

Progress Report to Southern Region Small Fruit Consortium

Grant Code: SRSFC Project # 2010-06

Title: Survey for grapevine leafroll-associated viruses (GLRaVs) and mealy bugs (*Pseudococcus* spp.) in *Vitis vinifera* in North Carolina

Principal Investigators: Turner B. Sutton and Hannah Joy Burrack, Departments of Plant Pathology and Entomology, respectively, N.C. State University

Objectives: (1) to determine the prevalence of grapevine leafroll viruses in North Carolina in *Vitis vinifera* and interspecific hybrid vineyards in order to establish a baseline distribution of the viruses and their range and (2) to conduct a preliminary survey for mealybugs in vineyards in NC with vines with leafroll symptoms.

Objective 1. Twenty-one vineyards or vineyard blocks were surveyed for grape leaf roll viruses (GLRaVs) in North Carolina (Table 1). In each vineyard, rows of a red cultivar were walked and samples of symptomatic vines were taken, placed in Ziplock bags and placed in a cooler for transport to laboratory. The next day samples were sent by overnight mail to the Brannen laboratory at the University of Georgia. These samples are currently being processed. Three vineyards were mapped to follow the progress of the disease – Junius Lindsay, Petit Syrah; Junius Lindsay, Syrah, and Grove, Cabernet Sauvignon.

Table 1. Vineyards sampled for (GLRaVs) in North Carolina in 2010.

Vineyard	Cultivar	Estimated incidence	Number samples
Junius Lindsay	Petit Syrah	<1%	5
Junius Lindsay	Syrah	11%	22
Grove	Cabernet Sauvignon	<1%	6
Grove	Merlot	<1%	1
Grove	Tempranillo	<1%	1
Hannover Park	Cabernet Franc	50%	4
RagAppleLassie	Merlot	<1%	4
Raylen	Cabernet Franc	1%	4
Sanders Ridge	Cabernet Sauvignon?	<1%	4
Shadow Springs	Chambourcin	<1%	4
Westbend	Merlot	<1%	2
Laurel Gray	Merlot	0	
Biltmore	Cabernet Franc-I-26	10%	10
Biltmore	Cabernet Franc-pond	90%	10
Rockhouse	Cabernet Franc	20%	4
Rockhouse	Cabernet Sauvignon	10%	4
Mize	Merlot	90%	10
Lanahan	Merlot	30%	4
Pack	Cabernet Franc	10%	4

Christopher	Cabernet Sauvignon	<1%	4
Boeck	Merlot	<1%	4

Objective 2. Grapevine mealy bug traps (Scenturion, Suttera LLC with one septa pheromone attractant) were placed in four vineyards where symptoms of GLRaVs had been observed in previous years – Mize, Polk Co.; Junius Lindsay, Davidson Co., Hanover Park, Yadkin Co., and Grove, Gilford, Co. Traps were set the first week of June and remained in the vineyard until the last week of September. Every 4 weeks the trap bottoms were collected and new sticky liners and pheromone lures were placed in the traps. Traps were taken to the Burrack laboratory and examined under a stereoscope for the presence of male mealy bugs. On 30 June, five vines near each trap were examined for the presence of female mealy bugs. Five clusters of grapes and five leaves were examined on each vine and loose bark was removed from the cordons and trunk. No male mealy bugs were found in any of the traps and no females were observed during the survey.