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BunchGrapes Information

Neptune Seedless Table Grape

John R. Clark and James N. Moore^{^!~@^!~@} University of Arkansas^{^!~@^!~@} Neptune is the sixth in a series of table grapes released by the University of Arkansas. Neptune is the first white (yellow-green skin color) grape released from the breeding program. This new cultivar was selected at the U of A Fruit Substation, Clarksville in 1988 and has been tested there and at Fayetteville, Ark. During evaluation, vines were trained to either a four-arm Kniffin or bilateral cordon training system. A commercial fungicide program was utilized in testing of Neptune.^{^!~@^!~@} Berries of Neptune are elliptic to slightly ovate in shape and averaged 2.5 g over 8 years, larger than Reliance but smaller than Venus. Berry size slightly larger than 4 g has been recorded in some years. Berries of Neptune are non-slipskin and are seedless, and only on rare occasions have small, soft seed traces been observed. Flavor is fruity and pleasant but not a foxy flavor characteristic of *Vitis labrusca* cultivars. Skin thickness is moderate, similar to that of Venus. Fruit cracking has never been observed on Neptune, even in years when severe cracking was seen on Reliance and other crack-susceptible genotypes. Soluble solids of Neptune 19.7% over 8 years, higher than that of Venus and Mars, but lower than Reliance. ^{^!~@^!~@} Clusters of Neptune are conical and often have a small shoulder, and are very attractive. Cluster weight averaged 345.2 g over 7 years. Cluster weight of Neptune in replicated trials ranged from 200.0 to 610.0 g, larger than Venus or Mars in all comparisons. Cluster fill ratings averaged 9.3 for Neptune, and the clusters were rated more filled than other cultivars. Shatter of berries from the clusters at maturity has not been observed and the clusters have hung well on the vines after achieving full maturity. ^{^!~@^!~@} Yields of Neptune were usually lower than those for Venus and Mars at Clarksville but similar or higher compared to these cultivars at Fayetteville. Higher yields might be achieved on Neptune on older vines (the vines in the yield comparisons were from only 3 or 4-year-old vines), and since Neptune does not exhibit high vigor, vine spacing closer than 8 ft within the row might be considered as a method to increase total yield for this cultivar. Crop ratings, taken over 8 years, were generally similar for Neptune compared to the other cultivars under evaluation, indicating consistent cropping during the evaluation period. In only 2 of the 8 years of crop evaluation was a crop rating (at the time of fruit maturity) of less than 7 (on a 10-point scale with 10=full crop) recorded for Neptune. A rating of 5 was given in 1992 following a mid-winter low of 10 oF and a late-spring freeze of 22 oF near bud break, and a rating of 2 was given in 1996 following a mid-winter low of 1 oF and a late spring freeze of 10 oF, again near bud break. Neptune vines have not been evaluated for the effects of flower cluster thinning. However, this practice is not encouraged due to natural cluster fill of Neptune, and flower cluster thinning could lead to excessive berry tightness of the clusters.^{^!~@^!~@} Neptunes average maturity or harvest date was 4 Aug. at Clarksville, and it is considered a mid-season maturity cultivar. Neptune ripened 16 days later than Venus, 6 days later than Reliance, and 1 day earlier than Mars. Budbreak of Neptune is similar to Venus and 4 days earlier than Mars.^{^!~@^!~@} Vines of Neptune have medium vigor, and average vigor rating was 7.1 compared to the higher vigor cultivars Venus (7.8), Reliance (8.4) and Mars (9.3). Pruning weight for Neptune was lower than for Venus or Mars. Growth habit of Neptune is semi-upright, and not as procumbent as most of the other Arkansas-developed cultivars. Neptune shoots mature similar to Venus but not as early as Mars. Overall, hardiness of Neptune appears similar to that of Venus but not as hardy as Mars or Reliance. Neptune had a full crop in 1997

following a mid-winter low of 1 oF, so hardiness appears good at least to this level. Neptune has shown moderate resistance to the diseases black rot and anthracnose in field conditions and these diseases have not been observed on this cultivar under the commercial fungicide program utilized during evaluation. Slight to moderate infections of powdery mildew on leaves were observed in 2 of 8 years of evaluation, but no berry cracking resulted from powdery mildew. Downy mildew was observed on Neptune in 2 of 8 years, and susceptibility to downy mildew appears similar to that of Venus. However, downy mildew has not been a concern with the utilization of a commercial fungicide program. The outstanding characteristics of Neptune are its attractive, green berries, excellent clusters, fruity flavor, high soluble solids content and resistance to fruit cracking. Neptune is recommended for trial where other eastern U.S. table grape cultivars are adapted. An application for a plant patent has been filed for Neptune and a list of nurseries licensed to propagate and sell Neptune can be obtained from: Dr. John R. Clark@Department of Horticulture@316 Plant Science@University of Arkansas@Fayetteville, AR 72701@email: jrclark@comp.uark.edu

Contributed by:

Mike Bonnette, Web Developer
SRSFC
109 Barre Hall
Clemson University, Clemson SC-29631
864.656.4048 (Phone)
864.656.5675 (Fax)
jmbonne@clemson.edu

[The Southern Region Small Fruit Consortium](#)
Box 7601
North Carolina State University
Raleigh, North Carolina 27695-7601
919-515-6963

Please direct comments or suggestions to
[Brenda J Willis](#)
706-542-2471