

**THE SOIL AND ITS PREPARATION.** Apples may be successfully grown on a great variety of soils, from a moderately light sand to a heavy clay. The best soil, however, is a deep, open, clayey loam, which should be well drained either naturally or artificially. In addition to this it should be moderately rich and retentive of plant food, for it is impossible to raise good fruit on poor soil.

To prepare the land for planting it should be plowed deeply in the fall and put in good condition in the spring as if prepared for a hoed crop. If the subsoil is a hard clay into which the roots of the trees cannot readily enter, it should be loosened up by means of a sub-soil plow. Where it is not convenient to treat the whole ground in this way, do a strip at least five or six feet wide where each row of trees is to stand, or when planting dig the holes much wider and deeper than would be otherwise necessary for planting.

**DISTANCE APART FOR PLANTING.** It is impossible to state any particular distance apart for planting which would be suitable for all conditions. The rule should be to allow space enough so that when the trees are full grown the tops will yet be a few feet apart. This allows the free admission of sunlight so necessary in producing well colored fruit. The ultimate size of a tree will depend much upon the variety, and the soil upon which it is grown. Varieties such as the Ben Davis or Ontario, for instance, require much less room than large growing varieties such as the Greening or Baldwin, while a tree of any given variety will grow much larger or smaller than usual according as it is grown on richer or poorer soil. The best guide to intending planters is to observe the distances apart of full-grown thrifty trees in the neighborhood. These will be found to vary with different varieties in different sections all the way from twenty-five feet in the case of the smaller growing varieties to forty feet in the case of those varieties that spread. The average distance will be about thirty feet. It will be found to be better to keep them a little too far apart rather than to crowd them.

**ARRANGEMENT OF TREES.** There are several methods of arranging the trees in an orchard. The one usually adopted is the square; most used no doubt because many do not know of a better. By this arrangement the trees are planted in rows the same distance apart each way, four trees forming a square. A much better plan is what is known as the hexagonal. By this system fifteen per cent. more trees can be grown per acre without the least bit more crowding—no small item when we consider that the profits per acre are increased accordingly. By the hexagonal arrangement the trees in the second row are set alternating with those in the first; six trees forming a hexagon and enclosing a seventh in the centre. To ascertain the correct position for the first tree in the second row, and consequently the distance apart of the rows that way of the orchard,