

Yield of New Muskmelon Cultivars in Eastern Kentucky

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Introduction

Eastern Cantaloupe production has been identified as one of several profitable crops that Kentucky farmers can produce. Potential yields of 8-10,000 fruit/A, with gross returns of \$5000/A are possible. Variable costs are roughly \$1,000 per acre and net returns to the grower are in the \$2,200 range. One farm cooperative, several grower marketing associations and numerous farmer's market producers are currently producing cantaloupes for fresh market sales. This cultivar trial compares Athena which is currently produced on 75% of all Eastern cantaloupe acreage with five other cultivars that produce similar fruit. Six cantaloupe cultivars were compared to determine yield, size, and for potential use by Kentucky growers for wholesale, roadside and farmers markets.

Materials and Methods

Cantaloupe seeds were planted in plug trays and grown in the greenhouse for four weeks before transplanting through black plastic on 28 May 2002. Cultivars were planted in a randomized complete block. There were four replications with five plants/replication. Each replication was 15 feet long with plants set 3 feet apart in the row. Rows were 7 feet on center.

A total of 150 pounds of nitrogen was applied through drip lines as either ammonium or potassium nitrate. Curbit 3E (1 qt/A) and Gramoxone Extra (2pt/A) were applied for weed control between the mulched beds one week after transplanting. An additional spot spray was made 14 days later to improve control. Admire 2F at the rate of 24 fl.oz/A was applied as a drench just after transplanting using a backpack sprayer with the nozzle removed. Either mancozeb or chlorothalonil was applied weekly and Quadris was applied on alternate weeks during July and August. Endosulfan 3EC or Pounce 3.2EC was applied for insect control when needed.

Following harvest, cantaloupes were sold through a local produce stand. The owner observed customer reactions to the various melons and reported buyer preferences and comments when he came to obtain more melons. He also began selecting only those melons that his customers wanted.

Results

There were no significant differences in fruit number/A for the six cultivars (Table 1). The average fruit weight of Athena was less than those of the other five cultivars. Odyssey, the highest yielding cultivar in the trial, produced significantly more cwt/A than Athena. The yields of the other four cultivars were not different from that of Odyssey or Athena. The appearance of Odyssey was very similar to that of Athena, except it was larger. Vienna fruit were not as attractive as those of the other cultivars and tended to have more cracking around the stem end. All six muskmelon cultivars produced marketable fruit. At a roadside market Minerva, Eclipse and RML 8793VP were the first to sell. These are large, attractive melons that look like the Indiana melon that consumers wanted. Unfortunately, they are softer and do not store or ship as

well as Athena. Athena and Odyssey also sold well as long as they had good size (larger than 5 lb.) Vienna sold only if nothing else was available. None of the new cultivars tested is likely to replace Athena in the commercial wholesale market because produce buyers demand that particular melon. Odyssey might be mixed with Athena to improve overall fruit size.

Table 1. Maturity, seed source, average fruit weight, number of fruit per acre, yield and shape and appearance evaluations for six muskmelon cultivars, Quicksand, 2002.

Cultivar	Days to Maturity*	Seed Source	Avg Wt (lb/fruit) ¹	Marketable Fruit/A ¹	Yield (cwt/A) ¹	Comments (shape and appearance)
Eclipse	63	SW	8.1 A	5906 A	480 AB	large size, good taste and quality, local sales
Odyssey	65	SS	8.2 A	6327 A	519 A	heavy netted, shallow sutures, holds & ships well.
Vienna	63	SW	8.15 A	5082 A	415 AB	medium shelf life, cracks
RML 8793VP	63	SW	8.8 A	4978 A	439 AB	large, attractive, similar to Minerva, local sales.
Athena	63	SW	6.5 B	5393 A	351 B	firm flesh, good shipper.
Minerva	65	SW	8.6 A	4978 A	426 AB	large, very attractive fruit, local sales
LSD ²			1.2	2245	146	

* Day from transplanting to first fruit harvested.

¹Means, within a column, followed by the same letter, are not significantly different as determined by LSD (P≤ 0.05)

²Least Significant Difference, P = 0.05