

EVOLUTION OF HARVESTING SYSTEMS: TART CHERRIES AND JUICE ORANGES

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Presentation at the International Symposium of
Mechanical Harvesting & Handling Systems

April 2012



The views presented here do not necessarily reflect official USDA policy

Industry Background

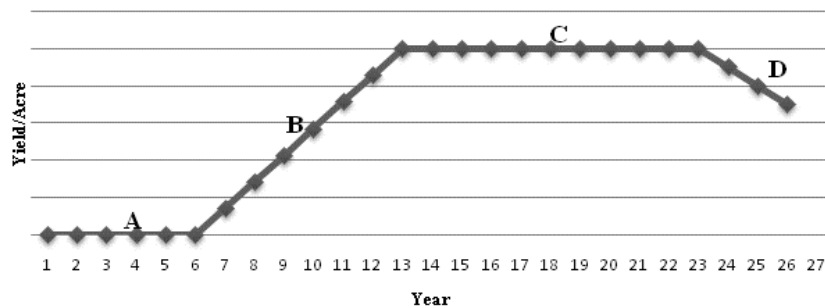
TART CHERRIES

- ▣ 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.

Mid-1980s

TART CHERRIES

- ▣ Trunk shakers



JUICE ORANGES

- ▣ Hand harvest



Bulk handling of processed citrus with metal baskets and the "Lightning Loader".

Turn-of-the-century

TART CHERRIES

- ▣ Additional options for trunk shaking



JUICE ORANGES

- ▣ MH systems commercially viable but only 7% of total harvest



2012

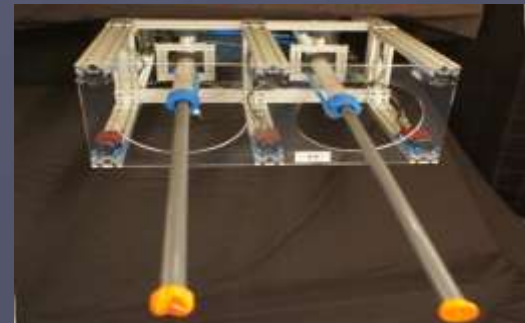
TART CHERRIES

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



Thank you.

Thanks to Barbara Hyman, Jacob McManus and Mollie Woods for research support for this presentation and research on economics of mechanical harvesting.