Narrow-Row Corn Studies Focus On Hybrid Type, Planting Date

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LANDISVILLE (Lancaster Co.) — Narrow-row corn can show improved yield performance in some silage and grain studies conducted recently over two years here at the Penn State Southeast Research and Extension Center.

In late August a field day to look at two projects, one involving narrow-row corn and another Bt corn, provided some interesting findings.

According to Greg Roth, Penn State corn specialist and a project coordinator, there is a complex relationship between narrow rows and the selection of the correct hybrid and planting date.

In their 1997 study, Penn State researchers found that responses to narrow-row (15-inch row spacing) corn were improved when using an upright leafed hybrid, with a high plant population and a later planting date.

According to Roth, in 15-inch rows, the upright leaf captures more of the normally "wasted" sunlight that falls between conventional, 30-inch rows. Also, corn planted early in 1997 and again this year showed some moisture stress and some drought effects, and selecting a hybrid to control that type of stress could do a lot to improve yields.

The researchers noted that these studies have been consistent over two years, but many factors, including the weather, would affect the results for different growers.

Roth indicated there were four planting dates comparing the conventional 30-inch rows to the narrow-row corn: April 29, May 18, June 1, and June 18 this year. Each was planted to approximately 32,000 seeds per acre.

The seed spacing was approximately 12 inches apart on the 15-inch rows and about 6 inches on the 30-inch rows.

In 1997, two corn hybrids, an upright leafed and a normal leafed hybrid, were planted in 15- or 30-inch rows either at 27,000 or 32,000 plants per acre on similar dates: April 29, May 14, May 29, and June 16. Each plot was replicated four times.

Silage yields were sampled when the crop reached approximately 40 percent dry matter.

In general, the results showed there was a slight yield advantage to the later hybrid. There was a trend for slightly higher silage yields with the higher plant population and for narrow rows.

The effect of planting date was also significant. Yields were reduced with delayed planting compared to the April planting date.

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According to Greg Roth, Penn State corn specialist and a project coordinator, left, there is a complex relationship between narrow rows, hybrid, and planting date. At right is project co-coordinator Bob Anderson, Lancaster crops agent.