Current nutraceutical research revealed grapes are a powerful source of phytochemicals and antioxidants and very beneficial to human health. This breakthrough information triggered an increased market demand for fresh fruit and processed grape products. According to a March 2011 report provided by the U.S. Wine Institute, record high 2010 wine shipments make the U.S. the world's largest wine-consuming nation.

Although Pierce’s Disease (PD) is a serious threat to the cultivation of grapes in the United States, especially in warmer southern regions, recently the UC Davis grape breeding program has developed new V. vinifera selections which can resist this devastating disease. The newly developed PD resistant selections are expected to produce high quality yield even in regions with high PD pressure, such as the southeastern U.S., where the Vitis vinifera production was previously not a viable option.

A research vineyard was established at the Chilton Research and Extension Center, Clanton in 2010 in order to determine the feasibility of growing three of the UC Davis developed PD resistant Vitis vinifera grape selections in Alabama and evaluate their production potential. The experimental plot is a randomized complete block design with six replications and 5 single vines per replication to ensure reliable scientific results.
Throughout the 2011 growing season, vines were trained to a vertical shoot positioning (VSP) system and de-clustered to provide favorable conditions for a rapid vine root system establishment. Although the vines were regularly de-clustered throughout the growing season, a few clusters were allowed to mature in order to test their fruit quality.

During the current season all vines continued to develop very well, although we registered a poor pollination and fruit set for selection 502-10, for which flowering coincided with an extensive rainfall period. The fruit of 502-10 matured early and the crop was harvested on July 20th. Fruit samples were collected for lab processing in order to determine important berry quality characteristics. The cluster weight of selection 502-10 ranged between 81 and 246 g, and the mean berry size was 1.9 g (Figure 1).

Figure 1. Fruit clusters of early season V. vinifera selection 502-10 were harvested on July 20, 2012.

The stage of veraison (grape berries turning their color as they begin to mature) is progressing well for the selections with mid- and late-ripening season at our experimental vineyard and we are monitoring the berry sugar accumulation to determine the appropriate harvest time.

The newly developed PD resistant Vitis vinifera selections have the potential to greatly impact the fruit industry in Alabama and the Southeast by providing new, high value specialty fruit market product and expand the window of economic opportunities not only to the growers, but could also become an attractive destination for agritourism in our region.