

first principles of a good hive! Some moth nurseries, some smothering pits, during the winter!

Is it, then, any wonder that man should be called the greatest enemy of the bee?—C. H., in *American Bee Journal*.

The Parasites of the Honey Bee.

I have investigated this subject for two years past, and during the past winter have given it special attention. While examining the dust which is found upon the bottom-board under a swarm when wintering well, I discovered numerous minute insects. I have so far observed six different forms, but have not become sufficiently acquainted with them to determine whether or not they are all distinct. I have studied their habits and the circumstances under which they are found to such an extent that I feel warranted in the belief that much of the uneasiness of bees in winter quarters, and consequent poor success in wintering, is largely due to the presence of these parasites. My observations also indicate that immature young bees, which are often thrown from the hive during spring and summer, sometimes in large numbers, have been destroyed by these insects.

These facts lead us very naturally to an explanation of what has been the greatest mystery and obstacle to bee-keeping, viz., foul brood. I am decidedly of the opinion that both this plague and its almost total eradication are due to the operations of different varieties of parasites. Our experience with cabbage and currant worms, potato beetles and other pests, whose devastations are sensibly checked by their respective parasites, corroborates this view. I find, upon a study of Packard upon "Our Common Insects," that the subject of parasites on honey bees has received considerable attention abroad, and that the cause of foul brood is therein attributed to the feeding of these parasite insects upon the immature bees. —L. C. R., in *Am. Agriculturist*.

Stock.

Washing and Shearing Sheep.

Indiscriminate washing of sheep previous to shearing, whether they really want it or not, is now going out of fashion. The wool, no matter how cleanly washed, will not be used by the manufacturer without a thorough scouring, and it is now a settled thing with many intelligent farmers that the few cents a pound extra that washed wool will bring will not compensate for the cost of the labor of washing and the danger to the health of the sheep and the men employed to wash them. Only those sheep the fleeces of which are soiled with mud or dung are now washed.

As to where the shears are to be first inserted and how the shearer is to hold his sheep, are points for the shearer to decide. I should insist that the fleece be always taken off as an entirety, with exception, perhaps, of the belly and tags. Also see that the wool is not cut to pieces nor hacked by cutting twice in the same place. Each stroke with the shears should be clear and complete, and made close to the body. If a mis-cut be made, let it go at that; for if you do leave a half inch of wool at that spot, you get it next shearing, and if cut now it will be too short to be of any use to the manufacturer, and will only injure in his estimation the parcel of wool in which it is discovered.

In opening up the neck or shearing the belly, when it becomes necessary to open the wool, let the shears be worked in gradually, cutting the wool of an even plane close to the skin until they are in and underneath the wool as far as they will go; then raise them, tearing the fleece open. Thus, commence at the point of the shoulder, working up towards the head. This prevents cutting the staple along the neck and makes a better job. In shearing on the floor a man has better control of his sheep. If shearing on a bench, catch the sheep by the left hind leg, back it towards the bench, and roll it over thereon; set it up on its butt, and then, as you stand with your left foot on the bench, lay the sheep's neck across your left knee, with its right side against your body; now take the two fore legs under your left arm, and begin about the centre of the belly and open the fleece fore and aft. Shear what would be the left side of the belly if the sheep were on his feet; also the left side of the brisket. Now cut off all tags from the inside of the hind legs, and shear the breach as far as you can reach in this position. Return to the point of the shoulder, going up under the wool

with the shears as above described, to the butt of the ear; now shear around, taking off the fleece as an entirety and including the foretop clear around the neck.

You will proceed thus down the left side, taking the left fore leg by the way, and shearing as far around the sheep as practicable while holding it in the position described, which will be two or three inches past the spine. On reaching the hind leg, say about the stifle, you will then insert the shears at the inside of the hocks (wool below that point is commonly tags), and shear around that leg back to where you left off on the stifle joint. Should the sheep persist in kicking at this stage, place the palm of your left hand on the stifle joint, which causes the leg to lie out straight. Shear clear around the breach or the place shorn when working on the belly taggings, and go clear around past the tail, so that were the sheep standing on his feet, everything on the left side, including one to three inches on the right side from the spine, from head to tail and including the whole tail, shall be shorn.

Now, taking the left hind leg (the one that is shorn) in your left hand, swing the sheep around with its spine directly towards you, being careful that some of the fleece goes under him, for his left hip bone, which is shorn and bare, now comes in contact with the boards, causing him to lie uneasily. Now return with the shears to the head or neck, and go down the right side (the "winning side," as it is called), taking in the two legs and right hand side of the brisket and belly. You may now finish up, trimming off any tags that may have escaped, including that wool on the legs below the knee and hock joints. Now see that the fleece is all clear from the sheep, and let the animal go. Next, gather up all bits of fleece and tags together with the fleece itself, and give them to the man who ties up wool.

If the floor and bench round about be clean, proceed to catch another sheep; if they be not clean and if any excrement has passed, it is to be taken up and thrown out of the pen. It will be seen by this description that the wool all through the operation will hang down and have a tendency to fall apart. This is counteracted in a greater measure if the sheep be shorn on the floor than on a bench, for, though the same manner of opening up and shearing is pursued, still as the shearer goes down each side the sheep lies on the opposite side, and the distance from that point of the fleece whence the wool is hanging to that point on the floor where it is resting is not so great as where the sheep sits "up on end."—*Farmers' Home Journal*.

Roots for Stock.

There are several varieties of ruta bagas good to raise for feeding stock. Two sorts, as good perhaps as any, are Lane's Improved and the Yellow Globe. Both are of good quality and give large yields. A rich loam with a little mixture of sand is the best soil for turnips, and should be made clean and of fine tilth before sowing. The latter part of June in Central New York is generally preferred, though some do not sow till July. One pound of good seed is enough for an acre. As bone meal is a special fertilizer for all plants of the turnip kind, finely ground bone meal is a good thing to drill in with the seed. Sow in drills with a machine, just far enough apart to admit of cultivating with a horse, say thirty inches, and keep the ground clean, especially while the plants are small. They should be thinned out as soon as well established. On good ground, with average care and a fair season, twenty-five to thirty tons to the acre may be reasonably expected. Some claim larger crops. A large, cool cellar is the most convenient place to winter them. They require a low temperature. They can be buried out in heaps safely if the heaps are not made so large as to induce heating. By mixing fine, moist earth among the roots, either in layers or by filling it into all the spaces between them, the dirt will take up the exhalations from the roots, prevent sweating and heating, and admit of putting many more in a pile than could be done without mixing dirt with them. Ruta bagas do not generally yield as largely, with the same ground and care, as mangel wurzels, and the latter is also the surer crop, and gives better flavor to milk.—*Prof. L. B. Arnold*.

A German priest was walking in the head of his parishioners over cultivated fields, in order to procure a blessing upon the crops. When he came to one of unpromising appearance, he would pass on, saying: "Here prayers and singing will avail nothing—this must have manure."



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Lucerne.

SIR,—Last year I put down a piece of ground to Lucerne, sowing in the early spring, broadcast. The land is a dry knoll, with a light clay, loamy soil, and was tilled carefully in roots for two years previous. The season turned out to be the driest one we have had for many years. I was quite disappointed at the great growth of weeds with the Lucerne, and cut it all down at about ten inches in height. The next growth overcame the weeds, and I had another cutting, but almost free from weeds and with longer stem, and a consequent heavier crop. We had little snow during winter, and I have been anxiously waiting to see what effect the cold has had; and to my gratification, I have to-day a strong, heavy growth of eighteen inches long, and we begin to cut it to-morrow for the horses. Two acres and a half should feed four horses all summer. This may be interesting to some of my brother farmers in Ontario. We are having wet weather continuously, occasioning great delay in getting in the crops. We will be nearly two weeks later than last year.

HABITANT.

St. Lambert, 6th May, 1878.

Weather Reports, Frost, etc.

SIR,—In October last Mr. Vennor came out with his forecast of the winter as follows: "Autumn marked by a fine warm Indian summer, after a rather early cold turn, and ending wet. Winter short, warm, wet and open, with one or two severe turns of short duration. Altogether gloomy and not healthy. Spring very wet up to the middle of June. Summer intensely hot and oppressive. The winter will be favorable to the increase of throat diseases and fevers; also cattle diseases. I agree with Professor Mansell in anticipating the approach of Asiatic Cholera towards northern latitudes." Still later he anticipated snow in May. As far as regards this part of the country, his anticipations have been fully realized. Since the 18th April we have had twelve days with more or less rain, and on the 11th inst. a sprinkling of snow followed by sharp frost on the 13th and 14th inst., which has severely checked the fall wheat, although as yet no injury has been done to the fruit blossoms. These remarks respecting the fruit blossoms apply only to the lake shore. I have just been informed that in the back concessions, where the soil is gravelly, and consequently the fruit blossoms earlier than here, the plum and pear blossoms are destroyed—17th May, 1878.

Should Mr. Vennor's forecast of the summer weather prove correct, we may expect a harvest similar to that of 1876, which appeared very promising until near the end of July, when frequent and heavy thunder showers, with excessive heat, caused the grain to ripen prematurely and the straw to rust. As for the Asiatic Cholera, the medical men in Armenia—where so many thousands of the victims of war are left unburied, or at the most, with a few inches of earth over them—fully anticipate an attack either of Asiatic Cholera, or, what is even worse, the Plague, as soon as the summer is fairly set in, and we can hardly expect to escape the visitation.

I notice that the Board of Trade in Toronto complain of the deterioration of the wheat of late years; they find it difficult to get No. 1 white wheat, whilst the No. 2 is full of smut, and they recommend that application should be made to the Provincial Assembly at its next session to pass some measure to enforce the Canada Thistle Act, which was passed several years ago. What is principally wanted is a public prosecutor to enforce the law whenever complaints are made to him. The County Crown Attorneys might act as such within their respective limits.

SARAWAK.