



Horticultural Research, 1985--Overton

Research Center

T	ECHNICAL
R	REPORT

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THE FRUIT RESEARCH PROGRAM AT OVERTON
(AN OVERVIEW)

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My predecessors to the fruit research program at Overton, Dr. John Lipe and Dr. Don Cawthon, did an excellent job in both identifying new fruit species adapted to East Texas and in initiating horticultural production research to help grow these new crops. In part, East Texas is becoming more important as a fruit producing area as a result of their efforts. This is especially true in the case of blueberries. Peach production in East Texas has always been a mainstay. In addition, there is still a lot of potential for new fruit crops. The new fruit research program addresses problems in production and postharvest storage emphasizing rabbiteye blueberries, peaches and other promising fruit crops.

When the research program I have outlined below is gradually developed and refined, I hope some production alternatives for the commercial fruit grower in East Texas can be realized and new potential areas for commercialization in fruit can be opened.

A. Blueberries

1. Southern Regional Blueberry cultivar evaluation program: An eleven state cooperative planting of 22 advanced selections of Rabbiteye and rabbiteye X highbush crosses, the purpose of which is to compare the performance of these selections in the Southeast, was planted.
2. Rabbiteye X highbush selection trials: In cooperation with the U.S.D.A. blueberry breeding program, over 10,000 seedling plants from these crosses have been recently planted. Some of the older planted seedlings (1980 to 1983) look very promising (ripening in early May). These seedlings are beginning to be propagated for further trials.
3. Irrigation water placement and soil management study: This experiment was initiated in 1983 to compare the effects of emitter types, mulching and sods on production and plant growth.

A preliminary write up of these results is contained in this report.

4. Nitrogen source and rate study: In cooperation with Dr. V. A. Haby - TAES Overton, an experiment examining the effects of eight sources of nitrogen at three rates is being conducted in the greenhouse.
5. Blueberry branching study: Plant growth regulators at different concentrations and timings have been applied to vigorous growing blueberry shoots to promote earlier and greater branching, and hence achieve a greater fruiting volume per plant.
6. Uneven ripening: The relationship between a long bloom time and the lack of uniformity in ripening is being studied.
7. Nursery plant packaging and storage study: A cooperative project with Dr. H. B. Pemberton - TAES Overton was initiated to evaluate methods to maintain container plant saleability under harsh mass market environments.
8. Machine harvesting and grading study: Experiments will be initiated which examine the use of Plant Growth regulators, mineral nutrient sprays and harvest time/temperature on the market yield of machine harvested and graded blueberries.
9. Irrigation and nitrogen rate study: An experiment will be initiated to determine the optimal irrigation and N fertilizer rates for establishing blueberry plants.
10. Propagation study: Experiments will be conducted to examine methods to both extend the season in which blueberry plants can be propagated and reduce the duration needed to root cuttings.
11. Postharvest studies: Experiments will be continued which examine the use of packaging film, carbon dioxide, sulfur dioxide emitters, ethylene absorbing packages, and storage time and temperature to expand blueberry shelf life.
12. Marketing study: In cooperation with the Texas Department of Agriculture and North Texas State University, a study examining the within state marketing potential for Texas blueberries will be conducted.

B. Peaches

1. Variety trials: The evaluation of promising new varieties and breeding selections will be continued.
2. Fruit thinning: In cooperation with Dr. Calvin Lyons, the new state fruit extension specialist, an evaluation of promising peach thinning chemicals is being conducted.
3. Tree training: An experimental planting examining six different training/pruning systems for peaches has been established.
4. Cover crop: An evaluation of several different types of cover crops for sod middles of orchard rows is being established.
5. Tree growth management: Experiments with the use of new plant growth regulators to control tree growth and enhance fruiting will be initiated.

C. Other Fruit Crops

1. Strawberries: An experiment is planned to examine the efficacy of several different growing systems using plastic mulch and tunnels, and fumigation on several cultivars of strawberries.
2. Apples: A new apple variety block has been planted to evaluate forty new apple varieties which have promising potential for East Texas.
3. Kiwis: An experimental planting of twelve kiwi varieties/species has been initiated to determine if kiwis can be grown commercially in East Texas.
4. Raspberries: An experiment to evaluate the effect of heavy mulching on several varieties of red raspberries has been initiated.
5. Others: A variety trial of Asian pears, figs, persimmons, plums, table grapes, and feijoas has been initiated.