EVOLUTION OF HARVESTING SYSTEMS: TART CHERRIES AND JUICE ORANGES

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The views presented here do not necessarily reflect official USDA policy
Industry Background

TART CHERRIES
- Processed Product
- ~70% produced in MI
- Perennial tree fruit
- Economic life-cycle of a tree

JUICE ORANGES
- Processed Product
- ~95% produced in FL
- Perennial tree fruit
- Economic life-cycle of a tree > 25yrs (pre-HLB)
- Post HLB - ?????

Figure 1: Expected Life Cycle Tart Cherry
Mid-1970s

TART CHERRIES
- Hand-harvest and some early experiments with mechanical harvest

JUICE ORANGES
- Early research into MH

First generation CREC slider crank limb shaker catchframe harvest system.
TART CHERRIES
- Trunk shakers

JUICE ORANGES
- Hand harvest
TART CHERRIES

- Additional options for trunk shaking

JUICE ORANGES

- MH systems commercially viable but only 7% of total harvest
TART CHERRIES
Thinking about the next generation: orchard design & equipment

JUICE ORANGES
Investigating: High density planting and over-the-row harvesting
Factors influencing differences in pace of adoption

- Access and reliability of labor
  - Cherries: short harvest window (1 wk)
  - Juice oranges: can hang on tree longer (1 mo)

- Global competitiveness
  - Cherries: very little or no product differentiation
  - Juice oranges: Brazilian OJ industry cost efficient

- Structure of the industry
  - Cherries: small industry
  - Juice oranges: harvest firms independent of growers

- Level of returns
  - Cherries: low, extremely variable
  - Juice oranges: less variable
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