



ADVANTAGES OF GRAFTING FRUIT TREES

Xamdamov Jasurbek Kimsanboyevich

Researcher, Tashkent State Agrarian University

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Since the beginning of horticulture, man has realized that it is possible to increase the efficiency of the garden by selectively growing strong and productive trees and abandoning weak and low-yielding trees. At first, there were only tree species that grew wild or sprouted from planted seeds. Trees grown from seed are considered to be sexually propagated and although they partially resemble the parent tree, they are usually always distinct from each other.

Over time, man learned the secrets of horticulture and discovered a way to grow exactly the tree he wanted (usually fruitful and hardy). There are two methods of propagating a tree variety to its exact counterpart, one is by cuttings/cuts. Simply put, cuttings are cut from the branches of the tree to be propagated and planted in the ground. After that, the cuttings take root in the soil and turn into seedlings.

The second method is grafting. In this method, a cutting is taken from the branch of the tree that needs to be propagated, but unlike the first method, it is not pushed to the ground. In the language of welding, this part is called a weld (top). The scion is attached to another seedling base (graft) of the same type or close to the type, in which both parts stick together and begin to develop together. Any bruising on the scion itself is stopped and it merely acts as a rootstock while the scion develops to form a tree trunk and branches. The two methods described above are called asexual vegetative propagation. In rooted cuttings and grafted trees, the bruised part of the graft is the clone of the parent tree. Today, almost all fruit trees and many ornamental tree species are propagated by vegetative methods. Because seedlings grown in this way retain all the characteristics of their parent tree variety. Cultivars created are usually distinguished by high yield, quality, shape, flower and leaf, and resistance to pests and diseases. These qualities are not found in seedlings grown from fruit seeds of this variety, that is, nature restores the sprouts from seeds to their original state. Another disadvantage of seedlings grown from seeds is their late harvest.

Grafting ensures a successful union between the graft and the stem of the variety to be propagated. In the language of gardeners, this is also called "joint healing of common wounds." Wound healing begins with the appearance of





blistered bark tissue around them, which is separated mainly from the cambium, as well as wood and bark. The cambium is a layer of cells between the bark and the woody part, and it is from these cells that annual growth begins. When a graft or graft is cut, the cambium layer is visible at the junction of bark and wood. In all welding methods, it is necessary to ensure mutual adhesion of the weld and the cambium parts of the weld, only then the welding is successful and the parts begin to develop together. Another aspect that should be paid attention to in the process of welding is the mutual proportionality of the weld and the weld, that is, they fit together. Such a proportion is usually characteristic of similar seedlings, and in some cases it is found in different trees that are close to each other. Seedlings sprouted from the seeds of the fruit of the graft variety are often used for grafting. Growing such seedlings is cheap and inexpensive, and the firm location of the roots in the soil is an additional advantage for the development of the tree.

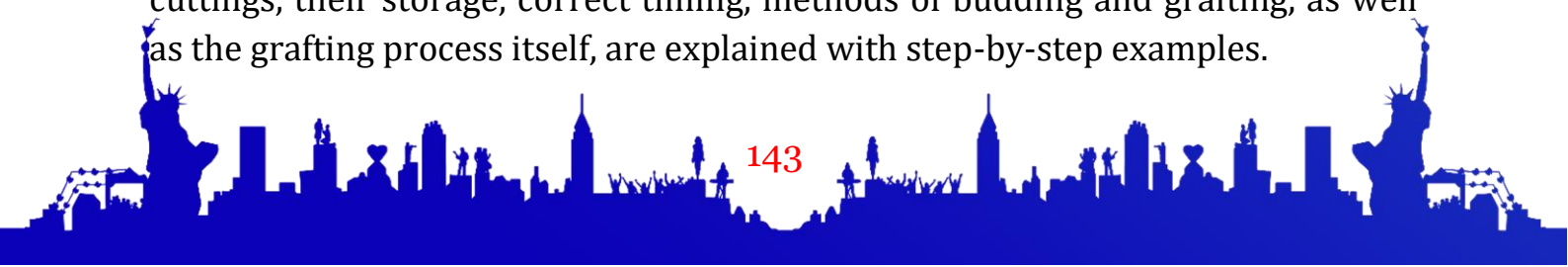
At the same time, seedlings sprouted from seeds are variable. Therefore, propagation of grafts in the form of cuttings by vegetative means is currently not widely practiced. This is due to the fact that varieties resistant to various soil-related diseases have been created for most fruit species, and it is very effective to propagate grafts from such varieties. If it is suitable for mutual development with a graft, a graft can be selected that is suitable for the soil conditions of the planting site, even different from the graft type.

Nowadays, almost all fruit tree species and some ornamental tree species are propagated by grafting. But some varieties of vines, figs, olives, roses and plums are best propagated by cuttings.

The purpose of grafting is to ensure that the graft and the graft tissue are interconnected and develop as a whole. In order for the graft to develop and become the upper part of the seedling, any bruising and development at the base of the graft should be stopped immediately.

For successful grafting, the following conditions must be met: the graft must be in its effective state, take cuttings from a quality one-year-old branch for grafting, and use the most suitable method of bud grafting or grafting, depending on the situation. Proper timing of grafting and proper post-graft care are also integral parts of success.

A number of manuals and books have been created abroad to help gardeners with grafting, and they cover almost all types of trees. Selection of grafting cuttings, their storage, correct timing, methods of budding and grafting, as well as the grafting process itself, are explained with step-by-step examples.





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