

Massachusetts Center for Agriculture

University of Massachusetts Amherst

Improving Economic & Environmental Sustainability in Tree-Fruit Production Through Changes in Rootstock Use

Issue

This project evaluates the performance of tree-fruit rootstocks with a variety of climates, pest pressures, cultivators, and training system in order to enable orchardists to develop orchards with the greatest likelihood of economic success and least likelihood of environmental damage. Global competition increases the need for enhanced efficiency of orchard businesses. Rootstock dramatically affects efficiency and fruit quality, but results vary greatly with climate and pest pressure. Further, new rootstocks are becoming available regularly, thus potentially enhancing efficiency.

Impact

Approximately 250 acres were planted to dwarfing rootstocks during the last year.

All rootstock recommendations are based on the results of this project, and growers rely heavily on those recommendations when selecting the proper scion/rootstock combinations. These rootstocks, will reduce pruning and harvest labor by 50%, increase fruit quality, increase size by 10-20%, and enhance the economic return on this acreage by as much as 50%. Further, smaller trees require 70% less pesticide because of reduced canopy volume. The net effect of the planting in 2007 is to reduce the amount of spray material in total by about 250,000 gallons per year in Massachusetts. The beneficiaries of this year's research are tree-fruit growers and the citizens of the Commonwealth.

Funding sources

- Hatch

Primary impact area(s)

- Research
- Education
- Extension

Topics

- Tree Fruit Rootstock
- Apple Replant Disease
- Crop Load

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