PUBLICATIONS

1987

Horticulture Research, 1987 – Overton

Research Center Technical Report 87-1

Texas A&M University Agriculture Research &
Extension Center at Overton

Texas Agricultural Experiment Station
Texas Agricultural Extension Service

Overton, Texas

1987

CONTAINER AND MEDIA EFFECT ON GROWTH OF RABBITEYE BLUEBERRIES

Elizabeth Neuendorff and Kim Patten

INTRODUCTION

Many blueberry nurseries have switched from sales of bare root plants to container grown plants. One contributing factor to this trend is that these plants are usually larger and have well established root systems. These container grown root systems are not damaged in the digging process or allowed to dry out in the shipping phase, as can happen with field grown bare root plants.

There are many different views on the best potting media for blueberries, however peat moss and pine bark are most commonly used. Many feel that peat is the best potting media since it is lightweight and is recommended as a soil amendment at planting time. Others prefer pine bark for its low cost and loose texture.

The objective of this study was to determine the best media for the production of container grown blueberries.

MATERIALS AND METHODS

Rooted 'Tifblue' cuttings were potted into 1 gallon plastic containers and grown under nursery conditions for 1 growing season. Plants were irrigated 2 hours per day with overhead sprinkler irrigation. Peat moss and pine bark were the media components utilized in this study. Two experiments were conducted to fully evaluate media and pot color.

Experiment 1. Plants were grown in either black or white pots using 3 media; peat moss, pine bark or a 1:1 ratio of peat to pine bark.

Experiment 2. Five media combinations were evaluated, peat moss, peat:pine bark (2:1), peat:pine bark (1:1), peat:pine bark (1:2) and pine bark. Plants were potted into black pots.

Plants were rated for chlorosis (1=non to 5=total), redness (1=none to 5=total) and salability (1=unsaleable to 5=large, healthy plant) at the end of the study. All media was removed from the root system and fresh and dry weights of the entire plant were recorded.

RESULTS AND DISCUSSION

Experiment 1. Pot color had no significant effect on plant quality or size, however, plants in white pots tended to be slightly larger than plants in black pots (table 1). This may be due to a heat effect; the use of white pots tends to result in cooler temperatures in the root zone area. Plants grown in the 1:1 peat:pine bark mixture produced most growth and had the highest salability rating, while those grown in 100% pine bark were poorest. Media did not effect chlorosis or redness of the plant.

Experiment 2. Most growth occurred for plants in peat:pine bark (2:1). As percentage peat declined from the 2:1 ratio, plant fresh and dry weight was reduced (table 2). The same trend occurred with the salability rating. Least growth occurred for plants grown in 100% peat.

Another important consideration with the use of peat moss in containerized blueberry production is the ease of root ball breakup. If the root ball is not thoroughly broken from the mold of the pot, plant root growth is restricted and plant performance will be poor. As the percentage of peat in the media increases, the time of root ball breakup increases (figure 1). The time of root ball breakup is inversely proportional to the ease of breakup.

Table 1. Main Effect Means of Pot Color and Media on Growth of Containerized Rabbiteye Blueberries.

Treatment	Chlorosis (1-5)	Redness (1-5)	Salability (1-5)	Fresh Weight (g)	Dry Weight (g)
Pot Color					
Black	1.40	1.57	2.83	28.07	11.53
White	1.32	1.29	3.10	33.22	13.54
Media					
Peat	1.47	1.58	3.00 ab[z]	33.03 ab	13.77 ab
Peat:Pine Bark (1:1)	1.35	1.50	3.40 a	38.31 a	15.37 a
Pine	1.27	1.22	2.55 b	21.75 b	8.95 b
Pot Color X Media	NS[y]	NS	NS	*	*

[z]Means separated by Duncan's Multiple Range Test at the 5% level.

[y]NS and *, not significant and significant at the 5% level, respectively.

Table 2. Effect of Media on Growth of Containerized Rabbiteye Blueberries.

Media	Chlorosis (1-5)	Redness (1-5)	Salability (1-5)	Fresh Weight (g)	Dry Weight (g)
Peat	1.70	1.70	2.50	21.07 b[z]	8.71 b
Peat:Pine Bark (2:1)	1.33	1.58	3.46	44.20 a	18.12 a
Peat:Pine Bark (1:1)	1.30	1.60	3.30	35.62 ab	14.37 ab
Peat:Pine Bark (1:2)	1.82	1.91	2.86	31.69 ab	13.23 ab
Pine Bark	1.20	1.40	2.70	27.52 ab	11.52 ab

[z]Means separated by Duncan's Multiple Range Test at the 5% level.

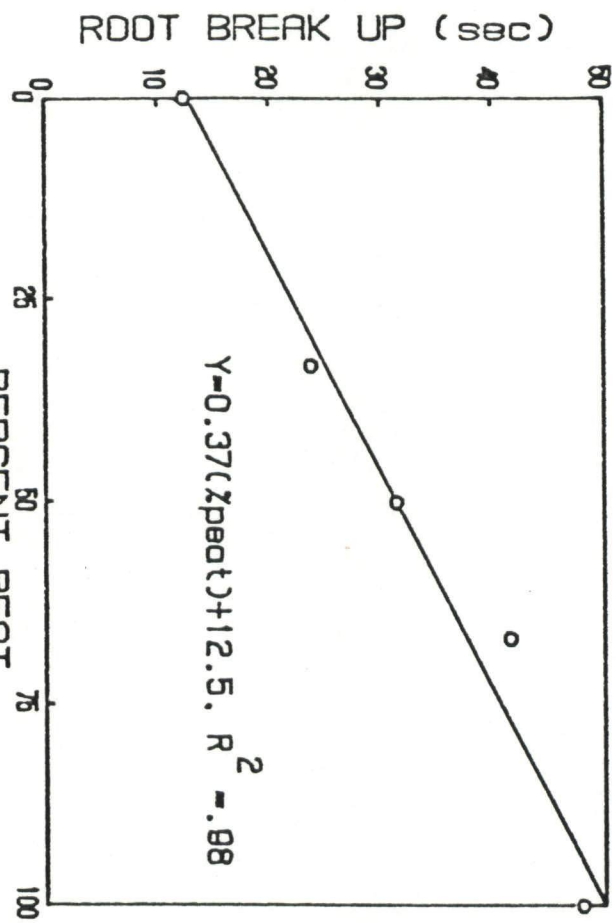

Figure 1. Effect of percent peat on speed of root ball break up.