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After selection and preparation of a site for the new orchard, the next thing to consider is...

**ORCHARD PLANTING SYSTEMS**

By K. T. WHITELY, B.Sc. (Agric.), Adviser, Horticulture Division

**HAVING** decided on the location of the orchard and the types of fruit trees to be planted, the grower is still faced with the problem of layout of the trees in the new orchard.

The most common arrangement of trees in orchards in this State is the square system, but there are other alternatives, and it is worth considering whether another pattern might be more suitable to your particular situation and circumstances.

Other planting patterns are the rectangular, the diagonal, the hexagonal or triangular, and the contour system.

**Square System**

In the square system the trees are set out in squares, each tree occupying the corner of the square. This is the usual pattern and orchard operations are easily handled in this design.

Although they have not been used in this State to date, this pattern also allows the grower to plant “filler” trees, or trees for short term cropping. These can be planted either in one direction only, giving a rectangular pattern, or in both directions, giving a half-scale square pattern. In other words if your final planting distance on the square was decided to be 20 ft. you could initially plant in a 10 ft. x 20 ft. pattern and remove the intervening trees later (having had a number of years’ production from them) to leave the desired distance between trees of 20 ft. x 20 ft.

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The square system, the one most commonly used in this State

**Rectangular**

The rectangular system has the trees in a rectangular pattern rather than a square, and while leaving the usual width between rows allows close planting along the row. This is of interest in some of our districts where certain planting distances are generally held to be necessary, but closer planting has never been discredited by practical trial.

**Diagonal**

The diagonal or quincunx system also has the trees in the square or rectangular
The rectangular system, which can give greater economy of available soil while retaining ready access along the rows pattern but has a tree in the centre of that square or rectangle.

This arrangement allows a greater number of trees to be planted per acre than the square system, with the same distance between trees.

In the triangular or the hexagonal system the trees are all equidistant and occupy the corners of a triangle. This system allows for a more equal distribution of tree tops and roots in a given area. In fact the economy of space is such with this system that 15 per cent. more trees can be planted per acre than in the square system using the same planting distance.

For example, if it had been decided to plant the trees 20 ft. apart you could plant 109 using the square pattern and 125 using the triangular pattern. In comparison, the diagonal system would allow 116 trees to be planted on this spacing.

If the pattern of the diagonal or the triangular systems of layout is visualised it will be realised that these designs oblige us to use diagonal cultivation. This can be more effective in limiting erosion than cultivation in the square system, where cultivation directly up and down the slope can predispose the soil to excessive wash and consequent erosion.

Contour Planting

Where erosion is likely to be a real problem serious consideration should be given to the contour system of planting.

Besides preventing or greatly reducing erosion this system makes it more feasible to grow orchards on moderately hilly country and allows conservation of water in the lands between the tree rows. It must be realised however, that some slopes are so steep that they cannot successfully be planted using any system.

The contour system involves planting the trees across the hill in rows which are nearly horizontal, and are referred to as contour rows.

As a result of cultivation across the hill sides, or by special provision, contour drains or banks develop which catch excess runoff and channel it out of the
The contour system, the planting layout with soil conservation as a main consideration. This system could be considered in many of the cases of hillside planting now being carried out in this State.

Orchard. A catchment waterway down the side of the orchard is necessary to further remove the water emptying from these drains.

Because the pattern of this layout is not as symmetrical as those mentioned previously the number of trees per acre is often reduced, but where the system is warranted benefits from it far outweigh the disadvantages.

It can be seen then that besides the generally used square layout of orchards there are several alternative methods which can be used, each with its various advantages and disadvantages. By and large the selection of any of these plans will depend on the kind and variety of fruit, the topography of the land, and the preference of the individual. But if you intend to plant or replant an area of fruit trees it would be worth the trouble of contacting your local Department of Agriculture Fruit Officer to discuss the matter of planting pattern with him.

**SPORTS PAVILION FOR MURESK**

Muresk Agricultural College old boys are planning to donate a sports pavilion to go with the College's new oval.

The pavilion, which has already been designed, will incorporate change rooms, tea rooms, and seating for 200 spectators. It is expected to cost about £6,000.

To raise this money the Old Boys' Association is conducting an appeal for funds and has contacted 600 of the College's 800 ex-students. Old Boys who have not been contacted and others who are interested in the appeal may contact the Association, c/o P. C. Kerr and Associates, St. George's Terrace, Perth.
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