

WATERMELON POLLENIZER EVALUATION

George E. Boyhan¹ and C. Randell Hill²

University of Georgia

Dept. of Horticulture,

¹East Georgia Extension Center

PO Box 8112, GSU

Statesboro, GA 30460

²Vidalia Onion and Vegetable Research Center

8163 Hwy 178

Lyons, GA 30436

Introduction

Seedless or triploid watermelon production is a growing part of the watermelon business in Georgia. Last year, The Packer's MarketScope weekly report indicated that over 60% of the watermelons shipped from Georgia were triploids. Two seed companies have recently introduced pollenizer varieties. The concept behind this innovation is to plant a field 100% to triploids and then interplant with a pollenizer. These pollenizers, according to the companies, do not compete with the crop while insuring adequate pollination.

Currently our recommendations are to plant one row in three to pollenizers. The result of this arrangement is that one-third of the field is planted to normal diploid (seeded) plants, which generally command lower prices than triploids.

Recent research has suggested that one row in four or five may be all that is needed for pollen. In either case, these new pollenizers offer a completely novel approach in that no production capacity is lost to pollenizers.

The objective of this experiment was to evaluate 'Companion' planted every second or fourth triploid plant as a pollenizer in comparison to a normal diploid planted every second triploid.

Materials and Methods

Approximately 4-week old plants of the short-vine pollenizer 'Companion', normal vining diploids, and triploids were used. Plants were transplanted 15 May 2003 at the Vidalia Onion and Vegetable Research Center in Lyons, Ga.

The experiment was arranged in a randomized complete block design with three replications. Ten hills of triploids were planted in each plot with a within row spacing of 5 ft. Treatments consisted of 'Companion' interplanted either every second triploid or every fourth triploid in a plot. In addition, a third treatment that consisted of normal diploids interplanted every second triploid was included. Plots were arranged so there was a minimum of 40 ft. between any two plots to minimize cross pollen transfer. Fruit were harvested on 11 July 2003

and weighed. Fertilization and weed control followed current University of Georgia Cooperative Extension Service recommendations. There were no disease control measures employed.

Results and Discussion

Pollenizers planted every second or fourth plant did not result in yield or number of fruit differences (Table 1). In addition, a normal vining diploid did not affect yield or number of fruit. It should be noted, however, that no border rows were planted around these isolated plots, which could have reduced the competitive effect a normal diploid might exert.

Both Syngenta and Seminis are offering a pollenizer this year. In both cases, they claim the pollenizer does not compete with the triploid (seedless) plants while supplying sufficient pollen. The field is planted 100% to the triploid variety with Syngenta recommending their 'SP-1' pollenizer be interplanted in a 3:1 ratio (3 triploids to 1 pollenizer) while Seminis recommends their pollenizer be planted to a 2:1 ratio with 'Companion' interplanted every second triploid plant.

Although growers could plant an entire field with triploids and then come back and interplant at the recommended ratio, they probably will want to have their planting rig set up so they can do the interplanting at the same time they plant their triploids so as not to incur any extra cost with a second trip across the field.

The 'Companion' pollenizer is a short-vine watermelon that never gets any larger than 3-4' across from vine tip to vine tip, therefore it does not compete with the triploid. It produces a light green fruit (what they call a gray melon) about the size of a small Crimson Sweet. The flesh is sweet, but the quality is not very good and presumably, growers would not harvest it for sale. The leaves are unusual in being entire rather lobed as a normal watermelon would be.

'SP-1' from Syngenta is a normal vining watermelon but with highly dissected leaves so they don't offer much coverage (don't compete with the triploid crop). The fruit is also a light green color and somewhat smaller than 'Companion', but the flesh is like a citron with no flavor. Syngenta claims this pollenizer will produce abundant pollen for the triploid crop. They are only offering 'SP-1' as seedlings so the grower cannot buy seed. Syngenta has contracted with transplant growers to produce these plants in their FullCount™ program.

The results of this study, as well as others, may indicate a dramatic shift in watermelon production in Georgia. Triploid watermelon production may no longer have to rely on 20-30% of a field planted to diploids.

Table 1. Short-vine ‘Companion’ planted every second and fourth triploid plant compared to a normal diploid planted every second plant

Treatments	Yield	
	(lbs/plot)	(No./plot)
Companion every 2nd plant	57	4.3
Companion every 4th plant	59	4.7
Normal diploid every 2nd plant	48	4.0
	CV	48%
	Fisher's Protected LSD	NS