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## Our School Department.

## The School Garden As An Experimental Plot.

J. G. ADAMS, UNIVERSITY OF TORONTO

The school garden may be an advertisement for the school because of the success in producing vegetables and flowers. This feature will interest the pupils also and stimulate their enthusiasm for the work. But another feature of the plot should not be overlooked, that of making it experimental.

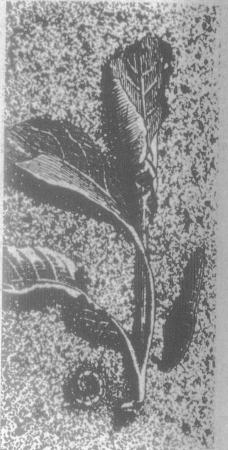
In the class certain principles and facts about growing crops will be given as something to be learned but which may be demonstrated only by growing these crops Certain methods of cultivation may be practiced in the section and accepted as the most desirable, but is there any experimental basis for so loing? Certain fertilizers are purchased from agents by the farmers of the community for particular crops. If the farmers understood the use of the simple fertilizers they should be able to mix their own fertilizers at less price than is usually paid for those offered ready for application. Farmers in every section are using seed which they have chosen largely by chance. They have not experimented to find whether the seed used is the best for their particular section. also using seed which is annually decreasing in production because of their not practicing selection of seed. It is said that leguminous crops may be more successfully grown in some places by inoculation of the seed before planting with cultures furnished by bacteriological laboratories. Has this been demonstrated to the farmers of the section. Or if some have tried it have they tried it as an experiment to determine whether this treatment is really beneficial or not. An almost endless list of topics for experiment might be suggested. Their practical value will not be difficult to see. But the habit of experimenting will be formed by those who are to be farmers be formed by those who are to be farmers in a few years and they will see that they can get much information for themselves which because it applies to their particular district is not found in tests or even in bulletins. The habit of observation and recording of results will be formed and its value demonstrated. And the and its value demonstrated. And the pupils will be given a true scientific outlook just as well as by a course in laboratory work.

## Insect Life In The School Garden.

A very interesting and instructive study of insect life can be made in the school garden without going deeply into the classification and long scientific names common to entomology. The life history of insects is the important thing to know and it is upon this that all economic entomology is based. During the life of an insect it may assume several different forms; and if we must combat it in order to protect crops, garden or orchard it is necessary to know at what particular stage in its career it is most open to attack. We try to destroy the potato beetle when it is in the slug or larva stage and so it is with the Coddling Moth, but its larva must be poisoned just as it is entering the blossom end of the apple for when it once enters the apple it is beyond all harm, unless the fruit be injured or destroyed. There is some stage in the life history of every insect when it is most vulnerable, so to speak, and this is why a knowledge of the transformations common to the various species is of so much importance. A complete school garden will teem with insect life and it is there that the very

elementary but useful information can

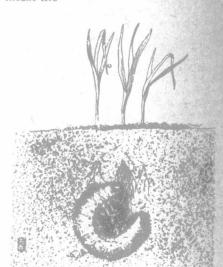
be imparted.
What child does not know the ordinary "June bug," or more correctly speaking, the May beetle. It comes thumping and humming into the room during the evening when the lamps are lighted and the doors or windows are open However, many who are well acquainted with the beetle are not aware that it is really the same insect as the white grul only in a more advanced stage. These May beetles or "June bugs" have a life history which covers a period of about three years. First we have the eggs laid by the beetle. The small white grubs hatch from the eggs and go down into the soil where they may remain for a period of two years. During their second



Characteristic Work of the Cut Worm.

year in the soil they come near the surface and destroy many plants, the straw-berry being one of the favorites. The grub finally goes into a pupal or resting stage from which it emerges a full-fledged beetle. The May beetle or June bug cannot be economically combatted with poson. It is by cultivating the land proper yand at the right time that this nest is

kept in check. Then again we have the cabbage worm which is also most destructive in the larval stage but it does its bad work all above ground so we can poison it when it is devouring the heads of cabbace in the garden. There will be dozens of different kinds and species of insects in the garden and a study of them will explain away many of the mysteries of



The White Grub at Work on Plant Roots.

