT PUBLICATIONS IN CHINESE

Bulletin No. 30, "Comparative Study of Farm Tenancy in Quinsan, Nantungchow and Suhsien districts, Kiangsu." By C. M. Chiao, B.S.

Bulletin No. 31, "The Method of Locating the Rural Community." By C. M. Chiao, B.S.

Bulletin No. 32, "Practical Farm Book-keeping." By W. Y. Swen, B.S.

Bulletin No. 33, "The Method of Building County Roads." By C. M. Chiao, B.S.

Farmers' Bulletins as follows:

No. 13, "Model Farm Family."

No. 14, "Kaoliang Smut and its Control." By R. H. Porter, M.S.

No. 15, "The Control of Aphis." By R. H. Porter, M.S.

No. 16, "Practical Methods of Silkworm Rearing." By Kuh Ying.

Farmers' leaflet:

No. 1, "County Roads."

RECENT VISITORS

Among recent visitors to the College of Agriculture and Forestry have been the following: Mr. Robert E. Speer, Mrs. C. K. Roys, and Miss Gertrude Schultz, secretaries of the Presbyterian Board of Foreign Missions, New York City; Rev. Hugh T. Kerr, Member of the Board of Presbyterian Foreign Missions and Pastor in Pittsburgh, Pa.; Mr. Rundall M. Lewis, Canadian Church Mission, Kaifeng, Honan; Dr. G. W. Shepherd, American Board Mission, Kienning, Fukien; Mr. E. C. Peters, Soochow University Middle School, Shanghai; Dr. G. B. Roorbach, Professor of Foreign Trade, Harvard School of Business Administration, Cambridge, Mass; Rev. Arnold G. Bryson, London Mission Society, Tsangchow, Chihli; Dr. John H. Wylie and Mr. A. K. Whallon of the Presbyterian Mission, Paotingfu; Rev. Carl Reischauer, Presbyterian Mission, Tokyo, Japan; Dr. Walter T. Swingle, United States Department of Agriculture, Washington, D.C.; Mr. Maurice Holland, Director, Division of Engineering and Industrial Research of the United States National Research Council; Prof. Griffith Taylor, F.R.G.S., of the University of Sydney, Australia, and Mr. Farwell Morris of Seattle.

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Extracts from

AGRICULTURE AND FORESTRY NOTES

University of Nanking
College of Agriculture and Forestry
Nanking, China

Edited by John H. Reiser, Co-Dean

1925

Signed up for Fifty Years

The University of Nanking through the department of forestry recently signed an agreement with the Christian Mission to Buddhists extending over a period of fifty years, whereby the department of forestry undertakes to reforest about fifty mow of their Ching Fen-shan property situated a few miles north of Nanking city. The area will be used for experimental forest plantings, using various tree species and mixtures, which will serve as a source of valuable data on reforestation problems in China. The Christian Mission to Buddhists plan to put their permanent buildings on this site so that the reforesting of the hills included in this property will not ^{only} add greatly to the setting for the mission buildings but will serve practical and scientific ends as well.

Making a Record

The spring silkworm rearing season came to a close when the last of 1,124,400 laying of eggs, each laying attached to its mother moth, had been tied up into bundles of 100 and now waiting to be tested microscopically for pebrine during the summer and autumn months. The spring crop, undoubtedly, represented the largest single crop of cocoons and silkworm eggs that have ever been raised in China. The total production of cocoons amounted to ninety and one-half piculs, approximately six English tons. Seventy-five piculs of these cocoons were selected out and used for the production of silkworm eggs. The total number of

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silkworms reared was between 3,500,000 and 4,000,000. The silkworms ate a total of one hundred and sixteen tons of mulberry leaves. The weight of the silkworms at the time of hatching was only thirty-five ounces. About six weeks elapsed from the hatching of the eggs to the laying of the eggs again by the moths.

During the rearing season the largest number of laborers for any one day was two hundred and thirty and during the egg laying season for several days the number of women laborers ran up to four hundred and sixty and men laborers an additional twenty more. One day we began work at 5.30 a.m. and stopped the next morning at four o'clock with time out only for meals. Several days it was necessary to work from 5.30 a.m. to midnight. In spite of the long hours for several days for which extra pay was given, everyone kept smiling and happy all the while. The season has accordingly been a very successful one from every point of view.

Two Hundred Bushels of Improved Wheat Seed

Although our wheat harvest was greatly decreased on account of the drought of last fall, giving a very poor stand, our spring harvest gave us over 200 bushels of improved wheat from our pure seed fields. After retaining sufficient for planting our own pure seed fields this coming fall, the balance will be distributed to farmers. Inspection was made of the fields of wheat planted by the eighty-two farmers to whom improved wheat seed was given last year in the vicinity of our pure seed farms. It was a very simple matter to locate the fields of wheat grown from our improved seed as they were in marked contrast to the less uniform and less productive fields which were planted to the local varieties. This is what we modestly call a successful piece of combined experimental and extension work.

University Silkworm Eggs Prove Highly Satisfactory

The following paragraph from a missionary in Chekiang indicates that our disease-free silkworm eggs produced from selected cocoons are pleasing the farmers. He wrote: "A week ago yesterday I was at Kwo-lih in the "So-di" silkworm district. They are so pleased with Nanking eggs that they are getting ten dollars together to buy for next year."

Mr. Kuh Ying, head of our department of sericulture, during a recent trip to Wusih where we had distributed a large quantity of our silkworm eggs reported that cocoon merchants were paying \$20.00 to \$30.00 above the market price for cocoons raised from our tested eggs. He also reported that individual farmers were paying as high as \$1.50 per gin (\$1.20 per pound), about double the market price, for cocoons from our eggs which they desired to use for egg production purposes for their next year's cocoon crop.

Excellent reports were also received from several centers in Shantung where our eggs had been sent.

Gift of Mulberry Orchard

During the summer word was received from the Silk Association of America through their Shanghai representative, Mr. C. J. Huber, manager of the Shanghai International Testing House, that they had appropriated \$4,500 Gold to the University to purchase land for a mulberry orchard sufficient to supply all the mulberry leaves which are needed in connection with our sericultural work. Last year our silkworm crop consumed one hundred and twelve and a half tons of mulberry leaves. Inasmuch as this was one of the outstanding needs in connection with the further development of our improved silkworm egg production work, it is especially appreciated.

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0533

Sheep without Shepherds

My fourth lecture was "How to change farmers and to help them." I recommended rural credit societies for solving the farmers' financial difficulties, people schools as a remedy for illiteracy, the extension of good agricultural products from technical institutes to farmers for improving their industries, every preacher himself working on the farms, taking an interest in all farm operations and showing his sympathy and offering his help in order to bring Jesus into the life of the farmer, and thus do away with their superstitions. I named many of the gods that farmers have in their villages. I said, "Farmers feel that there is no help from other sources; that when they have locusts, they burn incense before the God of Locusts; when there is no rain, they worship the God of the Dragon; when there are no crops, they worship the God of the Land; and when in trouble, they pray to the Kwan-fu-tse of Wu-miao. Therefore, if we Christian preachers can help them to get rid of insects, reforest the land, improve their crops and teach them cooperation in everything they do, and how to be cheerful and happy in working together, these farmers will not go to these other gods again, but will come to Christ because they see we are working for the Lord Jesus and from him they will get all these blessings." Many of them were moved in heart at the end of the speech."

Extract from a lecture delivered by Mr. Chow Ming-I, of our extension department, at the annual Shansi preachers conference, Fenchow, June, 1925.

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0534

As Farmer Wang Sees it Now!

"On the 27th of July I went to Wukiang to see our demonstration farm which is in charge of one of our short-course graduates, Mr. Li Chih-chiai. Our rural school has been closed for summer vacation and the students are all helping in their homes. Mr. Li and I went around to visit some of the farmers who have used our cotton seed. Our improved American Acala cotton is being more widely grown this year as we had distributed more than eight tons of seed this spring to the farmers. They are not only using our improved seed, but many also use our method of planting in rows, while ordinarily farmers plant their seeds by broadcasting. We also loaned our five-tooth cultivators to those who planted their cotton in rows in order to show them the value of planting in rows. It will save them a great deal of labor and that means a saving of much money. When we went to see them, they greeted us with smiling faces as their cotton is good this year. The weather so far has been favorable so the native cotton is also better than last year, but our improved cotton is much better than theirs. While we were talking with a farmer named Wang who was hoeing in the cotton field, another farmer also hoeing in his field beyond came over and yelled to me, "Sien seng, your cotton is very good this year." I said to him, "Why don't you grow our cotton?" He said, "I will grow your cotton next year," and then he asked me to reserve some seed for him. These two fields stand side ~~by~~ by side. The plants in the field sown with improved cotton seed are tall and full of flowers and bolls, while the other field planted at the same time with the native degenerate seed contains small plants and bears less bolls. Farmer Wang is very happy and said that he will grow our seed on his whole farm next year."

Extract from Extension Worker Chen Yen-shan's report.

0535

Important Chinese Plant Exchange Consummated With
United States National Museum

Word has come from the Smithsonian Institution, Washington, D.C., that they have approved of a proposal made by the University of Nanking for an exchange of herbarium specimens of Chinese plants with the United States National Museum, which involves on the part of the University, sending to Washington a complete duplicate set of the Chinese plants now in the University Herbarium, and on the part of the United States National Museum, sending to the University a duplicate set of the Chinese plant collections now in their possession as follows: "The Rock collection of nearly 10,000 numbers, 1920-1924; the first Wulsin collection, 1923, from Kansu and Inner Mongolia; the second Wulsin collection, 1924, from the mountain region between the provinces of Fukien and Chekiang, and the third Wulsin collection, 1924, from the North River region.

The exchange arrangement is on a continuing basis so that the University of Nankiang will send duplicate sets of all its collections of Chinese plants to the Smithsonian Institution and the University will receive in exchange duplicate sets of such Chinese collections as may come to them. When the exchange of the present collections now in the possession of the United States National Museum is made, the herbarium of the University of Nanking will have one of the largest reference files of Chinese plants in Asia, the scientific value of which will be readily appreciated. It is needless to say that the University is very greatly delighted at the favorable outcome of our negotiations for the exchange.

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1,133,000 Microscopic Examinations of Silkworm Moths

Week before last the department of sericulture finished its task of examining microscopically our spring and summer crops of silkworm moths which amounted to about 1,133,000 individuals. Some of the moths were examined two or three times so that the actual number of microscopic examinations was considerably greater than the number of moths. The eggs of moths that showed disease were destroyed and the good ones have been kept for propagating purposes. The percentage of disease found in the 1925 silkworm egg crop has been about 16 $\frac{1}{2}$, which is the lowest we have yet attained and is considered very good.

An Important Factor

On Wednesday evening of the Rural Leaders Conference the teachers and students of the College of Agriculture and Forestry presented a four-act play, "An Important Factor." The play opened with a farmer and some hands at work in a field. They are visited in turn by the di-pao or local constable, a fortune-teller, a priest and the landowner. All of these are intent on getting money. While some ruffian friends are joining them, a preacher appears. His fervent but abstract preaching of the gospel angers the farmers, who drive him away. The scene changes to the farmer's home. It has been a poor year and the farmer is in debt. His wife and mother spend money against his will on the priest and fortune teller. The ruffian friends appear and ask for a loan. When it is denied, they make off with what little cotton the farmer has.

Finally the landowner and his agent appear and are ready to take the farmer to court for not having paid his rent, when the preacher appears again. This time he makes a plea for the farmer, stands security for his rent payment the following year and secures his temporary freedom. Then, realizing his need for better

agricultural training, the preacher takes a course at Hanking University, College of Agriculture and Forestry. On his return he distributes better seed and promotes improved farming in the community. He organizes a country fair at which the farmers exhibit their produce. The farmer landowner is asked to be a judge, and unknowingly he gives the first prize for cotton and other produce to the farmer Wang he had wanted to imprison. Farmer Wang is now able to pay his rent. The last scene shows the rural, practical school which the preacher promotes in the community and which is attended by the children of the farmers he has helped through practical service motivated by the spirit of Christ.

From Report of Conference.

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