

**Title:** Heading Height for Primocane and Timing of Floricane Removal in Apache Blackberry

**Progress Report:** Due to health issues (aortic valve replacement surgery on April 14, 2011) and a subsequent inability to collect all the desired data and make observations, a “no-cost” extension was requested and received.

**Grant Code:** SRSFC Project # 2011 E-04

### **Extension Proposal**

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#### **Objectives:**

1. To investigate the impact of primocane topping height and support on yields during the floricane year
2. To determine the effect of time of floricane removal on primocane growth and fruiting on floricanes

#### **Justification:**

1. For erect-type thornless blackberry cultivars, the suggested topping height for primocanes is approximately 40 inches. Raising the topping height to approximately 65 inches has been proposed to increase yields. However, when primocanes are topped at this height, some type of support for the primocanes is needed as the leverage exerted on canes when leafed out may be sufficient to cause breakage. It was also decided to investigate whether supporting canes when topped at 40 inches might have an impact on yields.
2. The timing of floricane removal following harvest was investigated to determine if it had an impact on primocane growth and fruiting on floricanes. From a pest control standpoint and ease of working in the planting, removing floricanes immediately after harvest offers benefits. However, if floricanes remain photosynthetically active after harvest, they might contribute to more primocanes, increased primocane growth and increased fruit bud initiation resulting in increased yields the following year.

**Methodologies:**

1. Primocane topping height and the use of support systems. The three treatments used were:
  - topping primocanes at 40 inches and no support
  - topping primocanes at 65 inches and supporting canes
  - topping primocanes at 40 inches and supporting canes
2. Timing of floricanes removal. The three treatments used were:
  - removal of floricanes immediately following fruiting
  - removal of floricanes on Oct. 1 (this time is generally after at least one significant frost has been received at the Plateau Research & Education Center in Crossville, TN)
  - removal of floricanes prior to the initiation of new growth in spring

Fruit was harvested twice a week beginning on July 5, 2011 and ceasing on August 3, 2011. Fruit weights were recorded for all treatments at each harvest date.

Initial plans were to take counts on lateral branches and to measure a representative number of laterals, both the diameter of laterals where they branch off canes and before heading. Due to the need to have heart surgery and the subsequent inability to follow up on this phase of the project, it was decided to request a “no-cost” extension and repeat the harvest measurements in 2012.

**Results:** An 8-year-old planting of Apache blackberries was used for the trials. There were four replications, with each replication containing 6 treatments. A 20 foot section of row was used for each treatment in a replication. A summary of the results is shown below:

<u>Treatment</u>	<u>Yield (total of 9 harvests)</u>
Floricanes removal at harvest	301.4 pounds
“ “ on Oct. 1	256.7 pounds
“ “ prebloom	305.9 pounds
40” primocane topping, no support	247.8 pounds
65” primocane topping, supported	294.9 pounds
40” primocane topping, supported	320.8 pounds

**Conclusions:**

Floricanes removal: No yield benefit was recognized by delaying floricanes removal until after frost or later. With the dry weather during the harvest period, floricanes removal immediately after harvest did not lessen apparent disease pressure on primocanes. Floricanes removal immediately after harvest did make working in the planting easier..

Topping height and support systems for primocanes: Based on this trial, the need to top primocanes higher did not appear to give a yield advantage. Providing cane support for primocanes even when they are topped low (40 inches) appeared to have a beneficial impact on yields.