

European Elderberry



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Outline

- Background on the experience
- European elderberry vs American elderberry
- Scale of the European elderberry industry in Hungary
- Cultivars
- Establishing a planting
- Pruning
- Pest issues
- Harvest
- Marketing



Our Thanks!

- Organizing committee of International Elderberry Symposium
- Dr. Laszlo Kovacs, Missouri State University
- Mihaly Forgacs
- Hungarian elderberry farmers, processors and marketers



Background on the Trip

Dates:
August 20-22
2018



Hungary



Our Tour Guide and Friend

Forgacs Mihaly



Elderberry Production in Hungary



Elderberry Production in Hungary

- Traditional fruit crop in Hungary
- In the past, over 22,000 tons harvested from wild plants
- Today
 - 2,000 tons harvested from wild plants
 - 30,000 tons harvested from cultivated plants
- Production is stagnant at present



European vs American Elderberry

- Botanically speaking...
 - Elderberry is placed in the family Adoxaceae
 - European elderberry: *Sambucus nigra* ssp. *nigra* (L.) R. Bolli
 - American elderberry: *Sambucus nigra* ssp. *canadensis* (L.) R. Bolli



European vs American Elderberry

- European elderberry
 - Grown as a woody plant
 - Prominent lenticels
 - Fewer leaflets in the compound leaf (5-7)
 - Fruits on 2 year and older shoots
 - Less tendency to sucker
 - Bioactive chemistry
- American elderberry
 - Grown as a woody plant and as a renewed plant
 - Less prominent lenticels
 - More leaflets in compound leaf (7-9)
 - Fruits on new shoots and older shoots
 - Suckers freely
 - Bioactive chemistry

Cultivars

- ‘Haschburg’ is the dominant cultivar
- Some interest in Danish cultivars



Elderberry translates as “Bodza” in Hungarian



Establishing a Planting

- New plantings are established with tissue culture plants
- Spacing:
 - 3 M between plants
 - 5 M between rows
 - 666 plants per hectare
- Government subsidies are available



Establishing a Planting



Establishing a Planting



Pruning

- Plants trained to 1-4 trunks
- Trunks are headed at 90-100 cm
- 6-10 shoots retained each year for production next year, excess shoots removed
- Fruiting shoots removed after harvest



Pruning



Pruning



Pruning



Pruning



Pest Issues

- Insect problems
 - Aphids
 - Mites
 - SWD
- Diseases
 - Phoma
 - Alternaria



Pest Issues

6 birdhouses per hectare (EU requirement)



Pest Issues

- Weed management
 - Grassy middles vs clean cultivation
 - Mechanical cultivation
 - Herbicides such as glyphosate



Pest Issues



Pest Issues



Harvest

- Harvest at 12 degrees Brix minimum
- Generally harvest 1-2 times
 - 90% of fruit in first harvest
- Harvest by hand
- Pickers paid 15 HUF/kg (\$0.05 USD/kg)
 - Record picker: 1251.5 kg/day (\$63/day)
 - Typical picker: 777 kg/day



Harvest



Harvest

- Harvested fruit is frozen and destemmed, or destemmed fresh and then frozen
- Price received:
 - 200 HUF/kg ($\$0.70/\text{kg} = \$0.32/\text{lb}$)
- Much of the crop used as food colorant



Harvest

- Yield
 - 10-20 tonnes/hectare (8,900-17,800 lbs/acre)
 - 18-23 kg/tree (40-50 lbs/tree)



Any Questions?



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