



Don Daum, Penn State engineer, reviews the importance of using eye goggles when applying pesticides to crops at New Holland Vegetable Day.

## 'Vine Decline'

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roots quicker and produces at a timely rate.

"Studies out of Florida and many other areas show that with a younger-age transplant, they tend to put out a lot more roots a lot faster," said Samulis.

The older transplant goes into a "delayed dormancy," said the agent. "The growth cycle is held back and they don't really pop right out of the ground."

When planting from seed, it is best to plant in a warm soil (if planting early, use a clear or black plastic mulch) with the pointed end of the seed up.

### Sidedress

Growers normally sidedress at least once with a nitrogen material.

The use of drip irrigation makes it easy to apply a liquid-based fertilizer; if not, sidedressing can occur with the use of a "caddy" which injects fertilizer through a hole punched through the plastic.

If banding the fertilizer, it can be applied at the end of mulch, before or after fruit set.

At the height of the growing season, it is critical the plant receives water—about 1 inch per week and sometimes up to 2 inches a week, especially when the temperature is greater than 90 degrees and there is a heavy fruit set.

Also, growers must ensure the plant receives pollination, and bees are critical to the operation. Many New Jersey growers store hives near the watermelon plots for bee accessibility.



Ray Samulis, Burlington County, N.J. ag agent, said the key to good watermelon production is being aware of "vine decline."

### Person part of system

When applying herbicides and pesticides, keep in mind that, if using a hand sprayer, the person "is part of the delivery system," said Don Daum, Penn State ag engineer, at the Vegetable Day.

Daum reviewed the importance of safety with sprayer use.

The important element in good spraying is "practice, practice, practice," said Daum. New applicator personnel should learn the correct application of a chemical (using water as a practice fluid) before applying the chemicals.

Also, critical elements include nozzle selection for the right application; selecting the time of day (morning or evening when winds die down to minimize drift); effective width of the bands; and ensuring enough water is available as required.

### Dangerous vapors

Also, the operator should wear long sleeves, trousers, hat, gloves, eye goggles, and use a special charcoal-filtering masks to prevent the person from breathing in the dangerous vapors. (Do not use dust masks—they merely allow vapors to penetrate.)

Daum said to beware of advertising claims on some of the air blast products—some claim to cover 60 feet, while really only reaching to about 32 feet under the best of conditions.

Daum also emphasized the new technologies becoming available to the pesticide user, including an applicator that uses air blast and droplet techniques; a boom sprayer with fan; and a motorized backpack air delivery system.

Daum said that growers who need more information on handling and safety when using pesticides can choose various fact sheets available at county extension offices.

Also at the vegetable day were sessions on identifying and monitoring insects, greenhouse soil media management and insect control, asparagus and raspberry production, beekeeping culture, raising fall crops, strawberry renovation and weed control, tree fruit management, soil fumigation, and other topics.

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