

'Vine Decline' Adverse To Watermelon Production

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NEW HOLLAND (Lancaster Co.) — When growing watermelons, watch for vine decline.

"The biggest issue in my opinion is maintenance of the foliage, keeping the foliage healthy," said Ray Samulis, Burlington County, N.J. extension agent. Samulis spoke about high intensity watermelon production on Monday at the New Holland Vegetable Day.

More than 200 area vegetable farmers and industry representatives attended the day-long event, which featured a wide array of programs.

The key to making healthy fruit and maintaining high vine productivity with watermelons, according to Samulis, is to keep the foliage healthy and free of various mildews and fungus which contribute to "vine decline."

Watermelon sweet

"The foliage is what is making photosynthates, the foliage is making sugars, and that's what's going to keep the watermelon sweet," said Samulis.

The key is to keep close eye on the vines as they're growing and to look for the primary fungus agents, including anthracnose and downy mildew, and "getting them out of there. That's going to be the biggest determination of the quality of your fruit," he said.

But many procedures must be employed before the vine stage, including variety selection (Samulis urged growers to select the right variety, preferably an eastern vari-

ety), soil maintenance, and transplanting and fertility management.

"Watermelons are one of the warmest temperature requirement crops that we have," said Samulis. "In fact, they grow and thrive at temperatures which would kill a lot of other crops. I've seen very few cases where it was too hot to grow watermelons."

Hold nutrients

In Burlington County (the largest ag county in New Jersey, according to Samulis), the soils are primarily sandy and sandy loam, which are ideal for the deep-rooted watermelon plant. But the soil particles, which are extremely large, don't retain much fertility. However, the clay soils in southeastern Pennsylvania are more favorable

to fertilizer retention — the smaller the particle of soil, the more ability to hold nutrients.

According to Samulis, watermelons require good drainage and are deep-rooting plants. They can tolerate low soil pH (some samples in the county tested out at a soil pH of only 2.8!) and cannot survive in a high water table (where the soil porosity is filled and offers the plant little aeration).

In the Burlington County region, irrigation "is 100 percent required," said Samulis. "You cannot grow watermelons without irrigation." Of 150 vegetable growers in the county, only two do not irrigate — and those make a living out of swampy regions.

Samulis said because of the hot, dry conditions, regular irrigation

(from ½ to ¾ inches of rain early in the season and 1 to 1½ inches mid-season) is required. "We like to recommend drip irrigation," said the agent, "but to be quite honest with you, the majority of our acreage is not drip irrigation. It is traditionally irrigated with overhead sprinklers and risers."

Strict rotation

Watermelons require a strict rotation schedule in order to stop the proliferation of root fungus.

In Samulis' experience, soil compaction hurts watermelon production. Heavier-type soils are less likely to compact, according to Samulis; rather, lighter, sandy soils are the ones that have plowing layers.

He recommends taking an

18-inch subsoiler and working over the ground before planting, because of the importance of clearing the way for the deep roots of the watermelon plant.

Also, the ideal greenhouse temperature should be 80 to 90 degrees Fahrenheit for seed germination — high temperatures are required especially if using a floor culture, where the temperatures are much less. "You can have a greenhouse air temperature of 75 degrees and you'll have a root temperature on the ground of 65 or even 60 degrees," he said.

Younger transplant

If using a transplant, it is best to pick a younger aged one than an older one. The younger transplant

(Turn to Page A21)



Rick Yates, D & L Growers, spoke about the importance of greenhouse biosecurity at New Holland Vegetable Day.



Dan Shantz, Shantz Farm Market, Allentown, spoke about the "Secrets of Successful Fall Crops" at the New Holland Vegetable Day.

