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case of penny wisdom and pound foolishness to allow strawberries to fruit the first year.

When runners appear they should be placed, by drawing a little earth over them, near the top taking care not to cover the top. Once the row has developed to a width of two feet or so, all extra runners should be cut off, to allow the whole strength to go into the plants already set. Although good crops are produced without mulching, it is usually wisest to scatter a little clean straw over the rows once the ground has frozen quite solid, removing this when danger of frost is over in the spring.

A well-kept, strawberry patch will help to solve the problem of making farm life attractive. What pleasure can compare with that of picking a basket of crimson berries, in one's own garden, in the dewy coolness of a summer morning. Grow strawberries.

Simcoe Co., Ont.

W. J. GALBRAITH.

Pears and Peaches on the British Market.

At this period in the development of the fruit industry in Canada, growers should be on the look-out for the extensions in the market, and with the present and always improving systems of transportations the European markets should not appear too remote. Especially is this true if they will return remuneration for the extra care in packing for their long ocean voyage. In the last weekly report of the Trade and Commerce Department of Canada a leading commission firm in Covent Garden Market, England, has communicated his experience with pears and peaches shipped from Canada during the autumn of 1913.

Conditions were such during the past season that very handsome prices were received during the early shipping season. The English and French crops were practically failures, and the sprinkling of the Californian and Hudson River pears left the European demand quite unsatisfied. Consequently the early shipments from Canada met with more approbation than they customarily do, and had not the later shipments arrived in over-ripe and unsatisfactory condition the reports and returns would have been very encouraging to Canadian fruit growers.

The early shipments of pears, chiefly Bartletts, arrived in good condition. They were green and firm and first grades sold as high as 50s. per barrel, while second grades sold for 45s. The largest part of the arrival of Bartletts from Canada, however, were packed in half-boxes, which sold at prices ranging from 6s. to 9s. 6d., while some parcels of fruit packed in patent packages realized as high as 11s. per half-box. This half-box averaged in weight about 29 pounds gross, and makes a very satisfactory container for pears going to the British market.

The later shipments were quite unsatisfactory in nature. Whether this is due to poor storage or inclement weather conditions before harvest cannot be clearly determined, but some on arrival were over-ripe and even dripping. It is true that in some localities the fall season was wet and rainy and this may have militated against the good conditions of the harvest, but there were some conveyed across the water in refrigerator boats which arrived in an unsatisfactory condition, indicating that they had been stored on the American side for some time before being sent forward. It is absolutely necessary that the pears be picked and stored while still firm, in order that they may arrive on the other side in an acceptable manner and return satisfactory remuneration to the growers.

The Canadian barrel, especially where eight hoops are used, two at the top and bottom, and four bilge hoops is commended by British commission men, but the half-box receives more commendation.

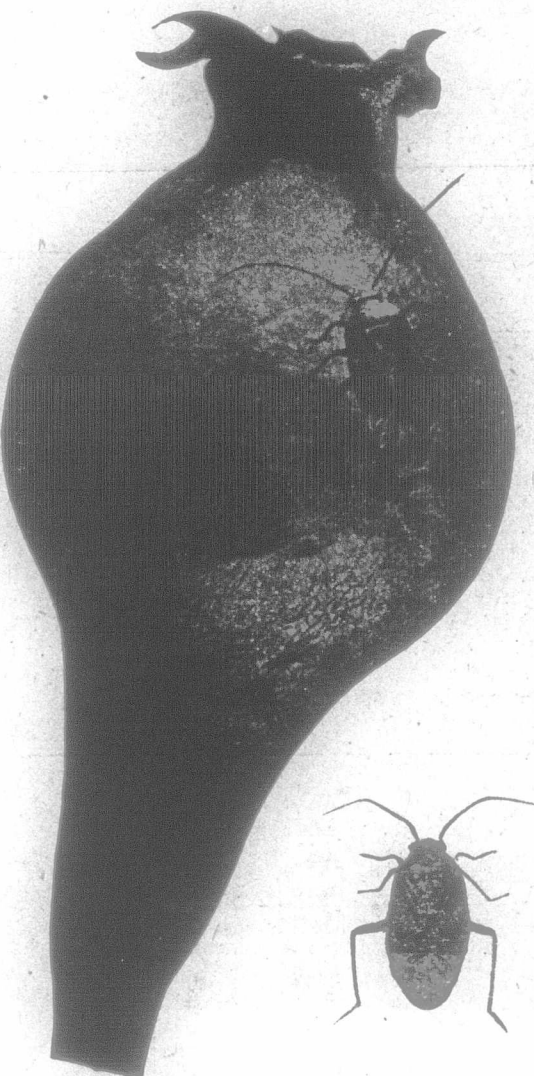
The bulk of the pears in barrels were Keiffers, but a fair sprinkling of Duchess, Anjous, Seckles, and Louis Bon were also in evidence. Keiffers sold from 15s. to 28s., for the first grade; Duchess pears ranged from 25s. to 45s.; Anjous, 20s. to 26s., and Seckles, 26s. to 32s. The general price per box ranged from 5s. to 6s. 9d., and for half-boxes from 3s. 6d. to 4s. for first grade fruit of these varieties.

Successful shipments of peaches were also sent forward. Many of these were half-boxes which contained from thirty-six to forty-eight fruits each, and sold at from 9s. to 11s. per package. This must be considered as a very satisfactory result when we look back at the general prices received for peaches throughout Canada during the last season. Most shipments that have been sent to the Old Country market in the past have returned satisfactory prices, and it looks as though shippers may in the future develop a good market for peaches in the British Isles. There is one thing that must be remembered in connection with all fruits, and that is that they must arrive in a good firm condition before they will be purchased by the consumers at a price that will allow a small margin for salesmanship in the handling of such fruit, and compensate the grower.

A Pear Enemy.

Among the many insects which attack and deform pears might be mentioned the curculios, which pierce them in laying their eggs; case bearers which chew minute holes in the skin, and green fruit worms which gouge out considerable areas of both skin and flesh, but there is yet another insect known, commonly, as the false tarnished plant bug and scientifically as *Lygus* invitus, which is responsible for many a deformed or fallen pear.

Before the pear is one-half inch in diameter these little insects will suck out the juice and cause the fruit to drop if the punctures are early or numerous. The injury is a characteristic one and quite different from those produced by other insects. From the minute orifices left by the punctures, drops of sap first exude and may hang for some time, but when these disappear the work of the insects shows as small or blackish spots or points. As the pear grows the outer layer of the skin about these spots becomes ruptured and a light-yellow, mealy-appearing growth of the inner layers of the skin protrudes, making a more or less triangular spot; or when two or more spots run together a patch or crack lined and bordered with corkish tissue. The yellowish protruding growth at first makes a marked contrast with the smooth, green skin of the little pear; and later the cessation of growth at these points causes depressions and marked general deformity of the fruit.



False Tarnished Plant Bug.

The adult of the False Tarnished Plant Bug on a pear. From New York Bulletin, No. 368.

The insect as described by F. H. Hall, of New York Agricultural Experiment Station, is allied to the common tarnished plant bug, which is so often seen during the hot days of summer upon the weeds and succulent plants. They first appear as small, tiny nymphs in the first stage at blossoming time, but they undergo five different stages before they are fully developed. The first two nymph stages are spent upon the blossoms and unfolding leaves, while the three latter stages are spent chiefly upon the fruit. These transformations require about one month's time, and they become mature during the last week of May and the first week of June. They exist for about one month in the adult form and finally disappear during the month of July.

The main protective resource must be spraying. The grower who has any fear of an attack by this insect should examine the trees carefully, commencing with the dropping of the petals, and if the young nymphs are found, should spray immediately. Ordinarily one application made just after the blossoming period should control them efficiently. In the station tests tobacco extract, known as black leaf forty, has given success when using three-quarters of a pint of extract to one

hundred gallons of water, to which are added three pounds of soap. Some growers have combined the tobacco extract with dilute lime-sulphur containing arsenate of lead, as applied for codling moth, with satisfactory results.

Where Does Late Blight Winter?

It has never been definitely ascertained by scientists whether the disease known as late blight of potatoes, causing the rot, will winter over in the ground or whether it must be conveyed into the soil by unhealthy tubers. Authorities on both sides of the water have differed on this question, so that it has been considered dangerous to plant potatoes where a diseased crop has been produced the year before. However, F. H. Hall, of the New York Agricultural Experimental Station, has summarized the experimental work conducted there in connection with this disease, and they have proven to their own satisfaction that the disease must be transmitted by the tubers, and that it is not unsafe to plant upon a blighted field if healthy tubers are used.

To test the liability of such transmission, the Station Botanist has carried on careful tests in two seasons, and finds no evidence that the fungus can survive the winter in the field, in central New York at least. In each of the tests, soil from a field of diseased potato plants was thoroughly mixed, in boxes, with broken, rotten tubers and pieces of blighted stems; and the boxes were exposed to the weather during early winter. Later the boxes were brought into the forcing house, a sound tuber was planted in each and conditions made as favorable as possible for growth of plants and development of the disease. In spite of warmth, abundant moisture, both in the soil and in the air, and luxuriant, succulent growth of the plants, not a sign of blighting appeared, even when the plants were grown in a special glass chamber and thoroughly wet daily with water drained from some of the soil mixed with diseased material, or were painted with a thin mud made from such soil.

The results, being negative, do not prove that the late blight fungus cannot remain alive over winter in the soil, but they make such persistence appear highly improbable.

It would seem unnecessary then to change the location of the potato crop to avoid this disease, especially as we know that thorough spraying will control both blight and rot, and will increase the crop enough, taking one year with another, to make this a highly profitable regular practice in potato growing.

The Farm Hotbed's Second Crop.

Editor "The Farmer's Advocate":

When the plants have been removed from the hotbed into the cold frame it will be ready for a second crop, such as radishes, lettuce, mustard and onions. Hoe over the soil, fertilize with wood ashes, then sterilize the soil with a weak solution of formaldehyde in boiling water to destroy all insects and fungi that are sure to be there after the first crop. As the season advances and the temperature during the day increases the sashes should be allowed to remain off the hotbed during part of the day and a shade provided. A good way is to tack chicken netting over the hotbed (so as not to interfere with the sashes) and on very warm days lay cheesecloth over the chicken netting. This will provide sufficient shelter and will also help to retain the moisture.

Before sowing radish seed, soak it in coal oil for a few hours, then sow in rows six inches apart and between the rows sow lettuce, mustard or onion seed. The radishes will come to maturity and be removed in 12 or 15 days, leaving the lettuce, etc., which take from 20 to 30 days more space to grow. Keep the temperature high, water profusely, and force the growth of this crop if nice, tender vegetables are desired. Some annual flower plants will be needed for the garden and these should be first planted in the hotbed. Bedding geraniums that have been kept in the cellar during the winter may be started in this way, if there is any life left in them. Tubers and roots, such as cannas, dahlias, tuberous-rooted begonias, gladioli, can be made to bloom a month earlier by putting them in the hotbed for a couple of weeks. For budding early potatoes and testing mangel, sugar-beet and turnip seed or corn before sowing for a field crop, you will find the hotbed very useful. The hotbed may also be used a third time for growing mushrooms. They are very easily grown if the temperature of the now spent hotbed is kept between 50 and 60 degrees and a covering kept over it during the daytime to exclude the light. Mushroom spawn and the directions for growing them may be procured from any seed merchant. THOS SOMERTON, JR., Lanark Co., Ont.