

**Title:** Can we use long cane raspberries to advance the season of raspberry production in the southern United States?

## **Progress Report**

**Grant Code:** 2012-14

### **Name, Mailing and Email Address of Principal Investigator(s):**

Principal Investigators:

Dr. Gina E. Fernandez

Department of Horticultural Science

North Carolina State University

Raleigh NC 27695

[Gina\\_Fernandez@ncsu.edu](mailto:Gina_Fernandez@ncsu.edu)

Penelope Perkins-Veazie

Professor, Postharvest Physiology

Horticultural Sciences Dept., North Carolina State University

Plants for Human Health Institute, NCRC

Suite 1321, 600 Laureate Way

Kannapolis, NC 28081

[Penelope\\_perkins@ncsu.edu](mailto:Penelope_perkins@ncsu.edu)

### **Objective:**

The objective of this proposal was to determine if raspberry harvest season can be advanced in warmer regions of the southern U.S. using long cane nursery plants.

### **Justification and Description**

Since 1985, the NC State University raspberry breeding program had relied on traditional methods for developing cultivars adapted to the southeastern United States. Although this process has been successful with the release of 'Nantahala', we are aware that some growers may not be able to produce fruit in their area using *cultivars that are currently available*.

For many years, growers in the warmer regions of Europe have utilized a method of producing high quality raspberry fruit using nursery plants grown in one location; these plants are then shipped to a second location for fruit production. This practice is called long cane raspberry production. In long cane raspberry production, fruit bud formation and rest requirements are satisfied in the high elevation nursery, either naturally or during a period of cold storage. Then fruit production occurs in warmer location, usually a high tunnel or greenhouse located in a warmer climate. This system is utilized to produce fruit in southern Spain, where fruit can come into production in early March and growers are able to sell fruit at a premium price in the early market window.

We would like to develop a similar system for raspberry production in the southern region of the US. We have high elevation nurseries in the Appalachian Mountains that climate conditions that will produce quality long cane plants that with adequate chilling requirements. We also have regions in the southern U.S. that have temperatures in the spring that are optimal for raspberry

production. These are essentially the temperatures that are optimal for well-established annual strawberry production.

### **Methodologies/Results/Conclusions**

The year 2012 was the first year of a multiyear study.

- During the late winter of 2012, we received a donation of a high tunnel from Rimol Greenhouses (<http://www.rimolgreenhouses.com/>). (See Figure 1).
- Due to scheduling difficulties with constructing the tunnel, it was not erected until late in the spring of 2012.
- Landscape fabric, plastic mulch and irrigation system was purchased for the tunnel system in 2012.
- Potted plants of Tulameen and NC 548 were maintained at the Upper Mountain Research Station and will be used for fruit production in 2013.
- Plants were moved to larger 3 gal. pots in the summer of 2012.

In the past 2 years we have seen Spotted Wing Drosophila become a significant pest in raspberries everywhere in the US. In NC and other parts of the SE, we see the levels of infestation rise at the end of the summer. We are hopeful that the early season production of raspberries in this system will help avoid the infestation rates we see later in the season.

Impact Statement. NA



Figure 1. Rimol high tunnel under construction at the Sandhills Research Station, Jackson Springs NC.