

Bevel 3v of walnut grafting

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Abstract

This template explains and demonstrates how to prepare your camera-ready paper for In order to solve grafting bleeding sap problem effectively and improve survival rate in walnut,the 3-V oblique grafting method was invented by scientific design and test.Bleeding sap is drained off through setting up oblique and V-tunnel,with reduce the influence of bleeding sap gathering on cali formation and improve grafting survival rate.

Keywords

Walnut, grafting, oblique plane, 3-V shaped.

1. Introduction

During walnut grafting, the wound flows and accumulates, which seriously affects the formation of callus and the survival rate of grafting. At present, during the high connection, the grafting section saws the water outlet of the xylem to solve the wound flow and flood the grafting site, but it causes too many tree wounds and easy to infection, affecting the survival rate of grafting and the growth of new buds. In this regard, from 2016 to 2018, the 3V grafting test was carried out in Lantian County Lake Town, Xiaozhai Town and Sanli Town, and the grafting survival rate reached more than 95%. New buds germinated 2d earlier than the high sawing water outlet method, and the new buds grew fast, which avoided the sawing water outlet injury and rootstocks and affected the tree potential.

2. Grafting time

Spring from mid to late March to early April, after the temperature rises, the tree sap began to flow, the trees spit green, leaf exhibition, flowering, is the best time for grafting, about 20d.

3. Beon collection and preservation

3.1. Head and bar collection

Beons are collected before the germination and in a dormant state. Generally, from late February to early March, strong branches with pure varieties, smooth surface, many buds and large buds are selected.

3.2. The scion is preservation

Early spring temperature is not high, in the north side of the building back, dig a deep 30~40cm pit, pit bottom shop 3cm clean wet sand or straw and other clean moisture absorption materials, wet sand above placed a layer of close ears, after a layer of wet sand, until the wet sand and the ground on the same level, and then on the wet sand covered with clean wet straw bags or straw. Sand humidity to hold tightly into a group, loose hand is scattered shall prevail.

Beon can also be kept in the refrigerator preservation room, save the ears and suction sponge or wet toilet paper into a clean small plastic bag, then put the small plastic bag, tie the bag mouth; generally each small plastic bag put 10 to 15 scions, each large plastic bag put 4 to 5 small plastic bags. A large number of scions can be stored in cold storage, first with 1% potassium

permanganate solution to sterilize the scions, the other steps and methods are the same as in the refrigerator.

scion cryopreservation should do a good job of variety registration, variety label and scion storage at the same time.

4. Grafting method

4.1. Method

If you in spring, the rootstock is over 3cm thick is the best.

4.2. V-type oblique surface treatment of the rootstock

The stem section in the middle of the spike was selected, and the length of the scion was determined by the number of buds, and three healthy full buds were guaranteed on the scion after leaving 40~60mm long. At the lower end of the spike and the bottom of the bud, cut a large slope and small slope, the large slope is about 10mm long (2 / 3 diameter of the ear), the slope with small slope is about 30~50mm long, and the cut surface should be smooth and clean.

4.3. Suckling treatment

The stem section in the middle of the spike was selected, and the length of the scion was determined by the number of buds, and three healthy full buds were guaranteed on the scion after leaving 40~60mm long. At the lower end of the spike and the bottom of the bud, cut a large slope and small slope, the large slope is about 10mm long (2 / 3 diameter of the ear), the slope with small slope is about 30~50mm long, and the cut surface should be smooth and clean.

4.4. Block type V diversion channel

At the north side of the saw surface and below the V-shaped tip, the bark is removed to form a V-shaped slender -- downward drainage channel of 3~5mm wide and 30~50mm long, which is conducive to maintain the water aggregation of the grafting mouth.

4.5. Grafting

Cut a small slope (small semicircular shape) about 15mm wide at the top point of the stock, and cut it down on the bark at the lowest point, with the length of about 40mm. With the tip of the knife to remove the bark of the outside, the xylem near the xylem, from the mouth into the rootstock bark, until the slope of the scion is near the small slope of the xylem.

4.6. Beuron V-type diversion channel

Cut the lower end of the spike horizontally, about 15mm wide, cut a 5mm-high 5 mm triangle from the tip, and then remove a 3mm wide and 20mm long strip at the lower tip of the triangle to guide the water at the spike to flow downward.

4.7. Package seal

When wrapping, the saw face and ears are all sealed with plastic film, and the saw face V-shaped face should be empty, so that the wound water can flow automatically. At the lower mouth of the trunk and heading V-type drainage channel, an outlet of about 3mm long is not wrapped and sealed, so that the water from the saw surface and grafted parts can flow out freely.

This grafting method not only effectively discharges the wound flow from the grafting wound, reduces the water discharge at the lower part of the grafting site, causing unnecessary wounds to the tree; and the nutrients at the root of the stock can be transported to the graft, quickly generating callus and improving the grafting survival rate.

Beons are inserted into the rootstock in several circles to prevent splitting. The newspaper was then used to form a cylinder on the graft stock, and the newspaper cylinder was tied to the stock,

leaving the scions in the dark environment of the newspaper cylinder. Then put a plastic bag on the newspaper to prevent the rain.

5. Post-grafting management

5.1. Air release

One week after grafting, check the germination of the ears buds from the upper part of the plastic bag. If the bud is 5cm long, open a thumb-sized mouth on the plastic bag to communicate the air between the plastic bag and adapt to the external environment; expand the hole every 2d until all the new buds are exposed.

At the same time, cut off weak buds, retain strong buds, save nutrients, and promote the rapid growth of new buds

5.2. Tie the wind rod

Grafting bud grow speed is fast, when the length reaches more than 20cm, for windproof break, to the new bud to bundle dry, the new bud fixed to the dry

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