

If a few be removed the consequences are not liable to be serious, but it is wise not to remove any. The afterbirth is attached to the womb by these cotyledons. Where separation has taken place the surface of the cotyledon will have a rough surface, while it will be smooth on those to which the membranes are still adherent. In rare cases a little gentle traction is sufficient to cause separation, but in most cases they must be carefully detached by manipulation with thumb and finger of each individual cotyledon. As a portion of the membranes is detached it should be drawn out and held by the other hand. The operator should be careful to keep arms and hands well oiled and disinfected, in order to prevent any danger of infection, as if he have any abrasions or sores on them there is danger of infective matter entering. Care should be taken to remove all the membranes, after which a little more of the warm solution should be injected into the womb.

In mostly all cases the removal of the afterbirth in this way will be followed by a discharge, and in some cases it is not possible to reach all parts of the womb and small portions of the membranes will remain, which will be discharged in pieces or corruption, and it is wise to administer antiseptics to prevent danger of blood poisoning. For this purpose probably nothing gives as good results as carbolic acid given in 40 to 50 drop doses diluted with a pint of water, and given as a drench or sprinkled on the food three times daily until all discharge ceases. WHIP.

GARDEN & ORCHARD.

How the Weldwood Orchard Was Planted.

Scarcely anything undertaken on a farm, even to the building of a residence, should be more carefully thought out than the planting of an orchard. Upon the choice of a site, the selection of varieties, the relative position of those varieties as planted, the spacing and the arrangement of rows, depends fifty to a hundred years of convenience and profit. Realizing these points, we planned very minutely the young orchard planted last year at Weldwood. As the questions settled in planning that orchard will be, in many respects, the same as those confronting other planters, we can probably publish nothing more helpful on this line than a diagram of our orchard with a description of what was done and why.

SITE.

First of all the site. This was an irregular-

shaped field, west of the buildings, with a fairly heavy clay-loam soil and a gently rolling contour, sloping generally to the south. The field is irregular because the road across the front of the farm runs northeast and southwest, while the concession at the back cuts square across east and west. This gives one gore field on each side of the lane. We considered that such a gore would be less inconvenient in an orchard than in an ordinary field, especially with the rows as we have them arranged.

The soil is heavier than is ideal for apples, but most of the farm is of the same character. A northeasterly aspect would be slightly preferred to a southerly one, but no site suitable in other respects had such a slope, and in our climate the point is, perhaps, not so important as in some others. The fall for drainage is good, and the orchard is very conveniently located.

STANDARDS SPACED 40 FEET.

Spacing of trees is very important. Notwithstanding that modern ideas of pruning favor low heading with a resulting upward habit of top growth, we still believe in allowing plenty of room for top and root, when planting standard sorts in a latitude where trees are long-lived. This is particularly true on a farm where land is abundant, and where part of the area between the rows may be conveniently intercropped until the trees need it all. We had no hesitation, therefore, in deciding to space the standards forty feet each way with fillers in the rows one way so that the orchard, at present, is planted 40 feet by 20 feet, but will eventually be 40 feet by 40 feet. An apple orchard should stand for a hundred years, and the production of a well-grown, fifty-year-old tree is seriously curtailed by lack of root-feeding and branching area.

FILLERS.

Whether to use fillers is generally quite a problem. Fillers are early-bearing trees planted to yield some return while the other trees are coming into bearing, but should never be set out by a proprietor who has not sufficient resolution to cut down the filler when it commences to crowd the standard unduly, even though it may never have borne a bushel of fruit. Where fillers are planted only in the rows one way, such crowding may be deferred for a time by systematic pruning designed to extend both filler and standard, but especially the filler, in the direction of the wider spacing, contracting them somewhat on the sides of the half spaces.

SQUARE PLANTING WITH ROWS NORTH AND SOUTH.

Various modes of arrangement have been cal-

culated to give each tree a maximum use of the total rooting and branching area, but these are more or less open to the objection of inconvenience in cross cultivation, and their advantage is somewhat problematical anyway. We, therefore, concluded to plant the standards in squares in rows running north and south with fillers in these, but not in the cross rows. There were several reasons for this decision. In the first place, we wished to plow through, rather than across the forty-foot spaces, and a glance at the diagram will show that if the rows ran east and west there would be some furrows only a rod or two long at the north angle of the orchard. In the second place we wished to run a row of tile through the centre of each 40-foot space, and the best fall was towards the south. A third reason was that spraying is usually done to best advantage when the rows of varieties run north and south. A full half space for turning was left all around the outside of the orchard, except on the north side where the angling fence made it irregular. A little more than a half space might be advisable at the ends, and may be provided when the permanent fence along the south end is rebuilt. Trees planted close to the fence are generally left in the sod, and cause inconvenience when plowing, cultivating and spraying.

PLOWED, MEASURED AND MAPPED OUT IN ADVANCE.

The field where this orchard was to be planted was in good heart, yielding 24 bushels of fall wheat to the acre in the scorching season of 1911, and the clover seeding, though nearly killed out by heat and drouth, revived with fall rains and made a fair top. The field was measured during a mild spell in December, staked out, and three rounds plowed where each row of trees was to go. The outer furrows provided drainage, and the ridges were top-dressed with manure during the winter. Each row was measured with a tape and the whole orchard roughly charted on paper, the exact number of trees being marked, and precisely enough stock of each variety ordered to plant each row as planned. Except for a deficiency of 23 Duchess fillers which will have to be planted this spring, every row was planted exactly as laid out, and unless the nurseryman mislabeled some trees there are no broken rows or rows with an odd tree of some variety that does not belong there. Precision in planning and ordering is important.

VARIETIES.

And now for the very important matter of varieties. In the remnant of mature orchard, now on the farm, is one tree partly top-grafted to Kings and Snows, from which last year we sold eight dollars worth of fruit locally without trouble. Alongside are several trees of Mann apples and a certain handsome red apple tree equally heavily laden, the fruit of which will not bring enough to pay for the picking. No doubt one fruit is about as nutritious as another, but the great difference is in texture and flavor. People will pay for what they like, and as time goes on demand becomes ever more discriminating. There is no use planting varieties that yield pith. Plant quality every time, having regard, of course, to shipping and keeping quality as well as flavor, color and texture. The apple for which Ontario is most famous is the Northern Spy. Everybody wants it. In our demonstration orchard work, we found that we could sell locally about ten barrels of Spies for one of any other variety. The popularity of the Spy is well deserved, and we believe it will endure. We planted more of it than any other kind, and would have planted a still larger proportion but for the desirability of having a succession of varieties to spread out the work of harvesting and picking, to pollinate the self-sterile Spy, and to produce a crop in those years when the Spy bears shyly. While specializing on Spies we would insist on a fair proportion of other good kinds, such as Baldwins, as well. To insure thorough pollination, we took care to have not more than two rows of Spies together. Reference to the illustration will show that we have on the extreme west a row of Spies then a row of Golden Russetts, two rows of Spies and a row of Baldwins, two more of Spies and a row of Greenings, two more of Spies and a row of Tolman Sweets, to be mostly top-grafted to Kings (which latter variety has a weak root growth, then a row of Spies and Domestic sorts, then a full row of Spies, and a row of McIntosh Reds, a row of Snows and another of McIntosh. The Domestic sorts include Jonathan, Gravenstein, Spitzenburg, St. Lawrence Yellow Transparent and Astrachan. We did have two Yellow Harvests, but they were overlooked in the trench. The fillers are about one-third Wagener's, one-third Duchess, and one-third Wealthys, with three plums and four peach trees but no pears, which latter were omitted because of their reputation for propagating twig blight in apple orchards. The Wagener is a small growing tree, which bears a high-quality, red, early-winter

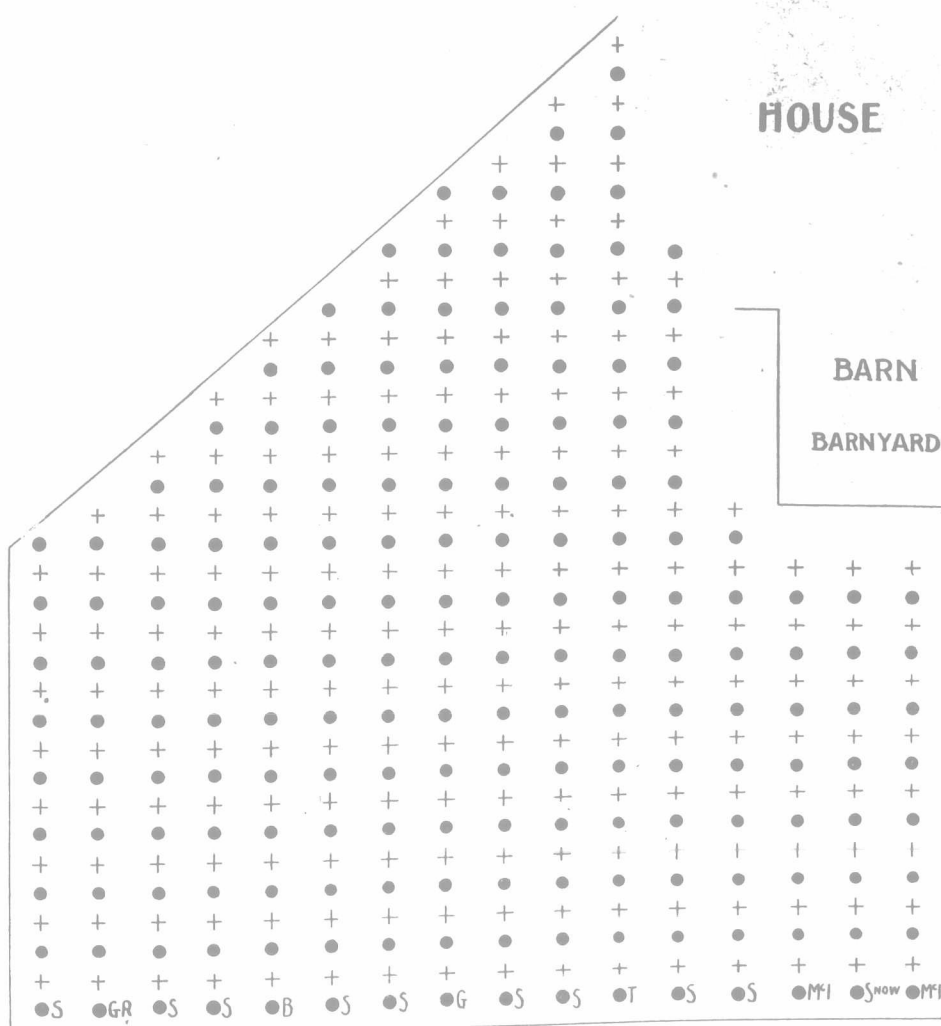


Diagram of Young Orchard Planted at Weldwood, 1912.
Rows of standards are labeled S (Spy), etc.