

clip off about one-half of the wing which is free from your hand, and gently place her back on the frame or in the hive. It is better, however, to let her run on the frame where you can observe her for a few moments, for occasionally, if she is much agitated, and also on account of the foreign scent received from your person, the workers attack her (called technically "balling") and hold her prisoner, sometimes stinging her to death, but if the clipping is done near the middle of the day when the bees are busy at work, the "balling" is a very rare occurrence. If, however, you observe the workers angrily gather around her in a knot when she is released, secure her again, and place her in a little wire cage over the frames, daubing the cage well outside with honey, leave her here till about the same time next day, when gently lift the quilt, pour honey over the cage, partially remove the stopper so that she can crawl out, and close up the hive.

I am not speaking here to professionals, but to the amateurs. There is no use in telling a beginner in queen clipping to take a longitudinal slice off one wing, embracing about one-third off of it, etc., etc. If he gets a clean clip of about one-half off one wing without taking something else off with it, all will be well, and practice will make him perfect.

The advantages of having the fertile queens clipped are so obvious as to require no special elucidation. How it diminishes the work and worry of the swarming season in the apiary, I have already explained.

A Heavy Penalty.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Good intentions will not avail unless they are founded on knowledge. We cannot be too diligent in getting useful information on any business in which we are engaged. I have in mind a friend engaged in keeping bees. He had spent about \$200 on them, and fetched them through the winter all right. In the spring he commenced cleaning the hives, keeping one clean hive ahead of him. He cleaned them thoroughly, washing every particle of dirt from them. It took him a week or two to do it, and when he got through and examined the ones he started with, found that the dampness had killed every bee.

Hamilton, Ont.

R.

Horticultural.

Pruning Apple Trees.

Once again we feel constrained to enter our protest against the severe pruning to which apple trees are so often subjected. If the trees are pruned every year they will not require this; but even some who prune every season keep the top of their trees so much cut away that the vitality of the tree is seriously impaired. The lungs, through which a tree breathes, are its foliage. It follows, then, that the greater the amount of the foliage, the larger the inhaling power of the tree. So far as rapid growth and strong development are concerned the tree would fare better without pruning at all, but there are good reasons, nevertheless, as to why pruning should be practiced. Where cultivation is undertaken amidst trees, the lower limbs must come off. Then there must be room within and through the top to let in a fair amount of sunlight, and to mature and ripen the fruit a good color, and dead limbs must be removed to avoid unsightliness of appearance.

The second argument is the one that is most abused by pruners. With the ostensible object of letting in light, leading boughs are cut off until those that remain remind one of ostrich stilts with a little down upon them. This is usually done, we believe, because it is the easier method. It takes longer to do the work when more of the leading limbs are left and the smaller branches on these have to be thinned. When so many of the strong limbs are cut off the area for fruit bearing is seriously curtailed, and the crop correspondingly lessened. Of course thinning must be done to let in the sunlight, but let it be the thinning of moderation rather than the thinning of butchery.

When so much of the top is removed the economy of circulation and growth are seriously interfered with, and observation has taught us to conclude that the general effect is to induce more or less stagnation and premature decay.

Take two young trees; let one throw out branches at will, lop off the extremities only of those that are not wanted to remain. And in the case of the other, keep it trimmed up something of the whip and stalk order, and the first will distance the second in its advances beyond all comparison. The reason is that in the second case lung power has been curtailed, so that but little encouragement was given to the development of the circulation. The same principle obtains throughout the growth of the tree. These magnificent maples whose umbrageous tops cover each many square rods of ground in the clearing, would never have so developed had they been severely chiselled by the pruner every year.

It is often argued that without severe pruning a large quantity of the fruit will be inferior. We answer that with moderate pruning the quantity of good fruit will be much greater, and we will have the inferior in addition. In any case there will be a proportion of the fruit inferior. Moderate pruning all along is certainly the best, leaving with the tree plenty of boughs to enable it to do its work.

The Outlook for Fruit.

With the general wait that is ascending over the failure of the hay and fall wheat crops, there is some comfort to be derived from the prospect for a good crop of fruit, particularly the great standard fruit, the apple. The reports from most places indicate an unusual amount of bloom, a large proportion of which has well set, owing to the dry weather at the blooming stage. This, though unfavorable and indeed fatal to the growth of some kinds of crops, was favorable to fruit-setting, as the trees with roots far underground did not feel the effects of the drought like crops dependent on supplies found near the surface. The pleasant local showers that have since fallen in many places, will be very helpful to the growth of the fruit. Peaches will be a fair crop, it is supposed, in the Niagara district, not so good in the Grimsby region, and poorer still further west. Plums will yield but moderately, after the heavy yield of last year, and so of pears in the main, but the crop of apples promises to be very good, and the outlook is fair for grapes.

The crop of small fruits will be but moderate. Strawberries have yielded shyly owing to cold and dry weather, but raspberries will do better. Amid the many discouragements of the season to the farmers, it is ground for thankfulness that we are likely to have a fairly good crop of fruit.

Small Fruits.

Mr. E. Morris, one of the proprietors of the Font-hill nurseries, read a very useful paper at the Woodstock meeting of the Fruit-growers' Association, 1887. We subjoin some of its most valuable suggestions in reference to the growth of strawberries and raspberries.

"For strawberries the ground should be thoroughly prepared by deep ploughing, followed by harrowing and cultivating until it is fine and mellow, after which it should be well rolled. This preparation will pack the soil so that a good ploughman can cut a straight furrow, leaving it clean and smooth on the landside for planting against. These furrows should be three and a half feet apart, and plants set 15 to 18 inches. The planter holds the plant in position with the left hand and draws a little soil against it with the right; the furrow is then filled about two thirds with a hoe, and packed by tramping with the feet,

filling up, afterwards, even with the top of the crown with loose soil. This planting should be done as early in the spring as the soil is dry enough to work properly. For small plantings a hoe and spade may be used instead of the plough. In case of drought or late planting, the roots should be thoroughly puddled before setting. The first season all blossoms should be cut off, and no fruit allowed to set. The care consists principally in keeping the soil loose and moist by frequent cultivating between the rows, which at the same time throws the runners in, thus forming a matted row. The rows should be kept clean by weeding with the aid of a hoe, where it can be used. As soon in the fall as the ground is frozen sufficiently to bear a waggon, the plantation should receive a light covering of straw, scattered over the plants very evenly, and only heavy enough to not entirely hide them; the following spring, as soon as growth commences, the straw should be raked between the rows and, allowed to remain as a mulch until after bearing."

In small plots if good strong plants are selected, and planted during September month, with some care they are pretty sure to do well. It may be an advantage to do this in plots for home use, in some instances, as it puts the work of planting past. The Wilson's Albany is perhaps the hardiest berry that has yet been produced, and the most prolific if not the most palatable.

In reference to red raspberries, Mr. Morris says:

"A deep loam or sandy soil should be selected. The Cuthbert, where hardy enough, is acknowledged by all to stand at the head of the list for medium to late. Where the Cuthbert winter-kills, the Brandywine and Turner should be substituted. For early, the Hansell is promising. Instead of planting in the common hedge row system, I would recommend setting in hills three by four feet, ground previously marked that distance as for corn planting. During cultivation, work both ways for the first two seasons, using a cultivator with knife to cut off all suckers, which is absolutely necessary to secure a good crop of fruit."

"The second season after planting, about one-third of a crop may be expected. The third year, after the ground is thoroughly cultivated both ways, the plants will be large enough so that the tops of each hill should be divided. Half the canes should be bent over in the row, overlapping those of half the next, which should be bent to meet; the tops are then tied in the centre. The hills should be tied in the direction of the wide rows, thus leaving nearly four feet clear for cultivation during the season. The advantages of this mode are: the plants are kept from being broken down by wind-storms; the fruit is kept up from the soil, and more convenient for picking; also leaving the centre of the hill open so that the new growth will not be shaded, thus securing a more stocky and better growth for bearing the following season, and reducing the expense of cultivation, as hardly any hoeing will be required. The old bearing canes should be cut short soon after bearing, which will allow the ground to be cultivated both ways again."

Red raspberries grow easily, and bear enormously. Every locality has some soil adapted to their growth. No farmer in the whole Dominion, where the climate is not absolutely too keen, should be without a full supply.

The Home.

How to Live.

He liveth long who liveth well!
All other life is short and vain;
He liveth longest who can tell
Of living most for heavenly gain.

He liveth long who liveth well!
All else is being flung away;
He liveth longest who can tell
Of true things truly done each day.

Waste not thy being; back to Him
Who freely gave it freely give;
Else is that being but a dream;
'Tis but to be, and not to live.

Be what thou seemest I live thy creed!
Hold up to earth the torch divine;
Be what thou prayest to be made,
Let the great Master's steps be thine.