New cherries varieties, rootstocks, and propagation methods

Wanda Heuser Gale
International Plant Management
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.
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?
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.