
INDUSTRIAL NOTES.

GARDENING IN DETROIT, MICHIGAN.

A very interesting report of the home and school gardening committee of the Twentieth Century Club of Detroit has been received. The report is gotten out in an attractive manner and is well illustrated with cuts showing actual operations in the school gardens. The report is of more than ordinary interest, as it emphasizes many features of our garden program. It is noted under recommendations that more attention is to be paid to home gardening. This feature of garden work has always been given major emphasis in the Philippines. The reports for last year show that 35,719 home gardens were cultivated by pupils in the public schools of these Islands.

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THE FARM LIBRARY.

A selected library consisting of twelve volumes treating of special farm subjects has recently been sent to all special agricultural schools. These are the first libraries of this nature to be started in the Philippines outside of Manila and it is expected that the books will be of considerable value to teachers and students in the farm schools and to up-to-date farmers of the community. The small library furnished by the Bureau should be the nucleus around which a more extensive library of this description ought to be developed. Agricultural and farm life papers should be secured and books suitable for home reading for both girls and boys should be purchased by the school at various times. See that the books are used. Have a well-thumbed, live, and growing library of appreciated books.

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THE NEW AGRICULTURAL TEXTS.

The new agricultural texts which are being prepared for the Bureau of Education by Mr. R. L. Clute, formerly instructor in agriculture at the Philippine Normal School, are rapidly nearing completion. These texts are being gotten out in three volumes. Volume I will treat of plant life, plant propagation, and gardening, and will be suitable as a handbook for teachers of gardening in the intermediate schools and as a text for pupils of Grade V in the course in farming. Volumes II and III will be suitable as texts for pupils in Grades VI and VII, respectively, of the same course. Mr. Clute, the author of these texts, has been directly interested in agricultural work in the Philippines for a number of years and the trend and thought of the books will be local in nature and suitable for present needs. Many subjects will be treated in such a practical manner that it will be possible to apply them to the needs of the Filipino farmers.

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FARM ARITHMETIC.

The Bureau of Education has under preparation a publication containing supplementary problems in arithmetic for pupils of the farm schools. It is the third of a series of similar publications, of which the texts relative to trade work and domestic science work have been published. Considerable difficulty has been experienced in gathering sufficient material of a suitable nature as the many local names and commercial terms in common use are different in the various localities. It has been planned to make the

problems purely thought problems, which will carry the pupils through some one or more of the actual processes which they must perform in growing, bartering or marketing farm crops. A new series of special problems dealing with the principal agricultural crops of the Philippines have recently been submitted by collaborators. These problems will fill a direct need as the farm boys will be taught to think along practical lines and to perform arithmetical operations of identically the same nature they will encounter in their life work. It is hoped to have the problems published by the opening of the next school year.

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TILLAGE AND FERTILIZATION.

Tillage makes plant food available for use and furnishes a layer of light top soil which forms a mulch that conserves soil moisture. According to an old adage, "Tillage is manure." A more correct expression and one that appeals to the pupils is this: "Plants must eat, and drink, and breathe, and have a sanitary environment." Thorough cultivation is a very important principle of agriculture.

The fertility and productivity of the soil may be increased by using decayed vegetable matter from the compost heap, by applying manure, by green manuring, and by rotation of crops. All manure should be saved. Liquid manure may be used especially in the garden when a rapid growth is desired. All vegetable matter from the field and garden should be plowed under, or rotted in a compost heap. Nothing should be burned except weeds bearing seeds and diseased plants. Legumes should be grown in rotation with other crops, in which case the larger the yield the more the fertility of the soil will be increased. (W. K. B.)

A USEFUL IMPLEMENT.

Nearly all the work in the home garden must be done by hand, although in many cases animals will be available for plowing. It is desirable that the work be done rapidly, easily, and effectively, particularly when gardening is carried on as a home industry. The hand wheel hoe and cultivator makes this possible and should come into general use. It should be considered indispensable in every large garden and on every small farm. It can best be operated by two persons, one holding the handles and one pulling. Boys think it is great fun to use it. Weeds are uprooted and the topsoil is left light and fine, thus



Schoolboys using a garden plow—Philippine Normal School.

forming a surface mulch which conserves moisture. Two boys can easily cultivate a field plot, 10 by 10 meters in one-half of an hour. Fortunately the hand wheel hoe and cultivator is inexpensive and within the reach of almost every Filipino family. Probably many schools will be able to purchase it with funds obtained from the sale of vegetables.

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GARDENING AT THE TEACHERS VACATION ASSEMBLY.

As in past years the teachers of gardening will have the opportunity to study their work in the Vacation Assembly, but the form of instruction will vary somewhat from that of previous years. This year the

course will be conducted as a training course for teachers who themselves will be instructors in the division normal institutes when they return to their various provinces. In this manner it is hoped to introduce into all divisions a uniform course in gardening based upon the garden requirements of the Bureau of Education. The plan is excellent and will undoubtedly bring forth material results, as all teachers will be reached with the same practical lessons without an additional force of special institute instructors.

Teachers, who for various reasons are unable to attend the Vacation Assembly, will before the opening of their schools next year have an opportunity to receive direct instruction in the practical line of gardening which they teach. Courses will be given in primary gardening, intermediate gardening, and school ground improvements.

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TRAINING TEACHERS FOR FARM SCHOOLS.

As the number of authorized farm schools increases the scarcity of qualified teachers for handling the work is felt. While teachers may be secured who have been educated in technical schools in other countries, they often find considerable difficulty in applying their training to local conditions. A need for qualified agricultural teachers who are thoroughly acquainted with local conditions and the needs of the people is apparent. To partly overcome this deficiency and to make the work more uniform at all schools, courses for training farm school teachers have been announced as a part of the next Teachers Vacation Assembly, which will be held in Manila during the coming vacation.

This is the first attempt to give such a course in the Philippines but it is believed that the bringing together of these teachers and placing

them under qualified instructors will be the means of securing definite information relative to the conditions which exist at the various farm schools. The teachers themselves will also receive material benefit in the form of details for organizing their classes, planning the supplementary work and in laying out the field work and the work in farm mechanics.

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TEN-DAY COURSES IN AGRICULTURE.

Winter institutes for farmers, at which ten-day courses in all kinds of rural subjects are offered, are becoming a regular feature of educational work in Canada. For several years such an institute has been in operation each winter at Truro, Nova Scotia. Last year the attendance at this place numbered about 400, of whom 100 were from Prince Edward Island and a large number from New Brunswick, these two provinces subsidizing all of their inhabitants who wish to attend. Recently Prince Edward Island has established an institute of its own at Charlottetown. The courses offered here include live stock, poultry, horticulture, soil cultivation, seed selection, and dairying besides women's courses in housekeeping, domestic science, etc. These courses are given free to all inhabitants of the island who care to take advantage of them, and attendance is further encouraged by a bonus of \$5, together with free transportation, to anyone who makes prior application and then completes a course satisfactorily. No examinations are held, the pupils being only required to give intelligent interest throughout the lessons; thus the older farmers, as well as the younger, are encouraged to attend. The courses, which are as practical as possible, are given by experts from all parts of Canada. (Scientific American.)

YAMS—TUGUÉ AND UBI.

In most sections of the Philippines the time for planting yams is during the months of March and April and all teachers should make arrangements for having the yams planted during these months. Teachers undoubtedly remember their last year's difficulties in trying to secure yams for planting in the school gardens in order to meet the requirements of the Bureau. Were you able to meet this requirement? If not, why? You probably also recall your excuse that yams could not be secured at that season or that they would not grow if planted. The same requirement will have to be met next year and this excuse will not apply. Secure your yams now and have them planted both in the home gardens and in the yam plot in the school garden. Do not wait until the opening of next school year when it will be too late. In planning your work learn to anticipate the conditions which must be met. In this manner you become efficient as an instructor and also have the personal satisfaction of knowing that your work is successful. There is more fun when riding in the front seat of a farm cart.

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THE GARDEN DURING VACATION.

Many teachers and pupils think that the garden work closes with the school year. Fences surrounding the school gardens and home gardens are permitted to be destroyed and at many homes the home gardens entirely disappear. The correct type of gardening demands that the work be well looked after and that the beginning of the vacation should be the beginning of the next year's work. The school garden should not be neglected and allowed to grow up in weeds. On the last day of school it should be clean. Some two or

three weeks before the close of the school, the gardens should be planted to sweet potatoes or some legume. If the ground is properly prepared and one of the suggested crops planted and given some attention, the ground will be entirely covered with the vines. The garden will have a presentable appearance during vacation and the soil will be free from weeds and in good condition when the school year opens. In addition to this, material returns in the form of the harvested vacation crop will be secured.

Different plans should be laid for the home gardens than for the school gardens. The school garden is communal work in which each individual student has only a limited interest and responsibility. The plan for the use of a cover crop demands but little attention and is justifiable for the school garden but not for the home gardens. The teacher should see that when the school closes the home gardens of the boys are in as good condition as at any time during the school year. Plans should be laid for having vegetables grown during the vacation as the home gardens are a source of food supply for the people as much during vacation as during the school year.

Do not let your home gardens become neglected! The boys should be enthusiastic in their work and every home garden made a permanent garden. Ask yourself the questions, how many of the home gardens will be kept up during vacation? How many are now properly planted and well cared for? The correct answers to these questions determine your efficiency as a garden teacher.

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GARDENING IN OTHER COUNTRIES.

It may be of more than ordinary interest to teachers to know something of the garden work of other countries.

Both Austria and Sweden promulgated imperial laws in 1869 relative to gardening. In Austria it was prescribed that a garden should be established at every rural school. In 1894 there were 4,670 school gardens in Sweden. There has since been a reduction of a half through the introduction of manual training.

As early as in 1814 certain German states required garden work for pupils. This work has been rapidly extended. The emphasis given gardening varies in the different sections of the country.

Switzerland has subsidized school gardens since 1885. It is stated that school gardening has given a remarkable impetus to vegetable gardening at large.

Since 1887 no plan of a rural school building to which the State was to give aid was accepted in France unless provisions were made for a garden. These gardens are not entirely educational in scope as the products are expected to materially increase the teacher's salary.

In Russia the work began in 1887 but progressed slowly. In 1902 it was stated that 52,000 children had small gardens of their own. Fully one hour a day is given to the work.

In Norway where the summers are so very short certain schools have gardens but no special governmental aid is given the work. Special statistics are not available.

The work in England has progressed slowly. In the populous agricultural country of Wales, it was reported that in 1898 only 31 boys had an opportunity to study gardening at school. In 1905 it was reported that 32 counties of England had gardens in connection with the schools. In recent years greater emphasis has been given the work.

In Ceylon gardening of a very practical rather than educational nature is carried on in connection with the schools. The actual grow-

ing of products takes precedence over the less practical features.

In Australia gardening has recently been taken up as a regular function of each school. The work is being rapidly extended in some states.

The garden movement began in 1904 in Canada. It is closely allied with the "Macdonald movement." Many provinces grant special state aid to schools which maintain gardens.

Most schools in Porto Rico and Hawaii have gardens. Special emphasis is given practical work. Home extension work has not entered strongly into the course.

In 1691 the old Quaker, George Fox, willed a tract of land in Philadelphia for a playground and garden, but it was not until 1891 that the first real school garden of the United States was established at Roxbury, Massachusetts. Since 1900 the work has been rapidly extended in all States. It is estimated that there are 150,000 school gardens in the United States.

It is believed that our work in the Philippines compares favorably with that of the most progressive countries. We are free from many faults which are found in certain other countries. Gardening will never be mainly utilized as a trade as in certain European countries, nor will it be purely the educational feature of the "Macdonald Slates" of Canada. Likewise they will never be used as a means of increasing the salary of the teacher as in France. We believe that we are stronger and broader in our emphasis on the home garden as supervised and credited home work. The introduction of vegetable growing as a regular feature of home life in the Philippines is sufficiently comprehensive and important to occupy the best efforts of the schools for several years. Gardens have come to the Philippines to stay and likewise a better food supply for the people.