Seedless Table Grape Selections for Alabama: New Releases from the University of Arkansas Breeding Lines

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Grape breeders have responded to consumer preferences for seedless table grapes with the development of numerous improved varieties. The seedless trait in grapes was originally derived from cultivars of ancient origin such as Thompson Seedless and Black Monukka. Most seedless grapes suitable for the eastern United States are descended from crosses with these two cultivars. Breeding programs in New York, Ontario, Arkansas, and elsewhere continue to produce seedless selections with improved hardiness and fruit quality. The University of Arkansas has been breeding table grapes since 1964 when Dr. Jim Moore began the program, and a number of seedless table grape varieties have been released. Currently, several advanced grape selections are under consideration for release. No data exist to document Pierce’s Disease (PD) resistance of the newly-developed selections in regions with high PD pressure.

In fall of 2008, twenty-three advanced seedless table grape selections from the University of Arkansas breeding program were introduced in the state and an experimental vineyard was established at the North Alabama Horticulture Research Center, Cullman. We aimed to evaluate the overall performance and fruit quality characteristics of the advanced table grape selections, and assess their resistance to Pierce’s Disease (PD) and other diseases affecting grape production in the southeast. Data collected from this study will enable us to develop table grape production technology and recommendations for grape growers and extension personnel in Alabama.

During the current growing season we collected data on vine growth and development and documented fruit quality characteristics including cluster size, berry size and shape, fruit taste, sugar content and recorded the number of seed traces or the lack of seeds in each of the selections in our test. The following descriptions represent our preliminary findings on fruit quality characteristics of selected grape lines.
**Mars**

Mars is a released seedless table grape cultivar used as a blue colored control cultivar in our study. The mean cluster weight for ‘Mars’ (Figure 1) was 214 g. This cultivar had an average berry weight of 2.9 g and 17.9 % soluble solids. Berries are slipskin (having a tough skin that separates readily from the pulpy flesh), with a mild foxy flavor.

![Figure 1. Mars table grape cluster.](image)

**A2494**

This blue colored selection (Figure 2) has a single cluster weight of 186 g and a mean berry weight of 2.5 g. The berry shape is elongated. A2494 has a pleasant flavor, with non-slipskin berries. Some seed remnants could be present.

![Figure 2. Table grape selection A2494.](image)

**A2786**

The mean berry weight of A2786 (Figure 3) is 2.5 g, and the mean berry length is 2 cm. Soluble solids content is 18.7%. Berry flavor is fruity with non-slipskin, crisp fruit texture.

![Figure 3. Table grape selection A2786.](image)
**Neptune**

Neptune (Figure 4) is a released cultivar used as a yellow-green colored control cultivar in our study. Neptune has a single cluster weight of 460 g and a mean berry weight of 2.5 g. The taste is sweet and the texture is firm. The berry skin is non-slipskin and relatively thick.

![Figure 4. Neptune seedless grape.](image)

**A2807**

A2807 has the largest cluster size of 675 g when compared to other selection tested, and is very showy. A2807 had the largest individual berry size of 8.7 g (Figure 5). The flesh is sweet and pleasant with a non-slipskin, seedless berry. A2708 ripened about two weeks after Neptune.

![Figure 5. Table grape selection 2807.](image)

**A2505**

This selection (Figure 6) has a single cluster weight of 476 g, elongated berries with a mean size of 5.6 g. Fruit is seedless, non-slipskin, with a pleasant flavor, sweet taste and a crispy texture.

![Figure 6. Table grape selection 2505.](image)