

# Štěpování ořešáků a sortiment málo známého skořápkatého ovoce



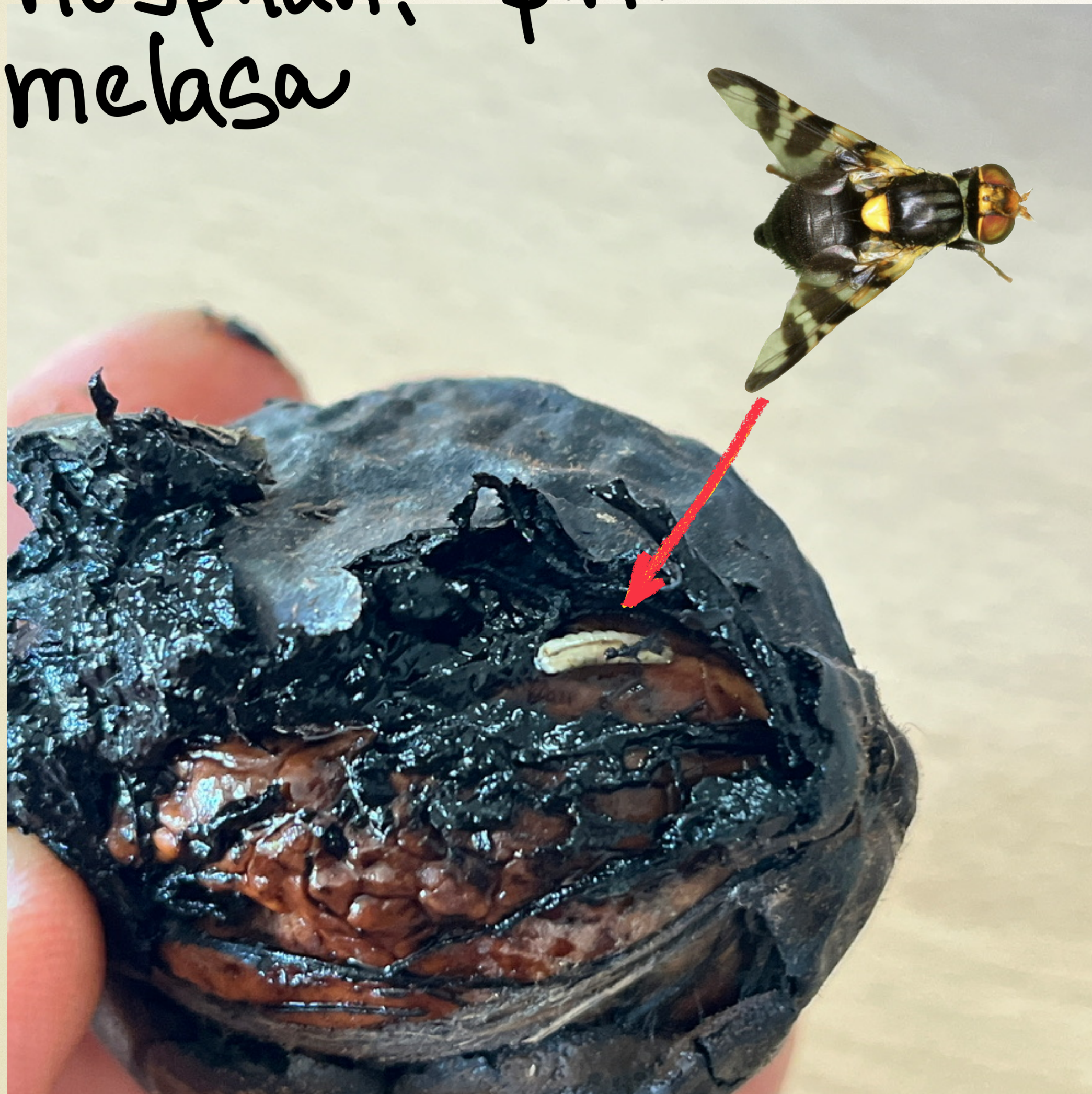


Produkce různých druhů ořechů vzrostla  
za posledních 10 let na 4,5 mio. t ročně  
tj. 48% nárůst

Hodnota exportu vzrostla za posledních  
10 let na 3,4 bilionů USD  
tj. 107% nárůst



Vrtule ořechová  
Nospilan, Spintor  
melasa





# Podnožie pod pistácie

Pistachio	
Badami-Riez Zarand seedling ( <i>P. vera</i> )	Vigorous, tolerant to <i>Phytophthora</i> spp.; salinity tolerant
Sarakhs seedling ( <i>P. vera</i> )	Salinity tolerant, susceptible to <i>Phytophthora</i> spp.
Qazvini seedling ( <i>P. vera</i> )	Salinity tolerant
Beneh ( <i>P. atlantica</i> Desf. ssp. <i>mutica</i> F&M)	Resistant to root-knot nematode, less vigorous and difficult to bud than 'Badami-Riez Zarand', scion-rootstock incompatibility, negative effects on yield
Terebinthus ( <i>P. terebinthus</i> )	Cold resistant, less vigorous, and less uniform than other common rootstocks, efficient zinc and copper absorption, resistant to <i>Armillaria</i> root rot, <i>Verticillium dahliae</i> susceptible, high rusticity
→ Atlantica ( <i>P. atlantica</i> )	Higher <u>cold tolerance</u> and less vigorous than <i>P. integerrima</i> , susceptible to <i>Verticillium dahliae</i> , tolerant to root asphyxia.

Table 1. Cont.

Rootstocks	Main Characteristics
Integerrima ( <i>P. integerrima</i> )	Vigorous, buds easily, least cold tolerant of the commonly used rootstocks, tolerant to <i>Verticillium</i> wilt
Khinjuk ( <i>P. khinjuk</i> )	Drought tolerant, susceptible to <i>Phytophthora</i> spp.; more vigorous than 'Beneh'
Pioneer Gold I (PGI) ( <i>P. integerrima</i> × <i>P. integerrima</i> )	Resistant to <i>Verticillium dahliae</i> ; sensitive to frost
Pioneer Gold II (PGII) ( <i>P. integerrima</i> × <i>P. atlantica</i> )	Vigorous, susceptible to <i>Verticillium</i> wilt, no longer commercially available
→ UCB-1 selected seedling	Highly vigorous, positive effect on yield, salinity tolerance, moderately resistant to <i>Verticillium</i> wilt



# Podnože pro lísku, pekanový ořech

Hazelnut	
<i>C. colurna</i> seedling	Compatibility with cultivars of <i>C. avellana</i> , non-suckering rootstock, drought tolerance due to deep taproot, seeds of this species are difficult to germinate
'MB-69' ('Tonda Bianca' seedling')	High vegetative growth, emission of few suckers
Dundee	Open pollinated <i>C. colurna</i> seedling, probably <i>C. colurna</i> × <i>C. avellana</i> , high vegetative growth and high yield performance, emission of few suckers
Newberg	Open pollinated <i>C. colurna</i> seedling, probably <i>C. colurna</i> × <i>C. avellana</i> , high vegetative growth and high yield performance, emission of few suckers
Pecan	
Elliott	Positive effect on nut quality, susceptible to spring frost, very resistant to pecan scab, very susceptible to black aphid
Riverside	Common rootstock for western pecan regions because of salt tolerance, drought tolerance, nut germination limited by poor quality, very susceptible to pecan scab
Stuart	Cold hardy rootstock, moderate resistance to spring frost, susceptible to pecan scab
'VC1-68'	Used as rootstock in the west, especially in California, drought tolerance, frost susceptibility limits use in the southern parts of southeast and southwest
Apache (Burkett × Schley)	Growth initiation in spring not as early as in 'Elliott' and 'Curtis', very susceptible to pecan scab
Colby	Cold hardy rootstock, only recommended for northern areas of Oklahoma.
Giles	Cold hardy rootstock, adapted to northern Oklahoma also used as seed stock in Kansas and far north Texas
Peruque	Best suited for northern Oklahoma, cold hardy rootstock
Kanza	Adapted to all of Oklahoma, cold hardy trees
Moore	Vigorous, productive, some resistance to scab
San Felipe	Drought tolerance



# Podnože pod jedle kaštany

## Chestnut

PO-11 (clonal)	Natural hybrid of <i>C. sativa</i> and Asian chestnut. resistant to <i>Phytophthora</i> spp. and highly compatible with <i>C. sativa</i>
Ferosacre	Resistance to the <i>Phytophthora</i> spp.; sensitive to temperatures less than $-10\text{ }^{\circ}\text{C}$
Marigoule ( <i>Castanea crenata</i> × <i>Castanea sativa</i> )	Vigorous but very demanding on the quality of the soil, incompatible with many chestnut cultivars, moderately productive, resistant to <i>Phytophthora</i> spp. and canker, sensitive to cold weather and root asphyxia
Marsol ( <i>C. crenata</i> × <i>C. sativa</i> )	Vigorous, good graft compatibility with many cultivars, resistance to <i>Phytophthora</i> spp.
Maraval ( <i>C. crenata</i> × <i>C. sativa</i> )	Moderate vigor, good graft compatibility with many cultivars, sensitive to spring frosts, resistance to <i>Phytophthora</i> spp.
Marlhac ( <i>C. crenata</i> × <i>C. sativa</i> )	Resistance to <i>Phytophthora</i> spp.; able to grow at temperatures less than $-10\text{ }^{\circ}\text{C}$



# Podnože pod vlašské ořešáky

## Walnut

<i>J. regia</i> seedlings and clonal	Moderate vigor, less susceptible to crown gall (CG), susceptible to <i>Phytophthora</i> ; resistance to blackline, moderate tolerance to calcareous soil
<i>J. hindsii</i> seedling and clonal	Moderate vigor, moderately tolerant to salinity, some resistance to CG, susceptible to blackline
<b>J. nigra</b> Paradox (seedling)	Hybrid ( <i>J. hindsii</i> × <i>J. regia</i> ). Vigorous, intermediate in salt sensitivity between <i>J. hindsii</i> and <i>J. regia</i> , low susceptibility to <i>Phytophthora</i> ; susceptible to CG and blackline
Vlach (clonal Paradox)	Hybrid ( <i>J. hindsii</i> × <i>J. regia</i> ); vigorous, not resistant to CG or <i>Phytophthora</i> , susceptible to nematodes and blackline. Tolerant to calcareous soil
RX1 (clonal Paradox)	Hybrid ( <i>J. microcarpa</i> × <i>J. regia</i> ); moderately vigor, moderate resistance to CG, resistant to <i>Phytophthora citricola</i> and <i>P. cinnamomi</i> ; susceptible to nematodes and blackline, excellent survival in orchard replant trials
VX211 (clonal Paradox)	Hybrid ( <i>J. hindsii</i> × <i>J. regia</i> ); highly vigorous, some tolerance to root knot and root lesion nematodes, susceptible to CG, <i>Phytophthora</i> , and blackline
Ng209 × Ra seedlings	Hybrid progeny of <i>Juglans nigra</i> 209 × <i>J. regia</i> , highly vigorous, susceptible to CG, tolerant to <i>Phytophthora</i> and <i>Armillaria</i> , tolerant to calcareous soil, susceptible to blackline
Grizzly	The mother tree of Grizzly is a 'Tulare' variety grafted onto a seedling paradox rootstock. high vigorous, resistance to crown gall, tolerant to nematode, pest resistance; best rootstock for poor soil





47. Ořechy všech druhů klademe při výsevu vždy rovně, aby semenáče vyrostly rovně, křivce jsou totiž bezcenné



# Různé druhy raubování

Persian walnut grafting as influenced by different bench grafting methods and scion cultivars

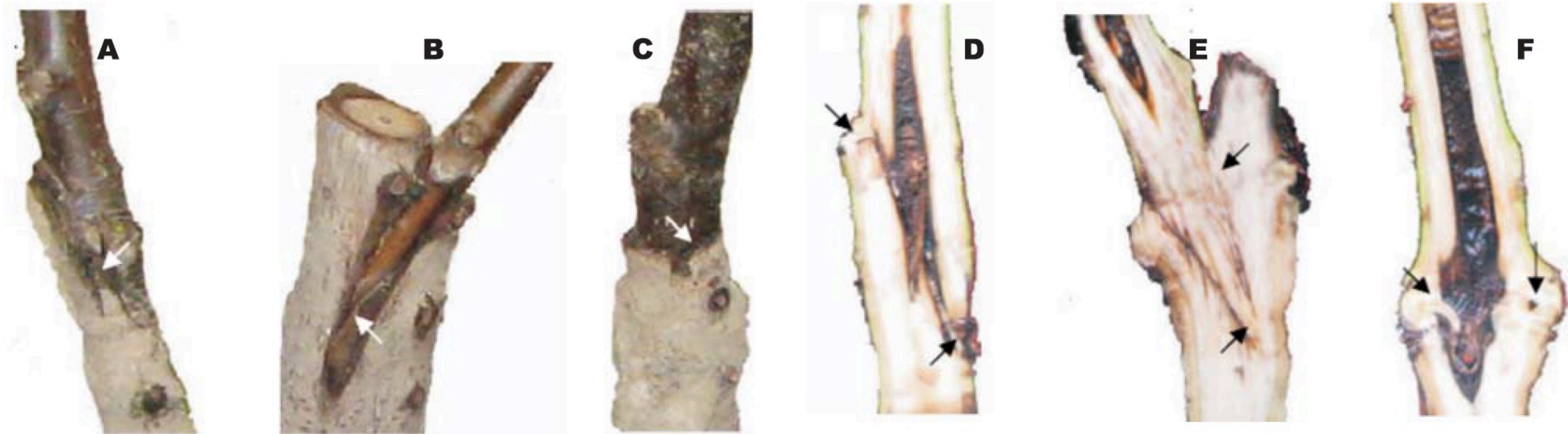
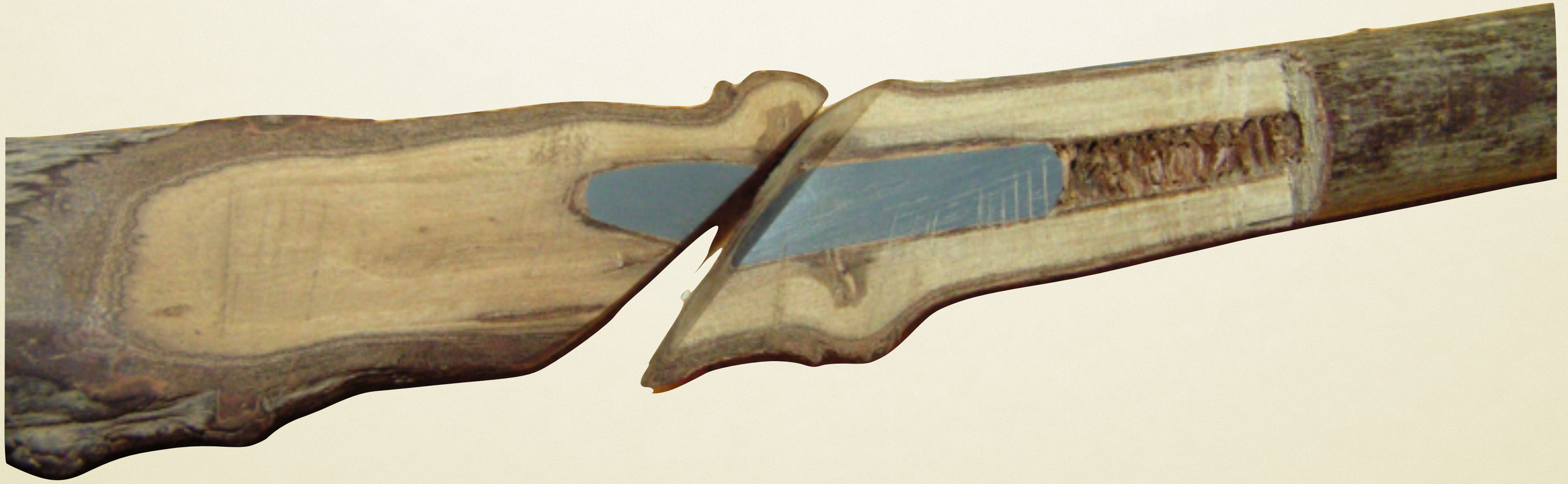


Fig. 3. Interlocking and quality of callus bridge formation between rootstock and scion in the studied grafting methods. A, D) Whip tongue method, B, E) Side stub method, C, F) Omega method





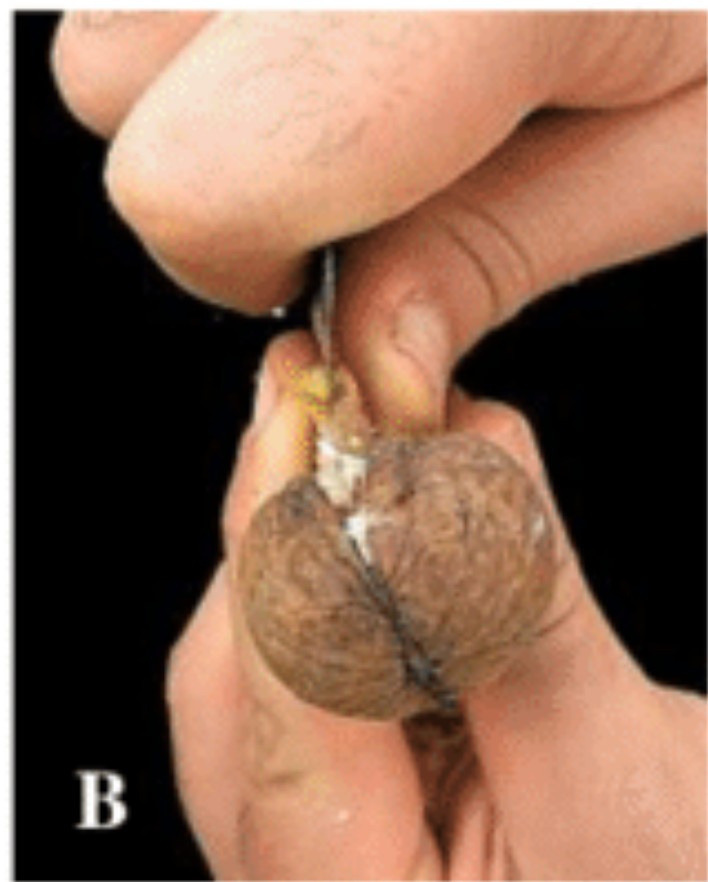
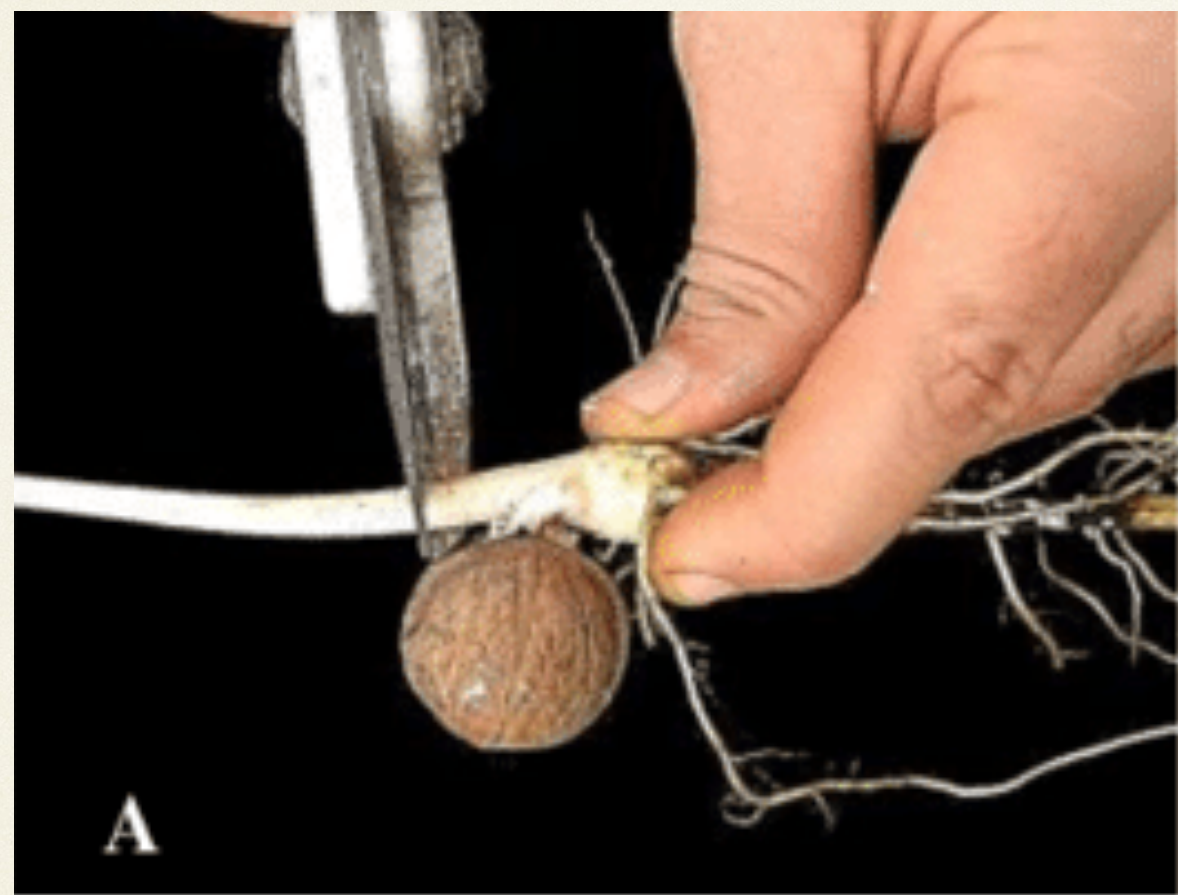


- roubuje na 1 letý semenáč (bývá většinou slabší, než je potřeba) proto používá i 2 leté semenáče, ale ty jsou zase silnější, než je potřeba. Proto je uprostřed léta podřízne, aby je zastavil. Je to nebezpečné: může takto o ně přijít (uschnou): musí se zalévat, nebo pršet
- roub i 2 letou podnož semenáče řeže na cirkulárcena tupo.
- do dřene zatlačí plastový kolíček





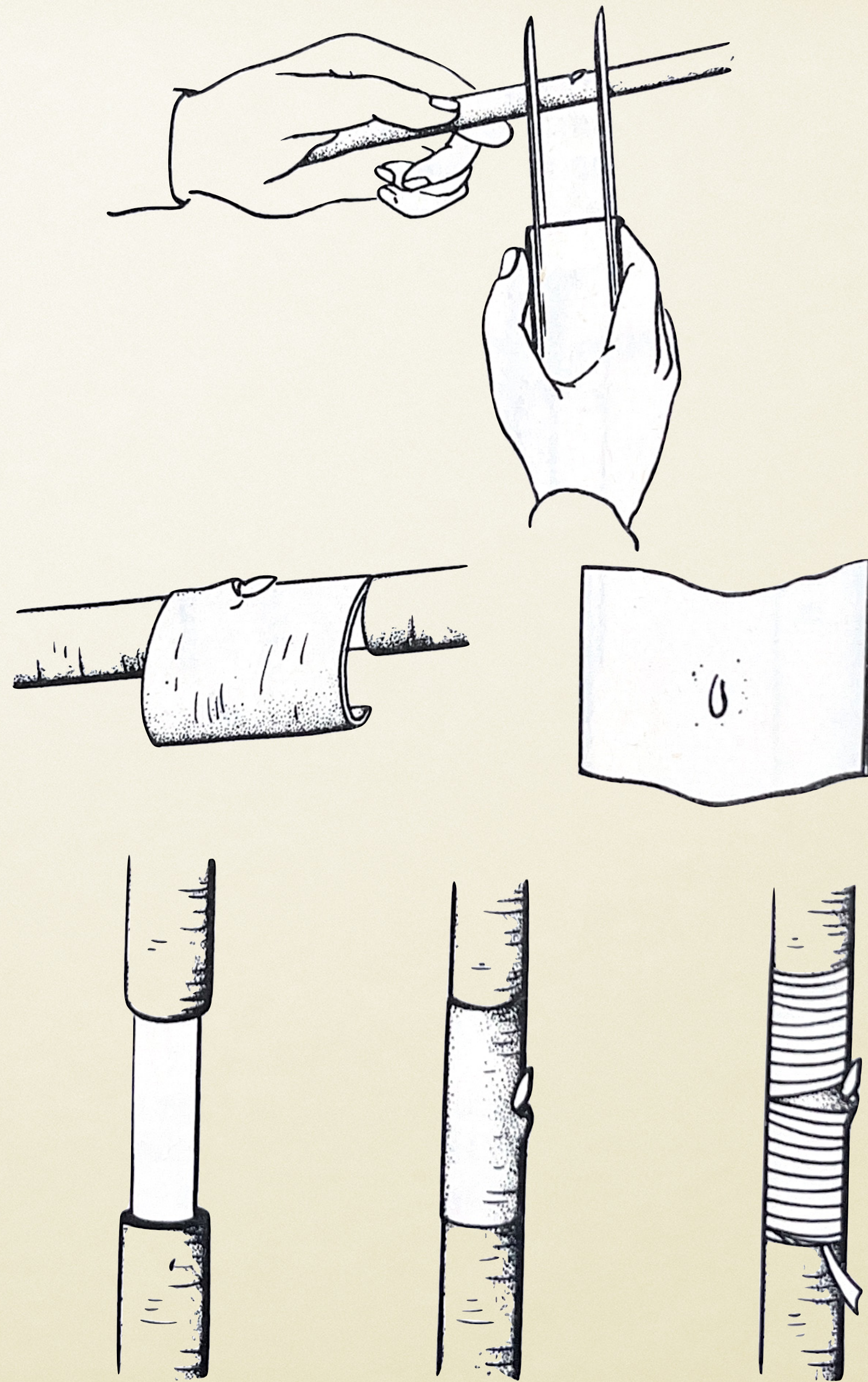
Mikro  
roubování  
na sevevček





# Děkování

- v srpnu na spící očko
- teploty nad  $25^{\circ}\text{C}$
- podnoží I. regionu

















Airpot





# Carpatica

- Moldavská odrůda registrovaná 2018
- plod 90 x 60 mm polopapírek
- raší brzy:  
lze oddělit až o týden  
bílým kmelem
- velikost srovnatelná  
s langhe Van hod





# Ovata

- Moldavská odrůda registrovaná 2018
- zimovzdržnost  $-36^{\circ}\text{C}$
- vitální, odolná proti bakt. spale obalečům, houbovým chorobám
- výborně snáší sucha
- velké jádro světlé barvy
- vhodný pro bioprodukci a zahrádkáře





# Rubin

- Moldavská odrůda reg. v EU 2020
- bujná odrůda, spon 8x8 až 8x10m
- zimovzdorný, suchu odolný
- produkce 2-3t/ha
- jasné červená barva jádra





# Ferjean

- francouzská odrůda
- plodí na laterálních větvích (jako Chandler)
- odrůdy plodící na termínkách 25-3t/ha
- odrůdy plodící i na laterálních 5-8t/ha

registrovaná r roce 1999





*J. regia* Minimultiflora





Juglans ailantifolia

heřtnut  
ořeřák japonský





Juglans ailantifolia  
var. cordiformis

CW1

Jewel box

Imshu

Locket

Stealth

Franks

Simeoe ♡







pěstujte a jezte  
ořechy - jsou  
ZDRAVÉ

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