European Elderberry



Andrew Thomas and Patrick Byers University of Missouri





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



Hungary



Our Tour Guide and Friend



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



Establishing a Planting

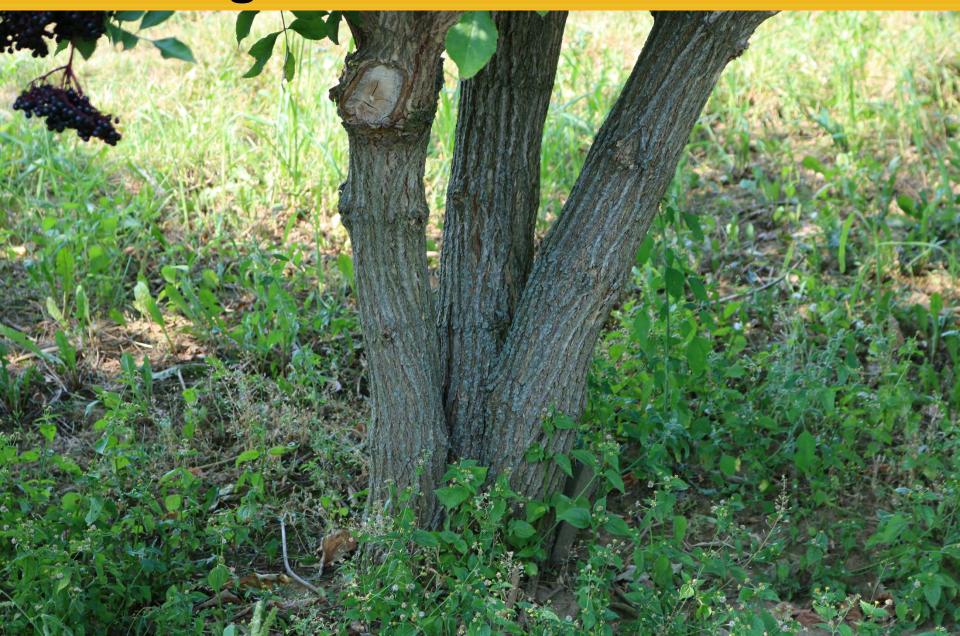


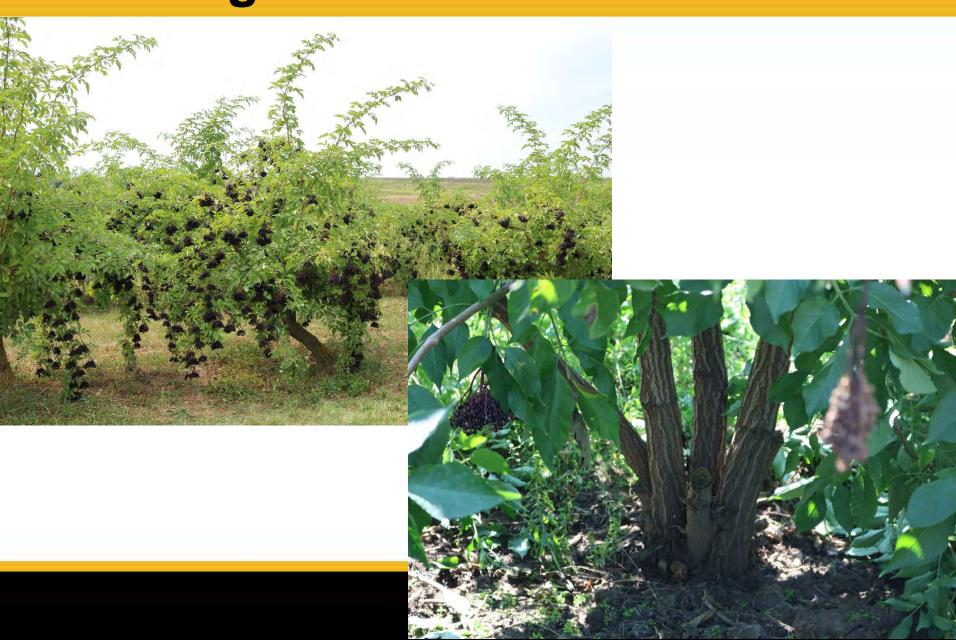
Establishing a Planting

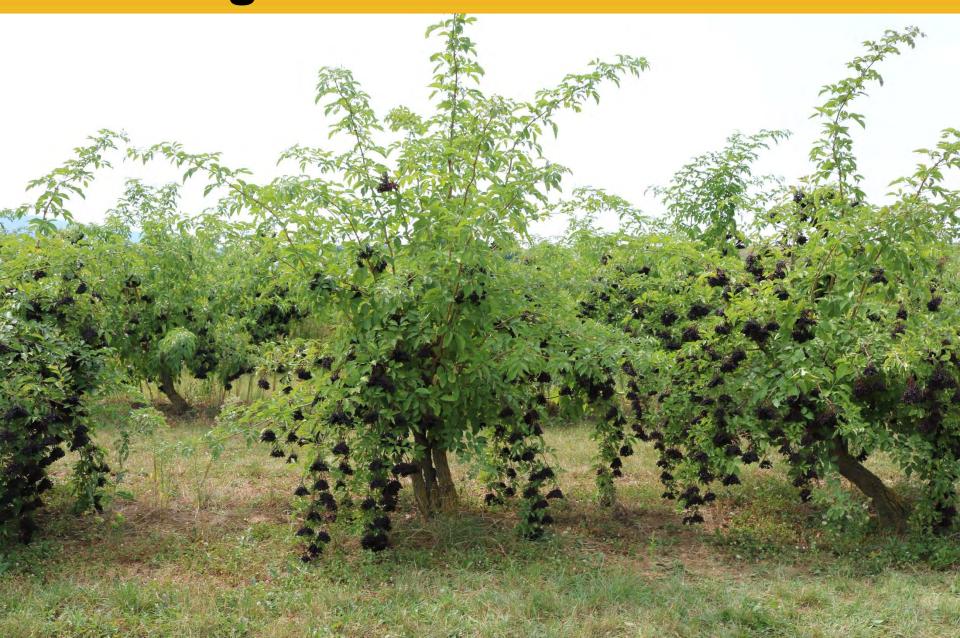


- Plants trained to 1-4 trunks
- Trunks are headed at 90-100 cm
- 6-10 shoots retained each year for production next year, excess shoots removed
- Fruiting shoots removed after harvest











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





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











- 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





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



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



Any Questions?

