

**Title:** On farm trials of USDA eastern adapted blackberry cultivars in NC, VA and SC.

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

**Principal Investigator:**

Dr. Gina E. Fernandez  
Department of Horticultural Science  
North Carolina State University  
Raleigh NC 27695  
[Gina\\_Fernandez@ncsu.edu](mailto:Gina_Fernandez@ncsu.edu)

**Out of state investigators:**

Andy Rollins  
Clemson University

Jayesh Samtani  
Virginia Tech University

**Public Abstract:**

The large blackberry industry in the southern United States is always seeking new and improved cultivars. The majority of the very successful cultivars to date have originated from the University of Arkansas blackberry breeding program. However, in the past few years the United States Department of Agriculture (USDA) released three new erect thornless “eastern” blackberry cultivars, ‘Galaxy’ ‘Twilight’ and ‘Eclipse’. These new cultivars have the genetic background that could enable them to do well in the Southern US. Small trials of two of these cultivars at NC State University have shown that they are much better adapted to the region than all other germplasm from the USDA breeding program. However, there has not been any coordinated on-farm trials in the region. The objective of this proposal is to trial these 3 cultivars along with standard cultivars at 5 on farm locations throughout NC, SC and VA to determine if they are adapted and productive in this region.

**Introduction:**

The commercial production of blackberries in the southeastern region of the US has relied primarily on cultivars released from the University of Arkansas (UA). The cultivars from UA have proven to do well for most growers both in terms of yield, quality and economic returns. However, there has been some grower concern that there is a lack of late season, medium to high chilling cultivars for growers in the more northern and high elevation regions of NC, SC and VA.

Recently the USDA-ARS Horticultural Crops Research Laboratory blackberry breeding program in Corvallis OR released 3 new cultivars that have the potential to do well in the region (<https://www.ars.usda.gov/news-events/news/research-news/2020/new-blackberries-eclipse-galaxy-and-twilight/>). According to the USDA these cultivars have “blended the desirable traits of eastern erect-cane blackberries and western trailing blackberries into new varieties with thornless semi-erect canes to fill new niches in the fresh berry market.”

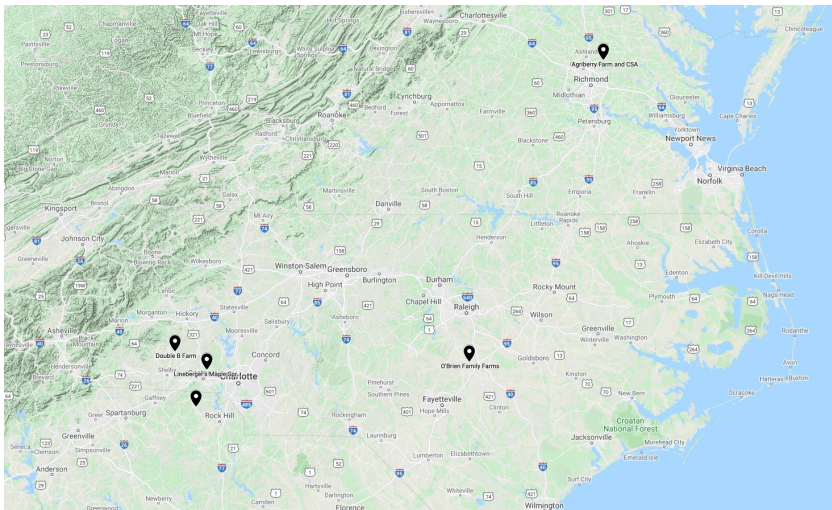
In the past decade, small plots of ‘Eclipse’ trialed at NC State University for 3 years at the Piedmont Research Station in Salisbury, NC. Eclipse (tested as ORUS 2814-3 had overall visual rating scores of 7 to 9 in vigor and yield, based on a scale of 1(worst) -9 (best). These selections performed better than any other ORUS for 3 years observations. At the Sandhills Research Station in Jackson Springs NC, ‘Galaxy’ was a part of a virus susceptibility study in 2010 along with other USDA and UA selections. It was the only selection from the USDA program that survived at this location.

### **Description of Outreach Activity:**

We distributed these three new cultivars as well as Ouachita and Von to 5 growers in the states of NC, SC and VA (Figure 1). All of the growers and Extension Specialists have agreed to cooperate on this trial. Extension Specialists will help with data collection (see ratings table in proposal) and take pictures of the plants and fruit when mature. Growers will establish and maintain the plants based on their standard cultural practices. Plants were be paid for from funds from this proposal.

### Cooperators:

- Bob Hall, York, Bush N Vine Farm, South Carolina (working with Andy Rollins)
- Anne and Chuck Geyer, Agriberry Farm, Hanover, Virginia (working with Jayesh Samtani)
- Ethan Lineberger, Lineberger Maple Springs Farm, Dallas North Carolina (working with Gina Fernandez)
- Brent Brown, Double B Farm, Cherryville, North Carolina (working with Gina Fernandez)
- Tom O’Brien, O’Brien Family Farms, Coats NC (working with Gina Fernandez)



## Results or Outcome:

Plants were set in the field during the spring and summer of 2021. They have not yet produced a crop. There was no expectation for a report. We will work with the farms in 2022 to collect data as described in the original proposal. However, we did get feedback in 2021 from the farms. See below.

*O'Brien Family Farm. Coats, NC.* Below are images from the O'Brien Family Farm taken in the fall of 2021. Comments from the grower. "So far, the Ponca plants have been most impressive in terms of vigorous bushy growth with strong upright canes that are easy to keep on or in the trellis wires. Caddo is next in terms of growth but not quite the same growth. Von and Ouachita are doing well. Galaxy, which is new to us, is growing more like a vine in its first months of growth. The canes are floppy and small diameter with little ability to support themselves or to stay on the trellis wire."  
(November 22, 2021)



*Chuck Geyer. AgriBerry Farm, Hanover VA.*

“Plants performed as expected based on other plantings. We plant on raised beds similar to strawberry annual culture beds. Plants at 4’ spacing, irrigation emitters spaced at 24”, so plant can be 12” away from emitter at planting. So, some plants get over watered to make sure all get some. Smaller plants seem to suffer more than larger more finished plants. We were given a tray of Traveler that was quite small and we had some mortality. Chad’s varieties are very flat growing with only 1 or 2 canes but very well branched and vigorous. Von is very similar. John’s varieties made more canes but not as branched or as long.

We have all these varieties fruiting and second year growth is where the varieties are very distinguishable. John’s varieties are very vertical without a lot of laterals. Von grows like Chester, very vigorous well branched big diameter canes. Chad’s make multiple canes a lot of laterals and a little less erect. To date Von has been best yielding for us. It has a higher chill requirement and does not get damaged from late spring cold/frost events. Hope this helps. Chuck” (November 25, 2021)

*Brent Brown. Cherryville, NC.* All of the plants looked good and were healthy. Eclipse and Galaxy were small. (May 21, 2021)

*Ethan Lineberger, Linebergers Farm. Dallas, NC.* No report.

*Bob and Ann Hall. Bush-N-Vine Farm, York SC.* No Report.