

Danger Ahead.

We have heard several complaints of serious injury done to our clover in several parts of Canada. We abridge from the N. Y. Tribune the following article from the pen of Prof. Riley, the well-known Entomologist, and high authority on such subjects. It should be read with interest by every farmer. This new enemy to the very important forage plant which is the mainstay of our agriculture, will, we hope, receive due attention from the Commissioner of Agriculture and Canadian Entomologists. We will anxiously await their report on these insects.

There are a number of insects that affect clover more or less injuriously by feeding on the leaves; while one species, the clover hay-worm, attacks it when cured in mow or stack. There are two species in this country that have for the first time during the past year been observed to affect the plant, in New York more particularly. Both of these work in such a manner as to prove far more destructive than any of the clover insects heretofore known. These are what I have called the clover-root borer and the clover-seed midge. In September, 1878, I received roots of clover that had been ruined by a small beetle not before reported in this country as having this habit. The insect was found in all stages of growth, though the principal injury had evidently been done by the larvæ, which worked more particularly in the larger roots. These, in many cases, were entirely severed at the surface of the ground. The flower-stalks were also, in many cases, eaten into.

While the facts which I have been able to learn in relation to the insect's work in this country show that it attacks healthy plants, yet it is undoubtedly true that this beetle flourishes most in the roots of plants that have been injured and that have already begun to decay; bearing out in this respect, the well-known habits of other species of its family, which are known to prefer the bark of trees and the woody stems of plants that are sickly from one cause or another.

I have found the insect in all three stages, of larva, pupa and adult, up to the time of frost, though the perfect beetles at this season very greatly predominate. The insect hibernates in any of these three stages, and continues propagating as soon as the spring opens, the beetles issuing from the ground and pairing during the early spring months. The female then instinctively bores into the crown of the root, eating a pretty large cavity, wherein she deposits from four to six pale whitish elliptical eggs. These hatch in about a week, and the young larvæ at first feed in the cavity made by the parent. After a few days, however, they begin to burrow downward, extending to the different branches of the root. The galleries made in burrowing run pretty regularly along the axis of the roots, and are filled with brown excrement. The pupa is formed in a smooth cavity, generally at the end of one of these burrows, and may be found in small numbers as early as September. It is the custom in Western New York to sow the clover in spring on ground already sown to fall wheat. This is generally done while the snow is yet on the ground or while the frost is disappearing, one peck of seed being used to the acre. The clover is allowed to go to seed in the fall, and usually produces but little. During the second year one crop of hay and a crop of seed are obtained. It is during this second year that the injury of the Hylesinus is most observed. No experiments have yet been made with a view of preventing the injuries of this clover pest, and no other mode of prevention suggests itself to my mind than the plowing under of the clover in the spring of the second year, if the presence of the beetle is observed.

While the Hylesinus treated of above was proving so destructive to the roots of clover in Western New York, the seed itself, where the beetle was not working badly, was very seriously affected by the bright-orange larvæ of a minute two-winged fly, having both the size and general appearance of the common wheat-midge. Clover infested with these larvæ was first sent to me the latter part of last August by Mr. Snow, and, upon my subsequent visit, I had opportunity of studying the species in the field. It seems to have attracted attention more particularly during the last two years, and bids fair to become as serious a drawback to the raising of clover seed as the wheat-midge has, in past years, been to the raising of wheat.

The larvæ affect the heads of clover in the same well-known manner that the wheat-midge affects wheat, and in all essential life habits agree, so far as I have been able to learn, with that species. When full-grown these orange larvæ quit the clover heads, drop to the ground, and either work a short distance beneath the surface or hide under the dead leaves and other shelter that may be thereon. Here each one forms an oval, compressed, rather tough cocoon of fine silk, with particles of the surrounding earth or other objects adhering to the outside, thus rendering its detection extremely difficult. The pupa state is assumed within the cocoon, and when about to give forth the fly the pupa works itself out of its silken covering and to the surface of the ground. The flies begin to issue in September, and continue issuing all through the mild autumn weather and during the ensuing spring.

If the injuries of this insect should become serious, the clover-seed raiser will be obliged to abandon for a series of years the growth of this crop, as in no other way are we likely to be able to affect the multiplication of the enemy. The more thoroughly farmers combine in this course in any given district, the more effectual will be the eradication of the evil.

Buckwheat.

When sown on soil destitute of alkali, is poisonous, and has been the means of causing death, both in the human family and among domestic animals. It is generally sown on the poorest old worn-out land on the farm, and is thus sometimes rendered destitute of the very element that renders it fit for human food.

Have the observing agriculturists who read these columns discovered any evidence suggesting that buckwheat kills insects? According to The Farmer, of England, "many years practical experience has convinced M. Legarde" that this plant thus ploughed down when in blossom, not only serves the useful purpose of green manuring, but has the additional important effect of "killing white worms, grubs, ants, etc.," with which the soil may be infested, the destruction being due, as he supposes, to some poisonous principle in the plant itself or to the asphyxiating quality of the gas freely disengaged during the rapid decomposition of the succulent growth. He suggests that sowing rows of the buckwheat among grapes and digging in the green crop as near the vines as possible, might likely enough serve as a help against phylloxera. It would seem to be worth while for persons favorably circumstanced to make some experiments to test the possible value of buckwheat as an insecticide. If its haulm proves as efficient for this purpose as its grain is believed to be as a promoter of winter rash among those who breakfast regularly and heartily on the beguiling hot cakes of which it forms the basis, the fact should be widely known.—[New York Tribune.

BURNING RUBBISH.—If all the dead weeds, leaves, brush, and rubbish of the gardens, and the fields as well, be gathered and burned now, a large number of insects will be destroyed, most of which are troublesome. In examining a heap of rakings of the garden one may find eggs and larvæ or pupæ and mature insects of many kinds. Every tree, bush, and plant seems to have its peculiar pest, and the prunings of apple and pear trees, ornamental trees—for even the horse-chestnut harbors the oyster-shell bark louse—flowering shrubs, every curled and withered leaf, dead raspberry and blackberry vines, and all other refuse matter, shelter myriads of noxious creatures which live only to torment mankind. The usual Spring clearing and burning is, therefore, a commendable work, so long as it is kept within bounds. But the reckless firing of swamps and woods that is done every Spring is far from this; on the contrary, it is reprehensible in the highest degree, a crime that should be severely punished by law, for the most serious damage is done by the escape of the fire from its intended bounds into places where valuable property is endangered or destroyed.

Our mealy potato belongs to the same family with the deadly nightshade, and in its wild state was an insignificant plant, with little tubers not worth digging from the earth, or of eating when they were dug.

The Apiary.

Buying a Swarm.

BY CHAS. F. DODD, NILE, ONT.

Many who have written on this subject advised buying from a regular dealer in bees, in a movable hive, and it is perhaps the safest and best way. I find many, however, who wish to engage in bee-keeping who do not wish to buy off regular bee raisers who may be far distant, but prefer to buy a swarm from their neighbor, in the old bee-hive, and from that beginning grow moderately. And if I can in any way help those who are so disposed my efforts will not be in vain. If possible, buy them in the spring, about May 10th; there is then little or no danger of "spring dwindling," and the hives will contain less honey than earlier, and consequently more safely moved. Before starting for your swarm get a bellows smoker—that is half the battle gained at the outset, and many stings will be avoided—blow a little smoke in the entrance of the hive you wish to examine, turn the hive bottom side up, blow a little more smoke in, and begin your examination. See that the combs are built moderately straight, and that they are mostly worker combs; you will notice two sizes of cells, one considerably smaller than the other—the small ones are the worker, the large ones are the drone cells. See also that the hive is full of comb and nearly so of bees; blow smoke in whenever the bees seem disposed to rise; drive them down as much as possible, spread the combs apart and see that they are breeding, which you can tell by seeing cells capped over near the centre of the combs; they are rounded out, each one separately, and they have a brownish color. Do not make it a point to select the heaviest hive, as too much honey is sometimes detrimental to brood rearing. Now replace the hive on its stand, and any bees that are out will gather in; then invert the hive and tack a sheet of wire cloth on the bottom to give them ventilation, and carry them in a spring waggon, bottom up; you can drive at a good pace where the roads are smooth, and they will stand a journey of two or three days if they are shaded from the sun. On arriving home, put them where they are to remain, and give them a chance to fly immediately. If you wish to become successful and obtain the best results from them, you must transfer them into a good movable frame hive, and if you wish to secure a large crop of honey and increase your stocks rapidly, we would advise you to Italianize them, which you can do by removing their queen and replacing her with an Italian queen, and you will have a strong stock of Italians at work in six weeks.

HOP RAISING.—Here is a method recommended by a prominent New York hop-grower: Make a cavity in mellow and rich soil; place the cuttings on end, one at a place, with the eye upward and top of the cutting level with the top of the ground; cover about two inches with mellow earth, leaving a small mound; protect with brush. Stick a pole ten or twelve feet long near the hill and start the vine around it with the sun. Protect the hill in winter with a forkful of manure or straw. Cut the old vines off near or below the ground. About the middle of March cover again with mellow earth. The sound, and every season after, side shoots under ground must be cut off, leaving only the crown plant. The first vines after the first season are sometimes too rank and mellow; do not allow them to climb, but choose slender and green-looking vines, which are more fruitful.

Mr. Joseph Barnard, N. H., tells *The People* that the "English White potato has been raised on his place from fifty to seventy-five years, and upwards of a hundred years on the farm above, and is the only variety that has not gradually run out."