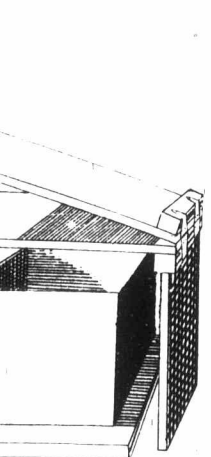


ong, narrow box,
clean them as far
else the water
with a spade, and
ch has been raised
the pollen-water to
n for two or three
ghly soaked and
dron kettle, with
The kettle should
fire coming higher
contents, else the
hen the mass has
ress out the pure

f burlap, such as
10 in. x 18 in., with



en by when pour-
made of two strong
e on the other, and
nd, the other ends

Sharpen a board
the kettle for the
ne end of the lower
ne bag open while
ll from the surface
lay it in the press
Strips of wood
e nailed across the
e bag rests on it.
20 inches each way
it runs out. Press
upper lever; shift
y be repeated until
t. Empty out the
g, refill from the
e operation until
t hot water. Now
thing to hold the
owly, to allow any
ettle to the bottom
for several hours
side will be found
which should be

ay for melting up
almost impossible
"freezes" all over
the box.

GY.

uries.

ovince of Manitoba
the past summer,
upon raspberries,
nd blotched leaves
w and spotted. In
ught to be by a ne
ination in all cases
able was found to
are classed in a
"Red Spiders." It
gets increase much
jury in hot, dry
ths of the summer.
The larger number
Manitoba during the
ost of them con-
The leaves were
dry up, at first on
ves on the young
here was consider-
fruit crop for next
e canes, where all
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were coming out
st. Mr. Lyall, of
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in Manitoba and
Territories during
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oughout the West
certain number of
on vegetation in
the conditions are
they multiply with
a very trouble-

some pest of the fruit-grower and gardener, particularly in greenhouses. The female lays from five to ten eggs a day for about two weeks, the eggs hatch in three or four days, and the insects are full-grown in about ten days. The eggs are laid in large numbers upon the food-plants, and the mites nearly always occur on the under sides of the leaves, beneath a light web, which is spun over the lower surface of the leaf. The name red spider has been given because some of the forms are of a bright scarlet color. By far the most numerous form is white, with small, dark marks on the back, and the insect has a greenish color after feeding on vegetation. These insects are exceedingly small and difficult to detect without a magnifying glass. Like all the true mites, they have four pairs of legs when mature, and only three pairs up till the last moult. Red spiders are often the cause of considerable loss among small fruits, bushes denuded of their leaves neither maturing their fruit properly during the year of attack, nor laying up nourishment enough to bear well the following season. The harm they do is sometimes great, because they are small and difficult to notice, and are thus frequently overlooked until a considerable injury has been done to the foliage of the plants upon which they occur, and secondly, because they are very difficult insects to destroy. There are two methods of combating them. The first consists of spraying the affected plants with an emulsion of coal oil and soap suds, or coal oil and milk, and the other of dusting the bushes with a dry application of sifted wood ashes, lime or powdered sulphur, or a mixture of one of the first two of these substances with the last named, in the proportion of one pound of powdered sulphur mixed with ten or fifteen of finely-slaked lime or wood ashes. This must be thrown well up under the leaves, and three or four applications must be made at short intervals. When red spiders have occurred one season, they are liable to appear again the next year, and although this is by no means certain, it is well to be sharply on the look-out to treat plants early in July, as soon as the mites are noticed on the lower leaves.

Central Experimental Farm. J. FLETCHER.

GARDEN AND ORCHARD.

Fall Work in the Garden.

The autumn being a busy season on the farm, too often the garden patch is left till spring in the same condition as when the crops were removed. On light, well-drained soil, there is not so much objection to this as where the land is of the heavier class. We recently paid a visit to an extensive market garden near London, the soil of which is chiefly of the stiff clay sort. It is all thoroughly underdrained with three-inch tiling, thirty feet or less apart in some lower portions. To have proper underdrainage is of first importance, as by thus lowering the water table, the space for root range is very much increased, and with all vegetables this is of greater moment than we are inclined to think. The roots of beets, carrots, tomatoes—in fact, of all vegetables—run down several feet in search of food and moisture in porous soil, so that the deeper the open soil the greater the field given the plants from which to appropriate food.

Another important factor in a successful garden is to keep the soil well stocked with humus in decaying vegetable matter. To this end the proprietor of the garden referred to used stable manure, spent hops, etc., liberally, and not only that, but he grows and plows down heavy crops of lucerne clover, the roots of which going down several feet produce a good effect in opening the soil for the circulation of air and moisture. The lucerne is usually plowed down in spring for late crops. Before winter sets in all land for onions, beets, potatoes and other vegetables is well manured and plowed in narrow lands well set up to facilitate drainage. For such crops as cabbage and cauliflower, and where the soil is particularly heavy, the surface is plowed into drills by throwing two furrows together or by cutting and covering. The object of this is to increase as much as possible the surface exposed to frost, so as to destroy the grubs that infest these plants, and also to mellow the soil by the disintegrating action of the frost.

As is becoming the general custom among good gardeners, onions are grown year after year on the same soil: the land is worked only a few inches deep, just when the manure is worked in before winter, and it sometimes pays to add a sprinkling of bone dust when the crop is planted in spring. This crop, like wheat, requires a firm, rich soil, with a mellow but firm seed-bed.

The asparagus bed requires different treatment from any of the other garden crops. Before winter, all that is done is to trim off all the plants about level with the ground and leave till spring, when the surface is cultivated and a dressing of salt given.

In the garden, as elsewhere on the farm, care should be taken to turn under or burn up all weeds, stalks, leaves, vines, etc., in the fall, thus destroying the harbor for many insect and fungoid pests. This applies to the raspberry patch, from which all dead wood and vines infested with anthracnose or fungus should be cut and burned. The vines showing anthracnose should have been removed immediately

after the crop was taken, but where it was then neglected, it should be attended to now. Affected plants are easily recognized by cracking and bending or breaking over about half way down the stalk, and at this season clusters of eggs can frequently be seen at one end of the cleft in the stalk.

Some points were gathered in the storing of celery, of which an excellent crop was receiving its final banking on October 6th. By the way, this crop delights in a deep, rich, friable soil, well stored with humus. Even black swamp land will produce good celery, but it must be well underdrained. This crop is taken up about the end of the period of growth and stored in cellars with earth floors. It is set upright and packed closely together in rows two feet wide, separated by boards. When it is to be kept till late winter, it should be packed in not wider than 14-inch rows, so as to avoid decay as far as possible. The cellars we visited had shelves about 3½ feet up from the floor. These will be covered with a 3-inch layer of soil before the celery is put in. One object in packing the stalks closely together is that the green ones may become blanched. This goes on for two or three weeks after the crop is stored, when good ventilation must be allowed, as much heat is generated. As the cold weather approaches, the ventilators must be closed up. The ideal temperature for a celery cellar is about 35 degrees Fah., at which the stalks will keep throughout the winter in first-rate condition.

Experience with "Black Spot."

This disease is exceptionally abundant in Nova Scotia the present season upon almost all varieties of apples, and this, in many cases, in spite of the fact that the orchards were sprayed. Yet, a careful study of the spraying in the different orchards, and a consideration of the season just passed, will in almost every case give us the explanation of the lack of success in spraying, and in addition, some valuable points for future use. The spring opened with an usual spell of wet weather which lasted until nearly the end of May, at which date the blossoms were almost ready to open. From this time on, throughout the season, the weather has been almost ideal, with scarcely enough rain to keep crops growing at their best. Under these conditions one would expect that the growth of the "black spot" fungus (*Fusicladium dendriticum*) would be much more rapid; that it would spread faster in the early spring than later, and that early spraying would be necessary in order that apples should be free from this disease, since spraying is always a preventive and not a cure. And what have been the facts? During the early rainy spell, very few orchardists did any spraying, for the reason that even when it was not raining the soil was so wet as to make it difficult to get into the orchard, and as a result very few orchards were sprayed until after the blossoms fell. In a few cases, however, growers were sufficiently enthusiastic to spray between the showers, and did the usual spraying before the blossoms opened. In almost every case where an orchard was thus sprayed once or more before the trees blossomed, the fruit is fairly free from the "black spot," but where these early sprayings were not made, the fruit is badly spotted in spite of later sprayings. Two instances will illustrate this. Mr. John Donaldson, of Port Williams, sprayed his orchard twice, once before the blossoms opened and once after they fell, with the result that he has a very clean crop of apples. One of his neighbors sprayed his orchard three times, the first application being just after the blossoms had fallen, and the other two at intervals of ten days or two weeks, and yet his apples are very badly spotted. These are only fair samples of the general experience of Nova Scotia growers the present season, and though there are the usual instances of inexplicable failures (at least, inexplicable from the known facts), yet, in general, the year's experience, if rightly interpreted, strengthens, rather than weakens, the cause of spraying.

F. C. SEARS,
School of Horticulture, Nova Scotia.

Importation of Nursery Stock.

It has been officially announced that the Dominion Minister of Agriculture, Hon. Mr. Fisher, has completed arrangements for the fumigation of fruit trees at the ports of entry where, under the San José Scale Amendment Act, nursery stock may now be imported into Canada. These points cover all the important places in Canada where fruit trees are brought in from the United States and other countries from which such importations were prohibited owing to San José scale. Superintendents have been appointed and fumigating chambers built at St. John, N. B.; St. John's, Que.; Niagara Falls and Windsor, Ont.; Winnipeg, Man., and Vancouver, British Columbia.

The season this autumn during which the importation of trees will be permissible is from Oct. 1st to Dec. 15th. The treatment of all trees is done entirely at the Government's expense, and although the gas used is intensely poisonous, it can be applied by experts such as the Government superintendents with perfect safety and to the destruction of all insect pests.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary.

COWS GIVING BLOODY MILK.

T. M., Bruce Co., Ont.:—"You would much oblige by giving a remedy for the following trouble: We have two cows giving bloody milk out of one quarter of their udder for a week. One is much worse than the other, giving nearly pure blood sometimes, and it is with great difficulty that the clots can be got from her sometimes. Is it caused by a rupture of a blood vein?"

[Bloody milk is caused by rupture of small vessels in the udder, caused either by external violence or inflammation of the gland, or a congenital weakness. Milk the affected quarters three times daily. Feed lightly, so as not to cause a large secretion of milk. Give three times daily as a drench: 1 oz. tincture of iron, shaken up with a pint of cold water. If the weather remain warm, it will be good practice to bathe the quarters with cold water. The condition is very liable to recur.]

J. H. REED.

INDIGESTION, FOLLOWED BY INFLAMMATION OF THE STOMACH AND INTESTINES, IN STEER.

F. R., Brant Co., Ont.:—"I turned my cattle into the orchard on Saturday. On Monday they all, except the cows, seemed sluggish, and did not get up until late in the morning. On Tuesday they seemed all right, except one which did not go off with the others. However, he got up when I went to look at him, and I drove him, with a little coaxing, down the lane towards the others. Next mid-day we found him dead. When turned over, some bloody water ran from the mouth, and part of the back bowel was projecting from the anus. When opened, the gray cutaneous lining of the first and second stomach would peel off and tear at the merest touch. A small part of the jejunum was a dark red. In the orchard and clover stubble adjoining, to which the cattle then had access, is a swampy place where much peppermint grows. Is it likely that the animal had eaten some poisonous weed? If so, could you give me any idea of what the plant might be, that I might look for it, and much oblige."

[Your steer evidently got something to eat that caused indigestion. It may have been the change of food, especially if the clover mentioned was plentiful. A sudden change of food often causes digestive trouble. The others that showed symptoms of sickness either had not eaten so much or had sufficient vitality to recover. It would have been good practice to have given each animal that showed signs of sickness a good purgative of Epsom salts at once: 1 to 2 lbs., according to size. It is not probable the animals got any poisonous weed, but the digestive trouble caused inflammation of the mucous membrane of the digestive tract, resulting in death.]

J. H. REED.

Miscellaneous.

BORERS IN PLUM TREES.

D. McG., Bothwell Co., Ont.:—"What remedy is there to destroy borers in plum trees?"

[When borers have become established in plum trees, the only practical means of combating them is either to cut them out with a sharp knife or else to follow them up in their burrows with a piece of wire. Injuries from this insect may be prevented by applying, late in May or early in June and again about three weeks later, a strong solution of soap suds to which has been added a little crude carbolic acid. This mixture is made by mixing one quart of soft soap or about a pound of hard soap with two gallons of soft water, heating to boiling, and then adding a pint of crude carbolic acid. This should be thoroughly applied with a rough brush after the loose bark has been scraped off. The object of the application is to prevent the laying of the eggs from which the grubs hatch.]

BROME OR RYE GRASS FOR PASTURE?

R. S., Sheep Creek, Alta.:—"I wish to seed down a large field for pasture. Which do you prefer for this purpose, Western rye grass or Brome grass, and how should I prepare the land and sow the seed?"

[For hay purposes there is very little difference in the value of Brome grass and Western rye grass, but for pasture Brome grass is decidedly the best of the two. If Brome grass is used it is not essential that you take off a hay crop. Our usual plan is to plow stubble during the months of May or June, harrow once, sow the seed broadcast at the rate of 15 pounds per acre, then harrow a second time. A number of weeds will come up before the grass is seen. These should be mown down, leaving the cuttings on the ground. Sometimes it is necessary to run a mower over the land a second time. By the end of August the grass will be sufficiently established so that you can turn your stock upon it and it can be pastured until winter. We do not find it a good plan to sow grain with the grass seed, as the grain takes so much moisture that the grass is stunted.]

S. A. BEDFORD.

Brandon Exp. Farm.]