

NATURE STUDY.—No. XXXII.

THE SCHOOL GARDEN AND THE COUNTRY SCHOOL.

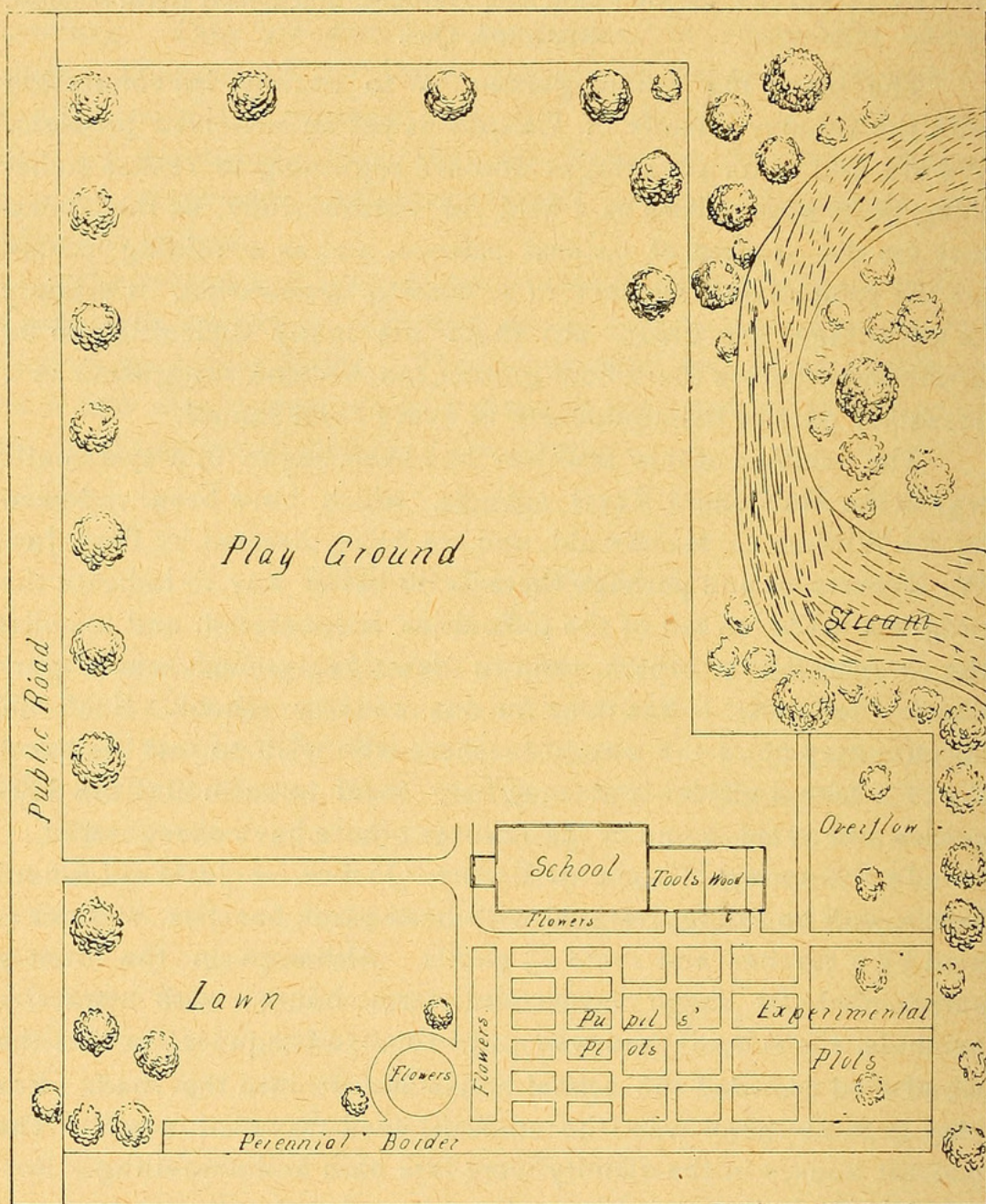
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The place the school garden is to occupy in connection with the country schools of Canada is yet an unsolved problem. We are told of its advantages and are beginning to realize something of its possibilities as a field for nature study, as the laboratory for the student of natural science, and as a training school for the progressive farmers of a coming generation. Certainly its advantages are great, but there are many difficulties to be surmounted before the school garden can become recognized as a necessary part of the equipment of every rural school.

The solution of this problem has been begun in a systematic way in the Macdonald Rural schools, which have been endowed by Sir William C. Macdonald, and are being directed by Prof. Jas. W. Robertson, and perhaps there is no better way to indicate the progress made, to tell of the difficulties encountered, and to enlist the co-operation of others, than to describe one such school garden and tell what it has done for one country school. Such an account may point the way to teachers who wish to test the benefits of a school garden and may help them to surmount the difficulties and avoid some of the failures others have encountered.

In the spring of 1903, at Brome, Quebec, a little red school house, dull and dingy, seated with hard plank benches, was occupied by a teacher and some 25 pupils. Although in the country surrounded by large farms and farm houses with attractive grounds, the school yard was only four rods square, so that the wood shed crowded the school house almost into the road. For play ground there was the smooth, well travelled road. The poorest houses in the vicinity were less bare and uninviting. Fortunately the soil was fertile, well cultivated and with good natural drainage, so that the problem was not complicated by the question of moving to a locality where soil suitable for a garden could be obtained.

An acre of land immediately adjacent to the original school yard was bought and fenced by the Macdonald Rural School Fund, and plans for a suitable play ground and a school garden



Macdonald Rural School, Brome, Que.

were begun. This aroused the people of the school district to action, and they determined that, as suitable grounds had been provided, they would not have the front door of the school house

open into the street; so the school house was moved 100 feet back from the road and the wood shed placed behind it; both were painted and modern desks were placed in the school room.

These changed conditions made changes in the garden plan necessary, and an effort was made so to lay out the grounds that they might with advantage be copied by other rural schools in making the school environment a potent factor in promoting the refinement, courtesy and happiness of the pupils.

The trees fringing the banks of a stream made a good back ground for the whole. As one enters the gate a straight path leads directly to the door. On the left is the main play ground clear of trees except in the corners and along the sides, while on the right is a smooth lawn with trees which in a few years will make it cool and shady. Beginning towards the road, a border runs along the fence to the back of the garden, now well filled with perennials brought by the pupils and donated by friends. Beds of annual flowers front the garden and border the school house. Immediately back of the flower border come the vegetable plots, one for each pupil, while still farther in the rear are a few experimental plots, a few young fruit trees and extra space for coarse growing vegetables.

This arrangement provides a good open play ground, a pleasant bit of lawn and a garden convenient in size and design, the whole surrounding the school building so as to make an attractive picture. At a very small expenditure the school and its surroundings have been made cheerful and beautiful, in striking contrast to their former desolate condition.

The flower plots are under the charge of the older girls, but all the pupils join in caring for them. During the past season, from May till October, there was not a week but saw some bloom to delight the young gardeners, and often large bunches of flowers were picked every day. Pansies were the first to come and the last to go. The crocus and tulip too were favorites on account of their early flowering. Sweet alyssum, sweet peas, Phlox Drummondi, balsams, asters, verbenas, nasturtiums, poppies and sunflowers have proved the most satisfactory of the annuals. A

few of the plants were started in window boxes in the school, but most of the seed was sown in the open ground.

The coming of autumn frosts did not end the enjoyment of the flowers ; as the heating did not permit window gardens at the school, the school flower garden was transferred to the pupils' homes. In October some of the more easily growing winter-blooming bulbs, such as paper white narcissus, Roman and Dutch hyacinths, and freesias, were potted at the school garden. These the pupils took home, and, treating them according to directions, they were soon able to report a fine lot of flowers. The pupil gardener was often so proud of his home-grown flowers that he would wrap up the pot and bring it to school to exhibit his success.

A most convenient size for the individual vegetable plots was found to be 4 x 10 feet for the younger pupils, and 8 x 10 feet for the older ones. Each pupil eight years old or over, was given a plot and allowed much freedom in choosing what should be grown in it; but radishes, lettuce, carrots, beans, cabbages, cauliflowers, beets and turnips have been most satisfactory. At the back of the garden, in an extra space, larger and more ambitious pupils grow corn, potatoes, squashes and cucumbers. All the produce of the individual plots is the property of their pupil owners and is removed and disposed of as each particular boy or girl decides, a wise restriction being that it shall only be removed when the instructor is present.

"But how," you may say, "is the school garden work done?"

While it is still winter, plans are made for the spring planting. These plans may be drawn to scale by the older pupils and will provide a good drawing lesson. Then, as warm days indicate the approach of spring, boxes of soil are placed in the windows and seeds are sown so that the plants may be well grown when spring has really come. This is also the best time to study the germination of seed and the growth of young seedlings; for, when the time for planting out of doors arrives, with it will come a profusion

of material and work to crowd the nature study hour to its utmost.

The garden is treated like the ordinary kitchen garden in the spring. It is fertilized with stable manure, ploughed, harrowed, and the services of a laborer are secured to assist in laying out the paths and removing a few inches of soil from them. Then the pupils assume ownership of their miniature gardens, level and rake their plots and sow them with the seed they have planned. Classes working together prepare the flower beds and sow the seed. During the planting season an hour or two each day are spent in the garden; or, if rain prevents work for a couple of days, the greater part of the afternoon is devoted to the garden as soon as the soil is dry enough to work.

Garden work is the most popular thing at school, and there is never any trouble in getting the garden planted and well cared for during the school session. The size of the plots is a troublesome question. Larger plots are more difficult to have kept clear of weeds during the summer months, but they promote interest on account of the larger material returns. The larger boys in particular wish to see a crop worth growing. Plots 10 x 16 feet have been well cared for by boys and girls 13 or 14 years of age.

After the planting season a half hour twice or three times a week keeps the garden clean and free from weeds. This time may be taken so as to interrupt the regular work very little. A little longer intermission in the afternoon, or closing the school room classes a half hour earlier, will provide plenty of time, and the book studies will not suffer; indeed, where school gardens have been started, the teachers have nearly always reported more interested pupils and a greater regularity of attendance, while parents at first opposed to the garden idea admit that it has not made progress in other subjects less rapid.

As the seeds have sprouted and the young plants have increased in size, the pupils have learned the conditions necessary for plant life, and, as they have seen buds unfold and leaves expand, the garden has provided material to be used in the class room as the subject of drawing lessons or English composition work.

The school garden has taken advantage of the love of activity so prominent in child nature, and by providing a field for the exercise of these activities has afforded an excellent opportunity for training the hand and the eye, and thus reaching the mind.

The care of the garden during the summer holiday has proved the most troublesome of all the school garden problems, and its solution is yet incomplete. Last summer very satisfactory results were attained by having the instructor and pupils meet once each week at the garden and spend two or three hours in caring for the plots. This vacation attendance was entirely voluntary; yet, so thoroughly were they interested in their work that there was a weekly attendance of 33 to 60 per cent. of the pupils enrolled. This was regarded as very satisfactory and sufficed to keep nearly everything in good order. One or two of the larger boys were usually hired to do any further work required to keep the weeds in check. Should the teacher be absent during the holidays, a hired caretaker for the summer will be necessary.

While it will not be desirable to abolish the summer vacation, where school gardens are established it may with advantage be shortened. The school should not close before the end of June, nor open later than the middle of August.

The commercial side of garden work has received no emphasis, although at one school a globe was purchased with money coming from the sale of vegetables, while many of the pupils have augmented their supply of pocket money by the sale of the produce of their plots.

The possibilities of the school garden as a field for nature study and as a treasury from which material may be drawn for class work in natural science, are as yet only touched upon. The drawing books contain representations of things from the garden, while diaries and reports of observations made, and experiments attempted, have given pupils practice in expressing their ideas in good English.

The experimental plots have done good work educationally. Plots of better varieties of vegetables and grain have attracted

attention of both pupils and parents by the larger yields thus obtained. The crop resulting from good seed has been compared with the produce of poor seed of the same variety, but the most satisfactory experiments have been those made with potatoes, both in comparing the different varieties and in showing the advantages of using the Bordeaux mixture to keep the plants free from disease.

The effects of spraying with the Bordeaux mixture were eagerly watched by the surrounding farmers, and the results were considered remarkable. In 1904 the sprayed plots in two gardens yielded 30 per cent more than the others, while in one garden the sprayed potatoes produced more than twice the quantity of marketable tubers dug from plots which had received no Bordeaux mixture. In 1905 spraying added over 10 per cent. to the crop in three gardens, 25 per cent. increase in one garden and 50 per cent. in another being the best results obtained.

Seeing potatoes grown under scientific treatment, which when dug yield over 100 bushels per acre more than those grown as their father's manage the crop, makes a more lasting impression on embryo farmers than any number of lectures or reports. This work in the school garden will bridge the chasm which has in the past existed between the experimentalist and the practical farmer, and, if these experiments with potatoes lead a fourth of the farmers in the district to adopt similar methods in their own fields, the community will be yearly enriched by cash returns many times greater than the cost of maintaining the school garden.

The aim of this part of the school garden work is not to teach technical agriculture but to lead to such an appreciation of scientific methods that pupils will come to regard the work of the scientist with favor, and be ready to accept his improved methods to aid them in more successfully meeting the conditions of modern life, whether that life be spent in the office, the workshop or on the farm.

The teachers in the schools where the gardens have been maintained for two years, have all declared that the results have surpassed their expectations, and they favor a continuation of the

work. It is true that it has added to the teacher's cares and responsibilities; but this has been more than repaid by the added interest and enjoyment it has brought into the school life.

As the pupils have planned their plots, have measured and staked them out, planted the seed and cared for the plants, they have become more skilful of hand and more accurate of eye, while working from a definite plan has trained the judgment and taught them to foresee the future. All these results would warrant the existence of school gardens, but more noticeable has been the response to the appeal made to the higher nature of the child.

As the school environment has been improved, there has been a marked change in the moral tone of the school. The pupils' attention has been turned to a consideration of the beautiful to the exclusion of many baser thoughts, and the resulting moral culture has found expression in more orderly behavior. A smooth bit of lawn and a lawn mower have proved themselves aids to good discipline, for the play hours are more rationally enjoyed on well kept grounds than on the old rubbish-littered premises, where the chief joy was often found in working greater destruction. In some schools there has been a very noticeable change in the attitude of the pupils towards the school room and grounds, and they now take pride in beautiful surroundings and care for them where formerly they sought but to make desolation more hideous. Some of the pupils have been led to attempt flower and vegetable plots at their own homes, and it seems hard to over-estimate the better training for good citizenship which pupils receive in such schools where school gardens have broadened the educational horizon and improved the school environment so greatly.



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