

ROOTSTOCK GROWING TECHNOLOGY

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Annotation: *In principle, from a biological point of view, seedlings can also be self-rooted. However, in many cases, ungrafted trees do not have early fruiting, that is, their fruiting begins relatively late. But when selecting rootstocks and scions, it is important to take into account and know the compatibility of the graft components in scion-rootstock combinations. The fact is that it greatly affects the productivity, mechanical strength and durability of trees.*

Key words: *cutting, mother liquor, grafting, seedling, bole, bush formation, vertical trellis.*

The quality of the rootstock determines the yield and resistance of the tree to diseases. A rootstock is a plant (or part of it), to the stem or root system of which a graft is grafted (a cutting or part of it with a bud of a plant of the variety you need). The rootstock plays a very important role: it provides complete nutrition to the upper part of the plant, i.e. scion.

Consider the main types of rootstocks, their advantages and disadvantages.

Seed stock. You can get it from a seed or a bone. For example, you sow the seed of an apple tree, from which a tree grows over time - a seed stock.

Benefits of seed stock:

- not whimsical viable tree with a developed root system;
- quite easily tolerates severe frosts and drought;
- has a long productive period;
- gives a rich harvest

Disadvantages of seed stock:

- there may be difficulties in caring for the tree;
- inconvenient to pruning and harvesting;
- the first fruits appear on average after 4-7 years;
- takes up a large space, so planting a lot of such trees in a small garden will not work;
- developed root system may suffer from nearby groundwater

Clone stock. It is obtained exclusively in a vegetative way, i.e. rooting cuttings. Gardeners often use this method when it is necessary to secure certain valuable properties of the mother plant (scion) to the rootstock, for example, the sweet taste of the fruit.

Clonal rootstocks are of two types:

- dwarf rootstock – the average height of trees is 2-3 m;

- semi-dwarf rootstock - tree height 3-4 m.

Advantages of a clone rootstock:

- precocity (the first crop can be harvested 2-4 years after planting);
- small size - trees are easy to cut, no bulky ladders are needed when harvesting;
- better crop quality compared to growing on a seed rootstock;
- suitable for small gardens, as they take up little space;

Disadvantages of clonal rootstock:

- labor input in leaving;
- superficial placement of the root system leads to the fact that the rootstock may suffer from frost and drought;
 - the need to install special supports that will keep the tree from falling;
 - thanks to the superficial root system, the trees are not afraid of high groundwater
 - relatively short productive period (from 8 to 15 years)

For successful fusion of rootstock and scion, many factors must be taken into account. One of them is a botanical relationship. Best results can be achieved by intraspecific vaccinations (for example, a wild cherry is used as a rootstock, and a varietal cherry is used as a scion). Many gardeners also practice grafting between species (for example, rootstock - cherry plum, and scion - plum) and even intergeneric vaccinations (rootstock - plum, and graft - peach).

The table below shows the most common rootstock options and the most suitable scions for them.

Table 1

The most common types of rootstocks

Rootstock	scion
Quince	Quince, pear
cherry plum	Cherry plum, plum, apricot, peach
Aronia	Aronia, pear, rowan
Hawthorn	Hawthorn, pear, apple, quince, cotoneaster
Cherry	Cherry, plum, apricot, cherry, peach
wild cherry	Cherry
Pear	Pear, apple tree
cerapadus	Cherry
Apple tree	Apple, pear, chokeberry, cotoneaster
Plum	Plum, apricot, cherry plum
Peach	Wild peach and bitter almond
Cotoneaster	Pear
Irga	Irga, pear, rowan

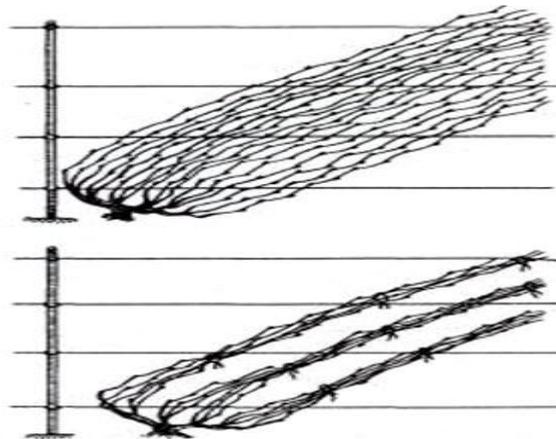
A complex of technological methods that ensures the production of rootstock cuttings that meet the requirements of the standard. Includes: selection of varieties, laying of mother liquors of rootstock vines, formation of bushes and arrangement of supports, care of young and vine-bearing plantations, preparation of cuttings and their storage. The selection of varieties is carried out taking into account the purpose of grafting, their zoning in accordance with the zonal characteristics of the grape culture, since rootstock varieties are distinguished by different resistance to adverse environmental factors (individual pests and diseases, frost, drought, soil salinization, etc.), as well as unequal affinity in

relation to various European varieties of grapes (see Mother cells of rootstock vines). The laying of mother liquors of rootstock vines in special nurseries. farms are carried out with high-quality seedlings according to projects, in places with increased heat supply, on relatively light mechanical ones. composition of soils, according to plantation, with the introduction of increased doses of fertilizers (see Laying a vineyard). The formation of bushes is carried out using various forms, depending on the conditions of the culture and the biological properties of the varieties (cup-shaped, fan-shaped, short-sleeved, cordon, and other modifications with or without boles).

In this case, the bushes are kept on various supports, including trellises (low U- and T-shaped, vertical 3-6-wire, one-wire oblique, pyramidal, etc.), on stakes, and also in spreading (see. Culture planted. Culture of grapes on stakes, Pyramidal support of rootstock mother liquors, Tapestry).

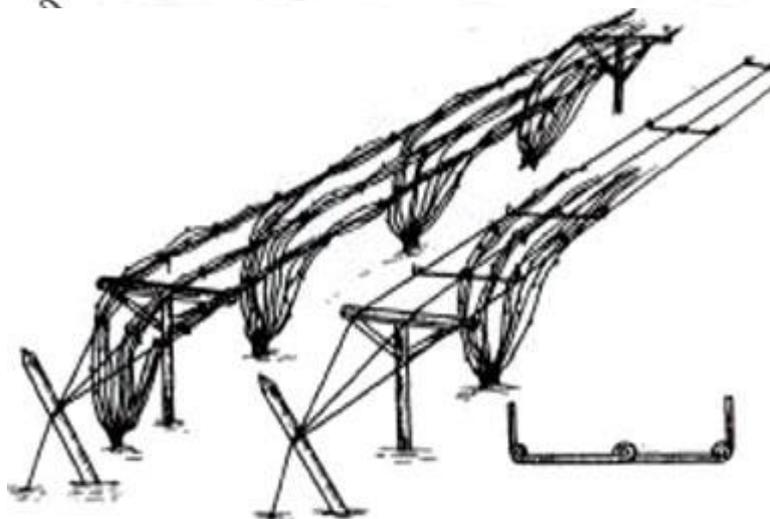
Planting care should ensure good shoot growth and vine maturation. It consists in the annual pruning of bushes, performing operations with its green parts (debris, tying shoots, pinching, chasing), tillage, fertilizing, protecting bushes from pests and diseases. Features of T. century. p. are: short pruning of vines (leaving 2-4 eyes), as well as careful and timely breaking out of excess shoots (up to 50%) when they reach a length of 30-40 cm, ensuring the optimal load of the bushes; multiple stepchildren (4-6 times per growing season) with the removal of stepchildren of the 1st and 2nd orders on the main shoots (when reaching a length of 10-15 cm); obligatory chasing of shoots at the completion of their growth in length with the removal of grassy tops with 5-6 internodes; garter shoots, providing their rational placement in space (Fig. 1-3).

Fig. 1.
on a vertical
methods of



Growing a rootstock
trellis with different
tying shoots

Fig. 2.
on a horizontal



Growing rootstock
T-shaped trellis

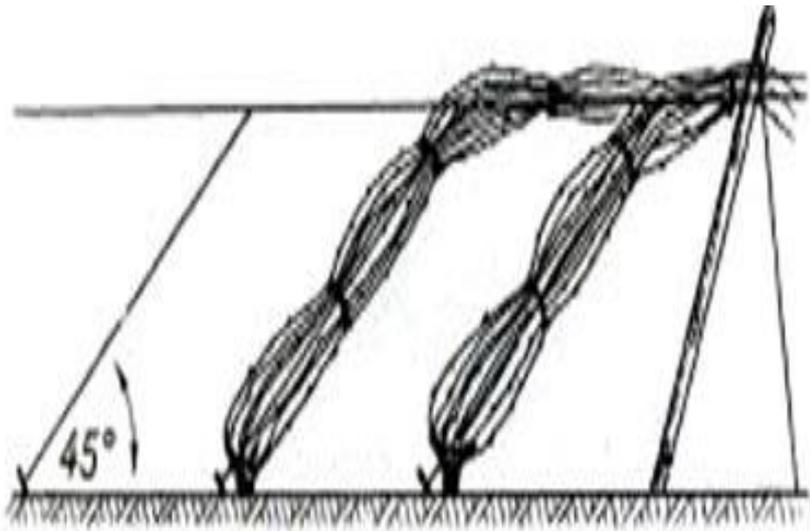


Fig. 3. Growing rootstock on one wire oblique trellis

Soil care consists in the annual autumn plowing of row-spacings, the application of herbicides or cultivation during the

growing season, excluding the development of weeds). Fertilization is carried out taking into account the agrochemical characteristics of soils and the state of plantings. Harvesting of the vine and laying it for storage are carried out during the dormant period of the grapes. Cut off all the shoots, simultaneously performing the final pruning of the bushes. Cut vines are sorted by thickness and tied (in 2-3 places) into bundles of 100-200 pieces: separately - vines suitable for grafting (with a diameter of more than 6.5 mm), and separately - for rooting in a shkolka (with a diameter of 5.0 to 6.5 mm). Thinner vines are not harvested (see Procurement of cuttings). A label is attached to each bundle (with the designation of the farm, ampelographic variety, number of cuttings) and stored.

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