

Grape Breeding Update – University of Arkansas SERA 14 2007

John R. Clark, Professor
Department of Horticulture
PTSC 316
University of Arkansas
Fayetteville AR 72701
Phone: (479) 575-2810 Fax: (479) 575-8619 jrclark@uark.edu

Bunch Grapes

As with most of the lower Midwest to South, the 2007 grape year in Arkansas was very challenging due to crop loss. Research vineyard crop remaining after the freeze ranged from 0 to 30% on a broad group of genotypes. Therefore progress in breeding was limited.

Also, summer rains were heavier than normal for June and July, resulting in greater disease pressure from downy and powdery mildews. Finally, due to the reduced crop, birds were an issue at Clarksville (not usually an issue due to large crops of fruit at this location diluting damage). Heavy Green June Beetle infestations (either high populations or less fruit to spread them on) added the last negative lick to the season.

That said, selection and seedling evaluation was done and crossing was carried out.

Selection numbers from seedlings were much lower than normal due to the very light crop and all seedlings will be retained for another year. Overall about 5000 seedlings were evaluated as could be done with the crop problems. Seedlings from 2006 crosses totaled about 2000 and these were field planted in June. Cross success for 2007 has not been fully evaluated but in general fair to good seed set was experienced.

A new advanced selection trial was established at Clarksville and Fayetteville. It is hoped that these trials, plus trials at cooperator sites in other states, will identify one more new release in the future.

Currently there continues to be little interest in industry expansion for table grapes in the East, reflected in sales of vines of the newer UA cultivars. However, the expansion of farmers and other local markets is a viable option for growers and could allow some expansion of planting. Grapes are not found as often as other fruits in these markets.

The limited number of wine selections in the program continue to be evaluated. It is hoped that cooperative trials will identify any of commercial value.

Testing of UA selections, either table or wine grapes, can be arranged with cooperators.

Muscadines

The muscadine crop fared better than the bunch grapes in the freeze, although a full crop did not survive. The survival of muscadines was one of the few bright spots for Arkansas fruit growers in 2007.

The small muscadine breeding effort begun in 2006 continues with crosses made for the second year in 2007. Seedlings in the field from 2006 and 2007 plantings total about 2300. The first fruit on the 2006-planted vines should be seen in 2008.

Cooperation in this effort is with Dr. Patrick Conner at the University of Georgia. The general goal of the program is to develop perfect-flowered, large fruited, high-quality, winter-hardy fresh market cultivars. The location at Clarksville is on the northern edge of muscadine adaptation, and should allow the selection of some of the more hardy genotypes thus far in muscadine improvement. Although a large program is not envisioned, it is hoped that success will be achieved.

Other

Finally, testing and cooperative breeding of Arkansas table grapes continues in the San Joaquin Valley of California with International Fruit Genetics (Dr. David Cain, breeder). Some of the Arkansas selections have performed very well there and are potentially suitable for commercial cultivation. The inclusion of a range of flavors along with some resistance from fruit cracking and disease could enhance *V. vinifera* cultivars. That is the hope anyway, and it is a joy to take part in a broadening of the use of the Arkansas germplasm.