

(a) Provide adequate shelter to protect the young trees.

(b) Prepare the soil thoroughly.

(c) Select those varieties most suitable for the locality, soil conditions, market requirements, and length of the harvesting period.

(d) Last, but not least, do not crowd trees when planting.

The following table shows the number of trees per acre from 10 feet up to 30 feet when planted on the square system:—

No. of Ft. Between Trees.	No. of Trees.	No. of Ft. Between Trees.	No. of Trees.
10ft.	435	22ft.	90
12ft.	302	24ft.	75
14ft.	222	26ft.	64
16ft.	170	28ft.	59
18ft.	134	30ft.	48
20ft.	109		

The minimum standard distance for planting apples and pears should not be less than 18 feet, with 134 per acre; in some soils it would be preferable to plant 20 feet, with 109 per acre. Stone fruits should be planted 20 feet or even more, depending largely upon the class of soil. The distances men-

tioned may at first appear unreasonable, but as the trees begin to develop the room is needed for successfully carrying out all cultural, spraying, and harvesting operations. Moreover, a reasonably free circulation of air is needed at all times, and if the trees are crowded this is scarcely possible.

### Pruning

Pruning should be started in June and pushed forward reasonably early. In some quarters it has been the practice to delay the work. This is not advisable, as broken weather will always further delay the work, and it is often not completed until September. Pruning can be carried out on apples until very late, but it is not good orchard practice, as other work is then in season. Therefore, begin early and plod along until completed.

A few points worthy of note are:—

1. Have a good pair of secateurs and one of the up-to-date pruning saws.
2. Have a light ladder for reaching the higher portion of the larger trees.

3. Do not shorten the young growth of peaches and nectarines more than is necessary; rather, pay attention to adequate thinning and spacing both leaders and laterals.

4. Remove all dead wood and any wood of a weakly nature and immature and also strong water shoots if there are any.

5. Make all cuts clean, and pare neatly with a sharp knife any large wounds made with the saw and cover with a bitumastic paint.

6. Gather up and burn all prunings, as this is a part of good orchard practice.

### Orchard Hygiene

Orchard hygiene plays an important part in good orchard practice, and attention should be given to this work. Burn up all orchard prunings, and destroy any decaying and diseased fruit. An accumulation of either is not only unsightly, but is likely to be a source of further contamination the following season.

—L. PAYNTER, District Supervisor, Auckland.

## Citrus Notes

### Citrus Bud Selection

REFERENCE was made in last month's notes in the "Journal" to the necessity when planting citrus trees to plant only the best. The choice of such trees depends upon the variety and the root-stock, but these two factors are themselves greatly influenced by the care with which the propagating budwood has been selected and the relative vigour of the rootstock at time of budding. In order to co-ordinate previous efforts and to improve the existing position in New Zealand, the co-operation of every grower and nurseryman is desired in the efforts being made by the Citrus Bud Selection Committee to locate trees of outstanding quality from which budwood can later be cut for propagating purposes.

In the past the reproduction of citrus trees has been done by seed, cuttings, layering, budding, and grafting. Today, the standard method is by budding, a system of vegetative reproduction by which the young citrus tree retains the characteristics of the tree from which the original bud was taken. This bud is inserted into one of the standard root-stocks for citrus trees, namely the sweet orange (*Citrus sinensis*), the rough lemon or *Citronelle* (*Citrus limonia*), the trifoliate orange (*Poncirus trifoliata*), etc. Although



A five-year-old Ruby Blood orange tree on *Poncirus trifoliata* stock, H. R. Wright's nursery, Avondale, Auckland.

root-stock and general environmental factors have a considerable influence on the development of the young citrus tree, trees planted out on the same root-stock and within the same environment differ widely. In every

commercial citrus orchard today there are all qualities of trees both in vigour of growth and in the quality and quantity of fruit produced per tree. This difference is largely due to the original buds from which trees were propagated.

No farmer would endeavour to build a pedigree herd by the purchase of stock at random in a saleyard. He would look for the characteristics he desired in his herd and choose his stock accordingly. If he were in error in his judgment, by breeding from superior sires he is able to make vast improvements in a comparatively short time. The citrus grower has, in the past, paid too little attention to his original trees, and when, by experience, he learns his mistakes he may have spent many years of hard, conscientious work on inferior trees. Not only should root-stock seedlings be severely culled, retaining only the strongest, but also the best available citrus buds should be budded on to those root-stocks.

The work of finding the best buds available is known as citrus bud selection. Generally, citrus trees have been propagated from the best available material, but the individual person who was propagating the trees