

at the cambium layer.) The relation of this to the practices of budding, grafting, etc., is most important. The approximate location of the organs for the conduction of plant-food and sap is important in its relation to the ringing of the tree, peeling of the bark, cutting above and below buds, etc.

The leaf is one of the most interesting and most essential parts of the tree. It is here that the raw plant-food as it comes from the soil is transformed into carbohydrates, etc., which are used for the growth of the tree and the development of its fruit. Without leaves during the growing season a plant could not live any length of time, as the plant-food, as it is absorbed from the soil, is of little use for the growth of the plant. The outside accessories to the elaboration of plant-food in the leaf are mainly heat, light, and air. Situated on the leaf are numerous breathing pores, which, besides functioning for the taking-in of air, give off by transpiration the excess moisture from the plant-food in the leaf.

The buds for the following season's crop of fruit and leaves are formed in the axil where the petiole of the leaf joins the twigs, branches, etc. The amount of plant-food elaborated in the leaf seems to influence to a large extent the character of the buds; and as light accelerates the building-up of plant-food in the leaf, it is necessary to the formation of good strong buds. The relation of this to the formation of fruit-spurs is evident, for in order to favour their formation low down on the branches, it is necessary, especially in the humid climates, to keep the tree well thinned by pruning, to allow plenty of light to reach the parts where fruit is desired. A knowledge of the functions of the leaf are important to the fruit-grower in its relation to pruning, fruit-bud formation, maturity of wood, etc.

The structure of the blossom, formation of fruit and seeds, changes in fruit and vegetables in storage, can be discussed under the heading of "plant-physiology," but owing to the limited space are only mentioned here.

A study of plant-growth is of great interest and value to the fruit-grower, as it is related, either directly or indirectly, to all operations in the orchard. The subject might appear at a casual glance to be too scientific for the practical horticulturist to listen to, but with the man who is interested in his orchard we have not found this to be the case. On the other hand, the subject offers, when discussed from the fruit-grower's standpoint (there are readable books to be had on the subject), interesting and useful information, which will place him in a better position to carry on his operations with pleasure and profit. We trust that the information as given here will be the means of interesting some fruit-growers to the extent that they will secure some available books on the subject, and make use of them as opportunity offers.

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