

Optimum Soil Nitrate

(Continued from Page A1)

Only now have soil scientists begun to take the knowledge gained from the study and use it.

The Maryland study covered a wide range of elements, including climate, soil conditions, crops, and other data. But several factors were important to ensure the PSNT's accuracy. The PSNT was not very useful on sites with cool season crops, such as wheat, and on ground with continuous corn and no manure application within five years.

Now, scientists are looking at using the PSNT only in combination with other measures of yield potential, including overall site nutrient management, calculating plant uptake of nitrogen, and other factors.

In Maryland, under a special program, farmers can sign up to receive the test for free, according to Dr. Frank J. Coale, extension agronomist with the University of Maryland, who spoke about the importance of looking at the place of nutrient management on the farm.

Farmers who make use of the PSNT could see a resulting increase of 1 percent in overall farm profit, according to Dr. James S. Shortle, agricultural economics and rural sociology professor at Penn State. A recent Penn State study on the PSNT, according to Shortle, showed that while the profits may be modest, nitrogen application could be reduced by a factor of 30 to 40 percent.

Health of soil

In light of the recent Midwest floods, the health of the soil remains uppermost in the minds of Iowa farmers, who face some tough land-management decisions regarding erosion and compaction, according to a soil professor from Iowa University.

And how those farmers change their philosophy about farming could have wide-ranging impact on Mid-Atlantic farms, according to Dr. Dennis R. Keeney, director of the Leopold Center for Sustainable Agriculture and soil professor at Iowa State University.

Because of the terrible summer weather in the Midwest, farmers have harvested corn that they simply had to dump back onto the land because of the crop's low quality. Also, the hay crop has the feed quality of shredded newspaper or "even worse," said Keeney. The only crop seemingly not affected by the floods was soybeans.

Farmers are facing problems

with soil erosion and compaction — problems that could have dramatic and long-term effects on farming for years to come, according to the Iowa soil microbiologist.

His presentation, "Innovations in Agriculture," spoke about the issues farmers may have to face in the coming century. He said that Europe views America's agriculture as "extremely unregulated," and that we lag a decade behind Britain and other countries in strict farming regulations. Gradually, farmers will have more restrictions placed on them, which will be costly and could drive many out of business.

He said, into the next century, more large-scale farmers will mean the decline of small farms. Also, new technology being developed will impact those small farms in ways Keeney said he can't predict. But as those changes take place, according to the soil microbiologist, the public must be kept informed. Perhaps an ag "glossary" of the new terms and concepts is needed to keep the general public educated so that reasonable solutions to problems in the future can be obtained, according to Keeney.

No-till best

"No-till is the best thing that happened since the invention of the tractor," said Donald E. Martin, dairy farmer, who spoke at a crop residue management dealer/farmer panel at the tillage conference.

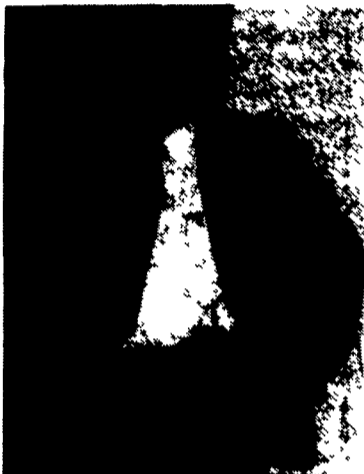
Martin operates a 150-cow dairy and cash grain operation near Chambersburg, Pa. He said that farmers should understand the misconceptions regarding no-till,



Primary (top) and secondary tillage tools on display at the conference.



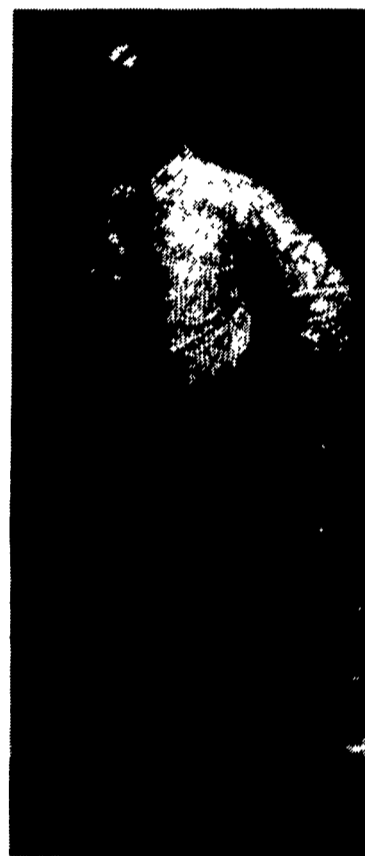
Farmer experience with no-tillage and dealer experience with primary and secondary tillage were the topics at a panel during the Mid-Atlantic Tillage Conference. From left, Charlie Hooper, C. B. Hooper and Son, Intercourse, Pa.; Karl Kroeck, dairy farmer, Wellsboro, Pa.; Donald E. Martin, dairy and cash grain farm, Chambersburg, Pa.; and Joel C. Myers, state agronomist, USDA SCS, panel moderator.



The state of Iowa faces some tough challenges ahead regarding soil erosion and compaction as the result of the rainy summer, according to Dr. Dennis R. Keeney, director of the Leopold Center for Sustainable Agriculture and professor at Iowa State. Keeney spoke on Thursday at the tillage conference.

especially about using more herbicides. Martin said that proper crop rotation and keeping excess soil residues (or "trash") off the field worked well in optimizing yields on his operation. He has approximately 500 acres of corn and 150 acres of hay with a limited amount of small grain and pasture.

"I'm still convinced that no-tilling year after year is the best way," Martin said. He said farmers should be concerned about preventing compaction by harvesting only when the ground isn't wet. He said there are no short-cuts in no-



New herbicides were detailed at the tillage conference by Dr. Ronald L. Ritter, extension agronomist, University of Maryland.

handle the problems of residue on the field while planting. More than half of his total tillage is conservation tillage, with about 30 percent in no-till and 15 percent conventional till.

Deep-tillage equipment should concentrate on the compaction layer (or hardpan) only, and not disturb the subsoil too much, according to Charlie Hooper, of C.B. Hooper and Son, Intercourse, Pa. He said the industry is working more to obtain a "one-pass" tool to minimize compaction, but, at the same time, work the soil enough for optimum planting conditions.

New herbicides

Dr. Ronald L. Ritter, University of Maryland extension agronomist, spoke about the new herbicides available for corn and soybeans at the conference.

Also, F. Ronald Mulford, Poplar Hill Facility, Research and Education Center, University of Maryland, spoke about conservation tillage and small grains. Dr. James S. Shortle, Penn State, spoke about existing water regulations and how little has been done at the state and local level to implement the regulations.

Also, forages in conservation tillage programs were examined by Dr. Lester R. Vough, University of Maryland extension agronomist, and Donald M. Schwartz, Washington County ag agent. A national nonpoint-source water pollution control initiative was reviewed by Norman A. Berg, supervisor, Anne Arundel County Soil Conservation District.

till farming.

Karl Kroeck, who operates a 200-cow dairy and cash grain operation near Wellsboro, Pa., said that his farm has been experimenting with no-till planters for 20 years. Kroeck has experience with retrofitting his tillage equipment to

Nutrient Management Protects Environment

LEESPORTS (Berks Co.) — As part of our environment, water quality is of prime concern to landowners.

Nutrient management planning coordinates landowners farming practices and manure production with soil and manure analysis to establish a plan of nutrient application on farm fields. The nutrient management plan is designed to save money and time by avoiding overapplication of manures and fertilizers, as well as enhancing water quality.

Ten easy steps to developing a nutrient management plan:

1. Test your soil.
2. Have your animal manure analyzed.
3. Consider residual nitrogen from previous legume crops and manure.
4. Determine the nutrients in the manure and their value.

5. Determine how and when the manure should be applied.

6. Determine what rate you should use to apply the manure.

7. Choose any supplemental fertilizers you may need.

8. Calibrate your spreader.

9. Consider erosion and surface runoff control measures.

10. Conduct a yearly review of your plan.

A nutrient management plan focuses on balancing the needs of the crops being raised with the nutrients being applied to the fields and pastures.

Part of this balancing act is using best management practices

(BMPs) to ensure that these nutrients stay where they can be utilized by the crops. These practices also ensure that the soil that the nutrients may be attached to is kept out of the streams. Examples of BMPs used in crop fields are minimum tillage systems, contour strip cropping, grassed waterways, and terraces.

For help on developing a nutrient management plan, contact your conservation district. For farmers in the Tulpehocken and Manatawny Watersheds, contact Gerald Batz at the Berks County Conservation District at (215) 372-4657.



Results of a study of the effectiveness of the presided-nitrate test (PSNT) were announced at the Mid-Atlantic Tillage Conference on Thursday. From left, Dr. John J. Meisinger, soil scientist, ARS-USDA; Dr. Frank Coale, University of Maryland extension agronomist; and Dave Martin, Baltimore County extension agent.

CLASSIFIED ADS
PAY OFF!