

# Southern Region Small Fruit Consortium Project Progress Report

**Title:** An Alternative Systems Approach to Blackberry Production

Research Project – duration 5 years

**Principal Investigator:**

Dr. David W. Lockwood, Professor  
Department of Plant Sciences  
252 EPS, 2431 Joe Johnson Drive  
University of Tennessee  
Knoxville, TN 37996-4561  
E-mail: [dlockwood@utk.edu](mailto:dlockwood@utk.edu)

**Objectives:**

- 1) To evaluate the value of trellising in production of commercial erect blackberries
- 2) To evaluate yield, berry size and berry quality with an alternate year bearing blackberry production system
- 3) To evaluate the economic feasibility of an alternate year bearing blackberry production system

**Justification:**

Commercial blackberry production for retail and wholesale markets is being considered as an alternative crop for many producers. With the development and release of superior, thornless blackberry varieties, the opportunities for sales of this crop have risen. For growers, it is possible to get into production in a relatively short period of time when compared to many other fruit crops. While commercial blackberry production can provide substantial returns to growers, the cost of production is also high due to labor intensive practices such as pruning and training. The value of pruning and training to aid in pest control has been demonstrated many times. Deviating from the normal regimes suggested for blackberries could result in tremendous savings in labor costs by growers and may be feasible if it did not also result in loss of yields and fruit quality.

**Methodologies:**

A blackberry planting was established at the Plateau Experiment Station in Crossville, TN in the summer of 2003 to investigate several training techniques. Apache, a large-fruited, high quality, erect thornless blackberry was selected for use in this trial. Virus-tested, tissue cultured plants were purchased from Cedar Valley in Centralia, WA. Drip irrigation was established on the planting.

Growth of the plants during the year of setting was slow. Although plant survival was very good, the 2004 growing season had to be devoted to growing the blackberry plants up to the size needed to begin applying the treatments. While the initial plan was to establish five training systems, there are adequate plant numbers to allow for the establishment of seven treatments with four replications.

**Treatment 1 (traditional, recommended procedure)**

- 1) tipping primocanes at 42 inches during the summer

- 2) removing laterals from the lower 18 inches of the cane and head back remaining laterals to 12 to 18 inches in length in late winter
- 3) thin canes to about 4 to 6 per linear foot of row
- 4) removal of floricanes shortly after harvest

**Treatment 2**

- 1) no pruning

**Treatment 3**

- 1) construct a 2-wire vertical trellis with the bottom wire at 3 feet aboveground and the top wire 5 feet aboveground (trellis constructed summer 2004)
- 2) head primocanes at 65 inches
- 3) handle floricanes, laterals and excess canes as outlined in treatment #1

**Treatment 4**

- 1) construct a "V" trellis with 2 wires at 60 inches aboveground and 36 inches apart. All primocanes will be secured to a wire on one side of the trellis the first year and the other side of the trellis the second year. Once the system is established, all the floricanes will be on the same side of the trellis and all the primocanes on the other side during any given year.
- 2) primocanes will be tipped 12 inches above the support wire.
- 3) handle floricanes, laterals and excess canes as outlined in treatment #1.

**Treatment 5**

- 1) alternate row harvest. Half of the planting will be mowed down in late winter every other year and the remaining half will be cropped the following summer. This order will be reversed the following year so that alternating portions of the planting will be harvested annually.
- 2) primocanes will be headed at 42 inches during the summer of their development
- 3) laterals will be headed at 12 to 18 inches in length and laterals in the lower 18 inches of the canes will be removed.

**Treatment 6**

- 1) mowing with primocane suppression. Same as treatment # 5 except that the primocanes will be removed from the floricanes plots until after harvest

**Treatment 7**

- 1) mow down the planting immediately after harvest to see if enough primocane growth will occur during the remainder of the summer to give a return crop the following year.
- 2) tip primocanes at 42 inches during summer and head laterals in late winter as previously outlined.

**Data To Be Collected**

- 1) yields
- 2) fruit quality (size, soluble solids, insect and disease damage)
- 3) time involved in maintaining individual treatments
- 4) cost of trellising

**Status of Project:**

- 1) The blackberry plants are established and growing
- 2) The trellises have been constructed for the appropriate treatments
- 3) Canes were topped at the suggested heights for the various treatments

