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Maryland, spoke on the need of nitrogen for corn and said that the rate, source, timing and placement of nitrogen are important. For maximum yields, Bandel said, no-tillage corn requires more nitrogen fertilizer than conventional tillage corn.

In applying nitrogen for no-till planting, the injection and dribbling methods have an advantage over broadcasting UAN solutions, Bandel said. In 1983, injection and dribbling increased no-till corn yields by 37.6 percent and 21.1 percent, respectively.

To assist in determining the economic optimum levels of nitrogen fertilization for corn, Bill Lessley, University of Maryland, outlined the university's study on nitrogen fertilization experiments.

Utilizing an average price of 34 cents per pound of nitrogen and $2.80 per bushel of corn, the economic optimal levels of fertilization ranged from 121 pounds per acre (conventional tillage) to 224 pounds per acre (no-tillage), Lessley said. Economically, Lessley said, a farmer doesn't want to spend more money than his returns. Added returns should equal added costs for optimal economic results.

Thomas H. Williams, University of Delaware, compared tillage systems and said farmers have many alternatives in selecting systems to minimize erosion. However, no-tillage systems, he said, rated higher in terms of energy use, fuel and labor costs.

No-till, Williams said, uses less than 10 horsepower-hours per acre. Fuel use runs at one gallon per acre with no-till, and labor use is less than one-half hour per acre. This breaks down to one-third the labor, one-seventh the horsepower-hours per acre and one-sixth the fuel needed for no-till compared with conventional tillage practices.

In speaking on no-till forage establishment, A. Morris Decker of the University of Maryland, said there is nothing magical about no-till; the requirements for success are no different than those for conventional tillage. Farmers have to play by the rules, Decker said, when planting no-till.

Participants in the Mid-Atlantic No-Till Conference take time to ask questions and gather up-date information on conservation tillage practices.

These include applying adequate lime and fertilizer, timely seeding, legume inoculation, weed-free seedbeds, preparing a firm seedbed with shallow placement of seed, and the seed-soil contact. Following these rules, no-till systems can work for alfalfa and other forage crops, Decker said.

Lynn Hoffman, Penn State University, and Gary L. Smith, University of Maryland, teamed up to speak on no-till equipment. In selecting equipment, Hoffman suggested to look for the following criteria: proper soil penetration; good trash clearance; accurate seed metering device to handle a wide variety of seed sizes and shapes; proper seed depth control; proper firming action; and see if parts are locally available.

Another important piece of no-till equipment is the sprayer, Gary Smith said. Getting the proper amount of chemical on the fields to control pests is essential. Three prime variables which affect application rate are the nozzle flow rate, ground speed of the sprayer,

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