

A POSSIBLE WRONG IMPRESSION CORRECTED.

In speaking of the black knapweed (*Centaurea nigra*)—on page 433, Oct. 1st issue—the types should have said that the seeds do not fly like thistle-down; the head much resembles that of the thistle, but the plumous part is at the base of the seed, hence it is not likely to spread in the fields of a careful farmer.

J. DEARNESS, I. P. S.

BROWN ROT OF PLUMS.

G. C., Huron Co., Ont.:—"My plum trees were loaded with plums in the early part of the season, but all rotted and dropped off before ripening. What would you advise me to do with them? Would it do them any good to spray them with the Bordeaux in the spring?"

[The disease is known as "brown rot." A minute spore falls upon a green plum on which there is a little water or dew and sends out a germinating tube which penetrates the skin of the fruit. The affected plum at first turns brown in spots; these gradually enlarge until finally the whole plum becomes brown and rotten. The spores are blown about by the wind, and when one of them lodges on an unaffected plum where sufficient moisture is present it starts the disease again. The rotted plums shrivel up until finally they become dry and mummied husks, and though they often drop off it is quite common to see them remain on the trees all winter, especially when they rot soon after forming. The spores have the power of germinating the following spring, and in many of them the mycelium remains in a dormant condition so that during the warm spring weather this mycelium produces a new crop of spores. These spores are scattered everywhere, and attack the fruit as soon as it is formed.

To prevent the disease, pick off and burn all mummied plums that have remained on the trees as early in winter as possible. In spring, before the buds begin to swell, spray with a simple solution of copper sulphate, using one pound to twenty-five gallons of water. Before the blossoms open use the Bordeaux mixture, then when the fruit is well formed and while it is growing either use the Bordeaux mixture or ammoniacal carbonate of copper, using one ounce of copper carbonate with twelve gallons of water. This application may be repeated at intervals of ten or twenty days until the fruit approaches maturity.]

YOUNG PIGS, BUT NO MILK.

A SUBSCRIBER, Waterloo Co., Ont.:—"I have a Yorkshire sow that had pigs. They came all right and suckled vigorously, whereupon a day after they died one by one, two by two, till they were all dead. I tried to draw milk from the sow from different teats, but could get nothing. I had her running on rape, where she had access to a good spring and timothy and clover pasture. She was in good condition, but not fat. Explain cause and whether it is advisable to breed her again?"

[This occasionally happens, and from your management we can suggest no cause. If she is not very valuable, and you have other sows to put in her place, it would not be wise to risk another disappointment with her, as you cannot improve upon the treatment you gave her. However, if she is a choice bred sow, of superior quality and worth risking, give her daily doses of Herbageum or other stock spice for a month previous to farrowing, and feed generously, but avoid extreme fatness.]

LICE IN THE HENHOUSE.

S. NORTHCOTT, Durham Co., Ont.:—"We have been troubled this summer with small lice in our henhouses; some are red, others gray. We closed the building and fumigated it with sulphur smoke, but it did not seem to kill them. We cannot find any on the hens. 1. Can you tell us any way to get rid of them? 2. Will they live on a person or in a dwelling? 3. Does it pay best to keep this or last year's pullets?"

[1. Besides giving another thorough fumigating by burning sulphur in a pot of live coals while all the doors are closed, clean up the building thoroughly and spray the walls and floors, being careful not to miss any cracks, with lime wash to which has been added a quantity of carbolic acid—say six ounces to two gallons of wash. The fowls should be caught and thoroughly dusted with yellow insect powder (pyrethrum), and their dust bath should have mixed with it a quantity of sulphur. 2. Not for any considerable length of time. 3. This year's pullets, if early and well developed, are usually preferred to older hens to keep as winter layers. Last year's birds should also lay well if past the fall moult. Hens older than these should be discarded.]

GARDEN AND ORCHARD.

Our Fruit Trade.

It is a matter worthy of remark and wonder that throughout our entire fruit season we see in the fruit stores of all our cities and towns of any considerable population displayed for sale quantities of California fruit. It is not only displayed, but sold readily at prices above what our home-grown product of similar kinds can command, simply because it is presented in more inviting condition. Even after the long railroad journey over which it has to come it takes the place of the best our producers offer. There are opportunities being lost somewhere when our beautiful Niagara Peninsula fruit does not assert its right to greater recognition. Perhaps the special efforts of our growers and shippers are being absorbed in the development of our market in Great Britain, but even here we see ourselves surpassed by Californian enterprise. The

following extract from an American contemporary shows that distance from market is not a prohibitive barrier to a profitable market in England if growers and shippers will do their duty in picking, packing and shipping:

"John Ball is getting plenty of good California fruit this year to keep company with his Chicago beef and Minnesota wheat. The St. Paul left New York September 15th with over 4,000 packages on board. She arrived in Southampton September 22nd, and nine hours after she was docked the fruit was delivered in Covent Garden market, London, and was sold early next morning. The pears sold for about \$1.12 to \$1.50 per half box; blue plums for \$1.30 to \$1.55, and yellow plums for \$2.00 to \$3.00 per half box. The reports say that the market was somewhat depressed on account of the quantity received. The Teutonic, which sailed the same day as the St. Paul, arrived at Liverpool the same day with about 5,000 packages on board."

Such a report as the above is in marked contrast to such Liverpool cables as the following concerning the condition of shipments of our fruit as it arrives in England:

"Receipts continue to land in bad order, and there is a decided want of confidence in the stock, owing to so much of it being tender and in faulty condition. Now that the firmer varieties will soon be moving, the outlook for good sound fruit is favorable. Inferior quality and fruit showing rot moves slowly."

Similar complaints have been current in Winnipeg papers regarding the condition of Ontario and British Columbia shipments of pears, peaches, and plums as they arrived in Winnipeg. It makes little difference what our Governments do in providing transportation provided producers and shippers neglect to use the necessary precaution in selecting, picking and packing the crop. We trust, however, the experimental shipments this year will do much to teach, as well as to demonstrate, that we can supply the British market with that for which it will pay a good price.

Autumn Work in Garden and Orchard.

BY MARTIN BURRELL, LINCOLN CO., ONT.

There is a very natural tendency amongst fruit growers towards relaxation of effort in the fall, especially of concentrated effort directed to what seems minor details of the horticultural work. In spring the air is full of promise; imagination runs riot amongst the fall crops and fall prices, and no work is too hard and no detail too trifling to be attended to. But when the rush of the summer work is done, when the last load of fruit has gone to the station and the tension is taken off it is small wonder that the horticulturist does not experience the energizing impulses that goaded him on six months ago. And yet, I suppose, the thing that chiefly differentiates the really successful man from his less successful fellow is the fact that the former recognizes no such thing as an unimportant time of the year. He is at it all the time, and always has the future in a corner of his eye. This ability to "keep on keeping on" is a fine faculty and mighty few of us have it.

Throughout the Niagara Peninsula there has been such an abnormally large crop of fruit of all kinds, except apples, and prices have ruled so low, that many growers will be too disgusted to peg away at the various little jobs that will affect their financial returns in 1898. Next April they will take heart of grace and buckle in again. We are a procrastinating generation, but it is a vast deal better to drive your work than let your work drive you. Do not let us put off till the spring what can be often done better in the fall.

Pruning, &c.—Where fruit is extensively grown a good deal of pruning could be profitably done late in the fall. I am not in favor of cutting back young trees or pruning such tender wood as the peach previous to the winter, but the old canes could be cut out of the raspberry patches, and all hardy varieties of grapes pruned directly the wood is ripened; and, decidedly, every man should go systematically through his orchards this fall with a triple object in view, to wit, the removal of "black knots," of limbs showing pear "blight," and of all broken or bruised branches. In spite of careful "propping" there are thousands of split trees and broken limbs in this section; attend to these invalids at once, saw off well behind the break and paint the exposed surface. One or two of my Lombard plums are hopelessly broken and disfigured. They will be top grafted with good varieties of the Domestica plums, or possibly with some of the Japanese type. There are too many Lombards in the country anyway, the glutted plum market is always in the Lombard season, and any man who can grow a better plum, ripening at a better time, does not want to fool around with many Lombards. As for "black knot," it has been pointed out before in these columns that the fungus which constitutes this disease ripens its second crop of spores in the winter, so that now is an excellent time for inspection and excision. The fact may also be re-emphasized that pear blight is a bacterial disease, and that the few bacteria which survive the winter will spread through a whole orchard in the spring. Do not give them a chance.

Insects and Weeds.—The fight with these two classes of agricultural pests is usually considered to be over at the end of the summer (the farmer often coming out at the little end of the horn). Anyway, a truce is called on the part of one of the belligerents, and this is where he makes a big mistake, for the other fellow—he be weed or insect—is sawing wood faster than ever, though perhaps not so ostentatiously at work. It is not the 999 weeds we kill during the summer that trouble us, but that thousandth little "cuss" that, left to his own devices, matures his seed and sends out a whole army of his vile progeny to worry us next summer, and

very few people have a clear idea of how many seeds a good healthy "ragweed," "lamb's-quarter" or "purslane" can mature. I made a close estimate last year of the prospective crop from one fat, fleshy plant of "pus'ley," and ran up to 50,000 seeds! I do not mean to assert that every seed would mean a plant. Nature provides for all sorts of contingencies. But no wonder the weeds are always with us. The same principle holds good with insects. At infinite pains to ourselves we slaughter 999, the other one winters over and becomes as the sands of the sea.

A great many of our bad insects pass the winter in pupal and quiescent stage; others, like flies and bugs, winter in the mature insect form. The latter usually select for winter quarters weeds, decayed vegetation of the kind that has supplied them with food, and rubbish heaps of all kinds. It is therefore eminently good farming and good gardening to plow under, or better, rake up and burn, all the weeds, litter and vegetable refuse about the place. More autumn fires and less spring fires. It will pay every time. Nothing should be on the top of the ground in the winter but what rightly belongs there.

Drainage and Fertilizing.—It is almost unnecessary to insist on the importance of proper drainage being provided for the orchard before winter. Nothing will injure a tree so much as wet, cold condition of soil round the root system. But apart from the necessary plowing, furrowing out and banking up trees, I believe more could be done in the way of underdrainage in the fall. We get abundant opportunities during the summer to see the evils caused by defective drainage, and it is surprising what an amount of permanent good may be achieved at the cost of a few dollars in tile, and a little steady spade and shovel work at odd times. It is fatal to put all this sort of work off till the spring. Ten hundred other things seem more important then. Try your luck on some one wet low spot of the orchard or farm and watch the effect next spring. You will never let another fall go by without laying more or less tile.

As for fertilizing in the autumn, opinions vary a good deal. When growth, however, is quite over, and cooler weather established, I believe you are quite safe in applying most fertilizers to the orchard, and if you can do it then, you are so much ahead with your work. I would except, of course, fertilizers of a quickly soluble character, such as nitrate of soda, which should be applied when growth has started in the spring. A good many people are afraid of applying manures in the fall or early winter for fear of the leaching or washing away by winter rains and snows. I believe the danger to be greatly exaggerated. On steep hill-sides or on very light sandy soils there is undoubtedly a danger, but with ordinary conditions, and a moderately retentive soil, there is almost no danger of loss. I have made a practice of applying such fertilizers as ashes and bone meal in the fall to berry patches and trees, with excellent results; and barnyard manure I would spread as early in the winter as I conveniently could. I only wish I had more to spread. Ashes form an ideal fertilizer for the strawberry bed. If the ground had been well enriched with barnyard manure last spring the plants should have made vigorous growth. Next year what you are after is not growth so much as berries. The plants themselves take a good deal of nitrogen from the soil, still more potash, and a much smaller quantity of phosphoric acid. When the patch is plowed under, this, however, is practically all returned to the soil. With the fruit matters are very different. Potash constitutes a very large part of its composition, phosphoric acid about a third as much, and of nitrogen only a trace. Now look at the composition of unleached hardwood ashes, and you find about six per cent. of potash, from one to two per cent. of phosphoric acid, and a bare trace of nitrogen—a strawberry fertilizer *par excellence*. If the ashes are strong there is some danger of burning tender foliage in spring. You can safely spread them generously over the beds in the late fall.

APIARY.

Wintering Bees.

At the Buffalo convention of the United States Beekeepers' Union, held in August, Mr. R. F. Holtermann read a paper on wintering bees with artificial heat. The first experiment was conducted in a stone cellar which was divided into five parts. Four of these were used for the bees, and these repositories communicated with one another by means of doors, and also by means of openings 14 inches square near the top of the room. A stove was placed in the first room near the outside door, and through it the fresh air had access. A pipe passed through the different rooms from the stove and entered a chimney in the fourth room. The air in its natural course, by means of the openings around the stovepipe, passed from room to room, and finally in the fourth room passed out by means of a similar opening in the same chimney into which the regular pipe entered. Stove coal was used, and the fire kept up for three and one-half months. The indications of good wintering were that the bees clustered compactly. They never flew to the light of the fire or the outside door, neither was there any brood on the hives when placed on their summerstands. The air passing from room to room was not desirable, but it served as an object lesson to beekeepers that pure air was a necessity. A similar experiment was conducted