

## The Alfalfa Weevil

**Alfalfa Crop Subject to Insect Attack—Precautions Should be Taken**

Alfalfa is becoming one of Canada's important pasture and forage crops. This is especially so in Ontario, where its merits appear to be better recognized, although some of the other provinces are rapidly increasing the acreage devoted to this legume. A statement of the acreage in this crop during the past five-year period shows this increase:

	Acres 1915.	Acres 1919.
New Brunswick.....	1,178	1,486
Quebec.....	2,860	468
Ontario.....	60,000	146,790
Manitoba.....	3,671	5,181
Saskatchewan.....	2,626	11,526
Alberta.....	17,207	21,553
British Columbia.....	12,100	13,331

With the acreage increasing so rapidly it is but natural that the plant will be subjected to insect attack. The alfalfa weevil (*phytomyza pascuæ*) is the most serious of these pests. The injuries caused by the weevil are most apparent on the first crop of the season, when the larval feeding is at the maximum, and again after the cutting of the first crop, when the larvæ attack the stubble and prevent the second crop from starting. At this time, seen at a little distance, the field has a distinctly whitened appearance, caused by the leaves being more or less riddled and whitened owing to the killing of the tissues between the veins.

Various methods have been tried in an endeavour to eradicate the alfalfa weevil, such as dry harrowing until the surface was covered with a fine dust, but this was only partially successful, and the second crop was delayed and reduced. The Utah division of the Entomological Branch of the United States Department of Agriculture, after careful investigation, recommends the use of a solution of arsenate of lead, in the proportion of two pounds of arsenate of lead to 100 gallons of water. This, they claim, has been successfully used; it is cheap and easily applied. One hundred gallons of the solution per acre, finely sprayed on the first crop of growing plants, has been found effective in destroying the insects and protecting the crop.

As the weevil is migratory, it may become a pest in the alfalfa fields of Canada at any time. It would be wisdom on the part of alfalfa growers to be on guard during the coming season, as a little precaution may mean the saving of the crop.

### GROWING SWEET PEA SEED FOR ENGLAND

At the recent meeting of the Canadian Seed Growers' Association, Mr. Geo. H. Clark, Dominion Seed Commissioner, stated that the climate and soil of British Columbia were such that he anticipated the western province would become a large seed-growing centre.

As an evidence of this a recent report states that British seed houses have entered into contracts with seed-growers on Vancouver island, to undertake the cultivation of ten acres of sweet peas for seed. The British seed houses are supplying the seed, which represents the very newest and rarest varieties. It is further stated that the quality of the Vancouver Island seed is so superior that an unlimited number of contracts could be made by responsible growers.

## Salmon Shortage on Yukon River

**Future Supply may be Menaced—Floating Cannery Established**

Officials of the Department of Indian Affairs report that the catch of salmon at Yukon Indian centres last year was much smaller than usual, although, fortunately, the shortage has not been sufficiently acute to create serious conditions. The decrease in the catch of salmon is attributed to the operations of a floating cannery at the mouth of the Yukon river. The most disturbing feature is that the establishment of a large cannery at this point is likely to seriously effect the future fish supply in the upper waters of the Yukon. Last year's scarcity of salmon in the Yukon did not result in extreme hardship to the Indians, but it is pointed out that, had game been scarce at some of the centres, as occasionally happens, the situation would have been a very serious one. The effect was most pronounced at Rampart House, situated 200 miles up the Porcupine river, where there was almost a total lack of salmon last season and the Indians were unable to dry any for winter use. It is essential that the food supply of the Yukon Indian centres, of which salmon is a very important item, be not endangered by cannery operations of such a nature as to imperil this means of subsistence.

### 'CRIMINAL CARELESSNESS'

"The fire, which started in a waste-paper basket, is supposed to have been caused by a cigarette butt."

The above summarizes the cause. But for the fortunate discovery by a passing policeman at 11 o'clock at night, a valuable manufacturing plant would have been in ruins, a large number of employees would have been out of work, and considerable time would necessarily have elapsed before operations could be renewed.

Criminal carelessness was only offset by fortunate circumstances. A few minutes later and the fire would have made sufficient headway to ensure a complete loss.

The 1919 amendment to the Criminal Code provides that "Every one is guilty of an indictable offence and liable to two years' imprisonment who by negligence causes any fire which occasions loss of life or loss of property."

## Grasshoppers in Western Canada

**Outbreak Threatened in Prairie Provinces—Co-operation to Successfully Overcome the Pest**

In the Prairie Provinces of Western Canada, particularly in certain sections of Southern Saskatchewan and Southern Manitoba, millions of dollars worth of grain was destroyed by locusts in 1919. Following this outbreak, one of the most important of which we have record, enormous numbers of eggs of locusts were deposited by females of destructive species in late summer and autumn. These eggs have remained in the ground all winter. With favourable weather conditions for the hatching of these eggs during the approaching spring, there is every reason to expect an even greater and more widespread outbreak of locusts in the western provinces in the present year. Towards the end of March numbers of young grasshoppers were noticed in Southern Saskatchewan, but these were of coloured-winged species, which are not of economic importance. The two species, the eggs of which are expected will hatch in early May, are known as the Lesser Migratory Locust and the Pellicud Locust.

Both federal and provincial officials are in close touch with conditions generally, and, with prompt action from all concerned when the threatened outbreaks occur, there is no reason why the pest should not be kept within bounds.

In 1919, applications of poisoned bait saved thousands of dollars worth of growing crop. The poisoned bait which was largely used consisted of Bran, 50 pounds; Paris green or white arsenic, 2 pounds; molasses, 4 quarts; orange or lemons, 6 fruits; water, 5 to 6 gallons. In preparing the mixture the bran and poison are mixed thoroughly while dry. The juices of the oranges or lemons are squeezed into the water and to this is also added the pulp and peel after cutting into fine pieces. The molasses should then be added and, when dissolved, the mixture should be poured on the dry bran and poison, stirring the whole constantly so as to dampen the bran thoroughly. In the preparation of the bait it is wise to guard against breathing in the fine particles of poison. This may be avoided by tying a handkerchief loosely over the mouth and nose.

The bait should be scattered thinly by hand from a wagon or light rig, care being taken to prevent any large lumps forming. Early morning is the best time to spread poisoned bait so that the locusts will be attracted to it before they feed to any extent on growing crops. As they feed very little during cloudy, cold, or rainy days, bright, warm days should be chosen for scattering the bait. In badly infested areas it is frequently necessary to spread the bait at regular intervals of four or five

days before the insects are finally brought under control. In locust-infested areas, farmers should organize early in the season, so that when the young grass-hoppers appear in large numbers, poisoned bait may be prepared quickly and widespread application made at the same time. Prompt community action is of the utmost importance in dealing with an insect like the locust, which occurs in such enormous numbers and over widespread areas. As an instance of the value of community action, we have only to cite an experience in 1915, when about 30,000 acres of growing crop in St. Etienne-de-Gras and adjoining parishes were treated with poisoned bait within a period of two or three days, and as a result 95 per cent of the locusts were killed, and crops saved in some fields where, owing to continued outbreaks of these insects, nothing of value had been harvested for several years.

The Entomological Branch, Dominion Department of Agriculture, has issued a circular on *Locust Control in the Prairie Provinces*, copies of which may be had on application to the Chief of the Publications Branch, Department of Agriculture, Ottawa. This publication, which has been prepared by Mr. Norman Criddle, Entomologist-in-charge for Manitoba, discusses the kinds of locusts which are destructive in the Prairie Provinces, their habits, control and natural enemies.—Arthur Gibson.

## The Shelter Belt

The value of the shelter afforded by trees on a farm is not fully appreciated. Too frequently the settlers in a wooded district are not satisfied until all the trees are removed, and only when the country becomes generally cleared and the soil loosened up by cultivation do they realize the ill effects of the wind on their crops, live stock and personal comfort. Many who have made this mistake have later had to resort to planting and to wait several years to replace the shelter which nature had provided.

Belts of trees, judiciously placed, protect the soil from drifting and drying, afford desirable shade for stock, especially for young animals, and make it possible to grow many fruit trees and ornamental plants which cannot otherwise be grown in the open. This is especially true in the Prairie Provinces. The production of fuel can be made an important function of a shelter belt without reducing its value as a wind-break.

Settlers, especially in the wooded portion of the Prairie Provinces and Northern Ontario, should be strongly advised to leave strips of bush at least along the western sides of their farms, unless other locations are more suitable to the topography. Shelter belts should also be left around the buildings and gardens. A space of at least 200 feet should be left between the shelter belt and the buildings, to prevent the drifting of snow around the buildings.