

New cherries varieties, rootstocks, and propagation methods

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International Plant Management



INTERNATIONAL PLANT MANAGEMENT
VARIETY MANAGEMENT FOR THE HORTICULTURE INDUSTRY

BlackPearl®

**5 days before Bing (-10) About a day after
Cavalier (Rynbrandt) With Chelan**

**Very hard and crunchy, keeps really well,
Excellent flavor**

**West Coast has discovered it and is
planting heavily**

S4S13, Early bloom

From Cornell, bred in the 60's



EbonyPearl®

Ripen 3 days before Bing (-3)

Very large fruits, 12.5 g, 9.5 row

Firm, dark red, beautiful long green stems

Rapidly gaining on the west coast

S1S4, early mid season bloom

From Cornell, bred in the 60's



BurgundyPearl®

Ripens 5 days before Bing (-5)

Large, dark, excellent flavor

Hard, crunchy, exceptional storability

Have seen problems with cold hardiness

S3S4, Early mid season bloom

From Cornell, bred in the 60's



Carneval

- Coming release from Willow Drive
- 4-5 days before Chelan. (18-19 brix)
- Self-fertile
- Crack and mildew resistant
- Hangs for two weeks, so a long harvest window.
- Peaks 9-9 1/2
- Pressure 360-380
- Precocious 10-12 tons to the acre on Mazzard
- Has not been tested in Michigan



New (old) Propagation Methods

- **Bench Graft**
- **Sleeping Eye (sleepy eye)**
- **Top working**
- **Greenhouse propagation**



I don't recommend trying to propagate your own cherries

- Cherries are **HARD TO PROPAGATE**
- Skill set in propagation
- Virus clean scion and rootstocks
- There is a reason nurseries charge what they charge.
- Most home grown trees would not be accepted by the grower if they came from a nursery
- If you try it, make sure you follow patent and trademark law!



Bench Graft

Rootstock and 3 to 4 bud scion grafted together in the winter and allowed to callus.

Very fragile in shipping, handling and planting.

ALL cherries in Europe are benchgrafted. Most are grown out by the nursery.





Grafting Machine

Sleeping Eye (sleepy eye)

- **Bud set in a rootstock in the field,**
- **Allowed to callus**
- **Planted in place and grown**
- **Extremely fragile**



Topworking

Stuck with the old rootstock and spacing

Very quick changeover



Greenhouse Production: Tissue Culture and Tree Production in Pots

- **Fast turnaround**
- **Cheaper cost**
- **More expensive freight**
- **Much more grower care**

- **Thank you, Tom Auvil,
North American Plants**



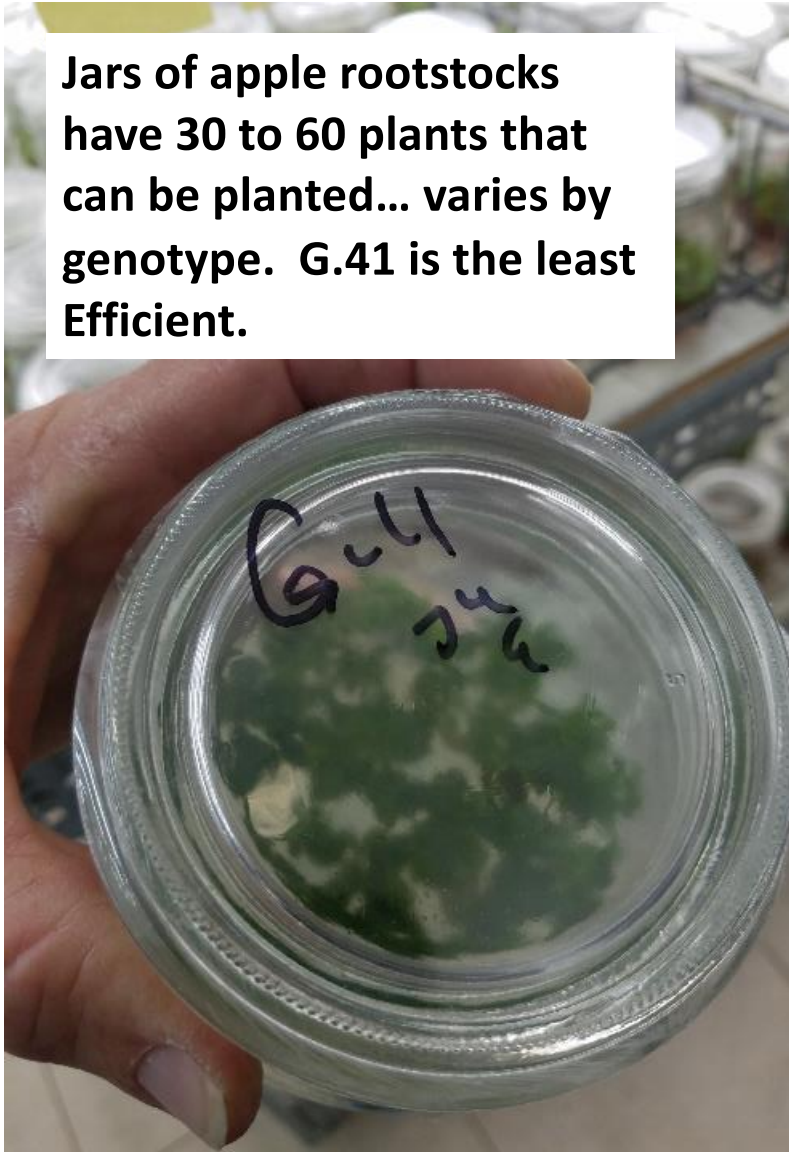


Transferring:

Process of cutting plant materials up and making new jars.

Takes about 3 weeks for the x-plants to develop enough size and health to be 'turned' again.

Jars of apple rootstocks have 30 to 60 plants that can be planted... varies by genotype. G.41 is the least Efficient.





**Grow rooms: light varies by
crop (almonds, berries,
apples)**

Temp is constant....



Planting:

Takes place when the jars are allowed to fill with leaves and the x-plants are encouraged to form root initials.

Trays here are small 20mm plugs that are transplanted into the fruit tree grafting pots.



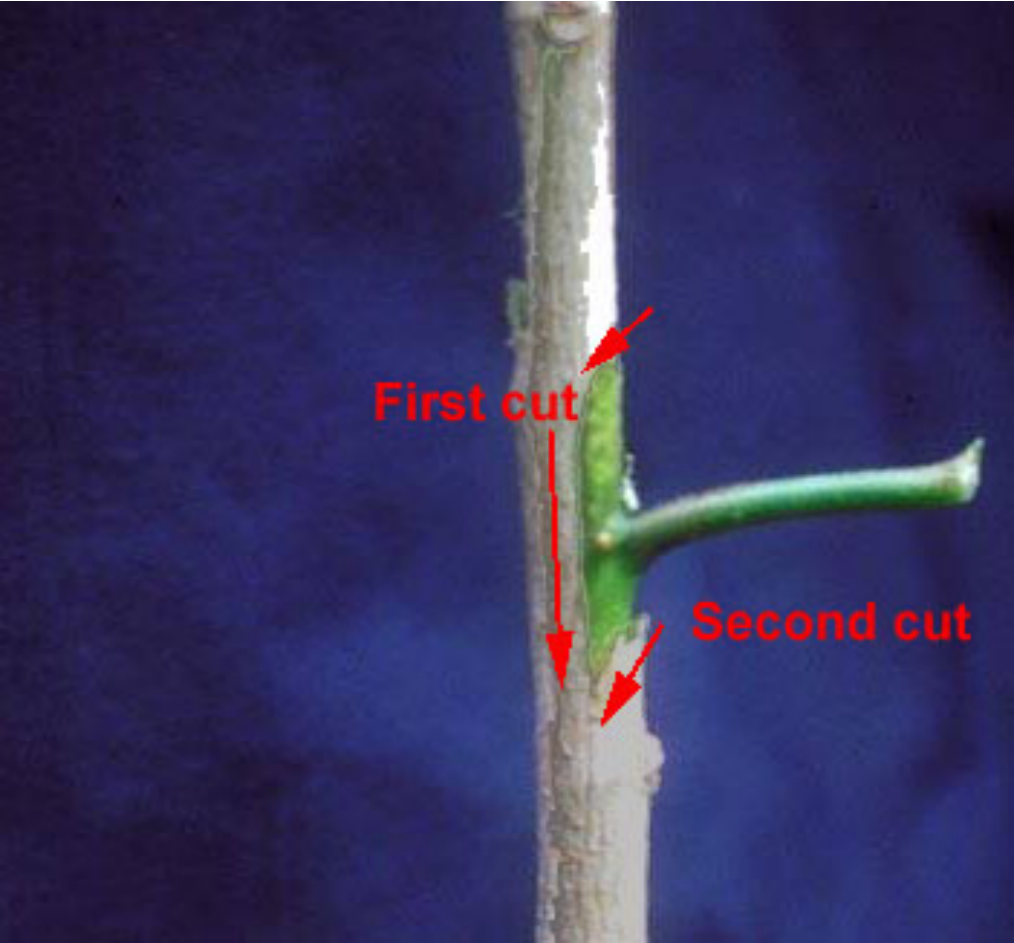
**Greenhouse:
Plants grow ~5 weeks**



Dormant rootstocks ready for January transfer to cold storage until ready to be taken to the field.

Can be prepared for budding

Bud is set





Rootstock is cut down to the bud to encourage the bud to grow.

In the greenhouse, it can be about a week from budding.



Greenhouse:

Scions are taped to the stakes to minimize breaking or loss.



Dormant finished trees:

Topped at 36" overall height in 100 mm pots – trees are kept short to allow for spraying and irrigation.



Trees are staked and ready to be shipped with a tree guard that protects the tree from 'southwest' winter injury and contact herbicides.

5 to 6 months in production, about \$6.00 per tree (no royalties, under 10,000)

Sweet Cherry Rootstocks

(The Past)



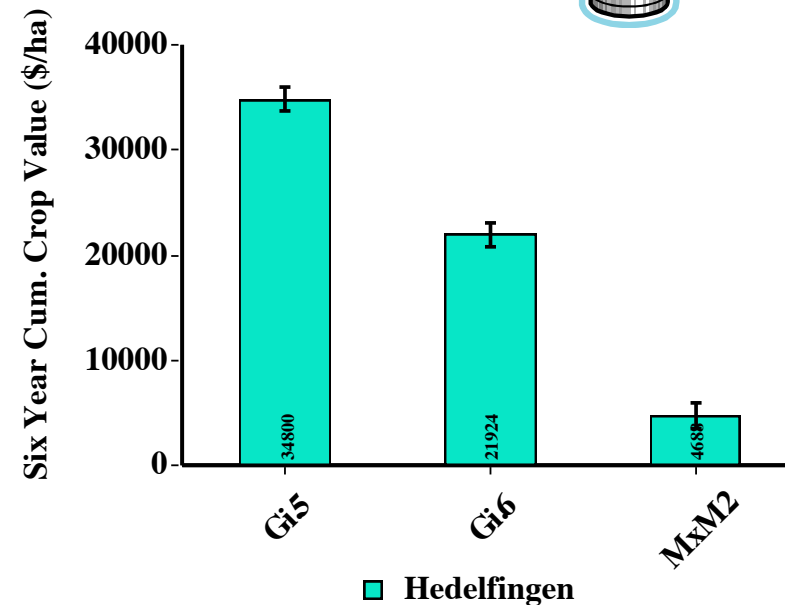
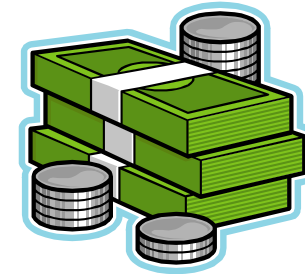
Would you plant an apple on Seedling?



It's all about money

Gisela® rootstocks can dramatically increase gross returns. From less than \$5000.00 per hectare on MXM2 to around \$35,000.00 in six years on Gisela®.

(T. Robinson, S. Hoying, S. Lasko, S Brown)



Gisela® Rootstocks



- GI 3 30%
- GI 5 50%
- GI 6 60-65%
- GI 12 60-65%



Gisela rootstock production in Turkey

Gisela 3

- **Smaller than GI 5**
- **Good anchorage**
- **Very precocious**
- **Most productive in Greg Lang's trials**
- **Akin to M9 size apple**



Gisela 5

- In Michigan, about 50% of Mazzard, soil dependent
- Well anchored
- Really a great choice for retail
- Easy to manage if you know what you're doing



Gisela 6

- **Gisela 6 is the workhorse of the industry**
- **In MI, about 65% of Mazzard**
- **Anchorage problems**
- **Very productive, easy to handle**



Gisela 12

- About 65% of Mazzard, the same as GI 6
- Well anchored
- Easily managed
- Will replace GI 6



Krymsk

- **Krymsk 5 about GI 6 size (WA)**
- **Krymsk 6 about GI 5 size (WA)**
- **Both are sensitive to PDV and PNRSV**
- **Russian**

Modified Central Leader

16 x 20'

Older system

Significant pruning

What we seem to end up with



Slender Spindle

8 x 15'

Progression



Vertical Axe

6 x 15'

A step in the right direction

Minimal pruning



Super Spindle Axe (SSA)

1.5 to 3' apart

Uses renewal
pruning of very
short feathers



UFO (Upright Fruiting Offshoot)



UFO



Photo from Mark Hanrahan & Karen Lewis

Thank You Extension!

We don't know how lucky we are.

