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Introduction to the Workshop: Small Fruit Breeding for the Southern United States: Progress and Prospects

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Introduction

The American Pomological Society, co-sponsored a workshop 3 February, 1997, at the Southern Region-American Society for Horticultural Science Annual Meeting in Birmingham, Ala. The workshop was organized to highlight achievements in small fruit and grape breeding in the southern US. Four accomplished fruit breeders who were all retired or nearing retirement gave presentations in the crop areas in which they had made significant improvements during their careers.

Small Fruit Crops

Small fruit and grape production in the southern US is an important component of horticultural crop production. These crops are grown in most states of the region. The fruits are used both as fresh market and processing commodities, for immediate retail or wholesale distribution.

Blackberry (subgenus *Rubus*) production in the southern states in 1990 was estimated to be 807 ha with the major cultivars Shawnee, Cheyenne and Rosborough (2). Production of blackberries was projected to increase to 1192 ha by the year 2000, with much of this production of newly-released cultivars. Raspberry (subgenus *Idaeobatus*) production data for southern states has not been reported but increased interest in raspberry production has developed in recent years. The speaker on blackberry and raspberry breeding was Dr. James N. Moore of the University of Arkansas. Dr. Moore has been on the faculty at Arkansas since 1964, and has successfully advised 31 graduate students, and released 30 fruit

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cultivars including nine blackberry cultivars. His blackberry cultivar developments make up the majority of the present and projected southern blackberry production. His presentation highlighted the progress and potential in *Rubus* breeding for additional new cultivar developments

Blueberry production in the South was reported to be 6375 ha in 1992, with a majority of the production of the rabbiteye (*Vaccinium ashei* Reade) cultivars Tifblue, Climax, Brightwell and Premier (3, 4). Production of highbush (*V corymbosum* L.) cultivars was primarily 'Bluecrop,' 'Croatan' and 'Blueray,' and limited production of southern highbush (*Vaccinium* spp.) cultivars Sharpblue and O'Neal was reported. Production was estimated to increase to 9460 ha in the southern US by the year 2000. The presenter on blueberry breeding, Dr. Arlen Draper, retired USDA geneticist, has made tremendous contributions to the improvement of the cultivated blueberry in the southern US. In his career with the USDA, Dr. Draper developed or co-developed 61 small fruit cultivars, including many of the current leading blueberry cultivars today. His presentation reflected his experiences and outlook toward further blueberry cultivar improvement.

Current statistics on strawberry (*Fragaria* x *ananassa* Duchesne) have not been published, but strawberry production continues to be a major horticultural enterprise in the South. In 1988, CaIdwell (1) reported 5804 ha of strawberries in southern states, with annual hill culture making up 2552 ha and matted row totaling 3252 ha. In recent years, increased production of strawberries utilizing annual hill/plasticulture has developed, and this cultural change has impacted southern strawberry breeding programs. Dr. Gene Galletta has worked in strawberry and other small fruit crop breeding programs in North Carolina and Maryland and has developed or co-developed 50 cultivars. Dr. Galletta's presentation reviewed the progress in southern strawberry breeding programs, and gave insight into the future directions of strawberry breeding for the South.

Total grape production in the South of both muscadine (*Vitis rotundifolia* Michx.) and bunch grapes (*Euvitis*) was reported to be 6554 ha in 1988 (5). Of this total, 25% was of muscadines. Major muscadine cultivars were 'Carlos,' 'Magnolia' and 'Fry.' Olien (5) indicated that bunch grape production was confined largely to states where Pierce's disease (caused by the bacterium *Xyella fastidiosa* Wells et al.) did not occur and where cold injury is limiting for muscadine production. Projections on southern muscadine and bunch grape production are not available, although fresh sales through shipping of bronze muscadines have increased in recent years (Ronald Lane, personal communication). Dr. Ronald Lane discussed muscadine and bunch grape breeding in the workshop. He has continued the longest-running muscadine breeding program, conducted at the Georgia Experiment Station at Griffin. Dr. Lane has released numerous muscadines, including 'Fry,' 'Summit' and 'Tara.' He provides the final component of the workshop, covering achievements and potential for further improvements in southern grape cultivars.

The following articles are provided by four individuals who together have approximately 150 years of experience in fruit breeding. It is the hope that their thoughts and reflections presented here will be an inspiration to all of those continuing the rich tradition of small fruit and grape breeding in the southern US.

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