Soil management tips presented

By DIETER KRIEG

MORGANTOWN — To some, working with soil and plants isn't much different from working with cows or hogs. Many of the same principles apply. A healthy plant, for example, will resist disease — just as a healthy animal withstands ailments. Anyone who has ever milked a cow knows that the teats have to be squeezed right in order to obtain the milk. And so it is with the soil. It has to be managed right, so that plants can be fed right and provided with a good "home."

That, in a nut shell, is what Don Schriefer, spokesman for the Advanced Ag program, told a gathering of farmers here earlier this year who are either minimum tillage farmers or are giving that concept some consideration.

Schriefer pointed out that the plant is the only thing on Earth which produces food — everything else consumes — and he stressed the need for proper care. "Some of the things we're doing in agriculture are absolutely atrocious," the Illinois soil and plant specialist said. The "Dust Bowl," for example, came about as a result of unwise soil management. "If you want productive soil, then treat it right physically — have a proper system, choose the right chemicals and balance them to eliminate limiting factors," he advised. "If it's right physically and chemically, then it'll be right biologically," Schriefer observed.

Advanced Ag is a program which puts its emphasis on proper soil management, and as far as they're concerned, the plow has no place in it. In fact Schriefer went so far as to state: "The sooner the plow goes, the healthier agriculture is going to get. The plow is going fast, although there are still a lot of our people who are using it." The reason Advanced Ag and similar organizations oppose plowing is that the practice eliminates the benefits of decaying field trash, and cuts down on capillary water action.

In trying to make his point, the agronomist referred back to animal interpretations — noting how important it is for a baby calf to receive colostrum, and how some baby pigs turn into runts due to lack of proper nutrition. Schriefer drew similarities here and then went on to liken the soil to a cow's rumen. "Both depend heavily on bacteriology," he explained.

Worms, in Schriefer's lecture, were called "little torque amplifiers" which make a lot of things happen. "But just because you have a lot of worms in your fields doesn't mean you have it all," he cautioned jokingly. It takes more than that. Bacteria are essential to keep the soil loose and ventilated and also for decay of field trash.

The soil specialist, who has spent years advocating advanced soil technologies all over the country and claims to win significant numbers of converts every year, explained a number of recommended practices during a program held here at the Fire Hall which lasted more than three hours. The nicest thing he had to say about plowing is that "it is one of the most pleasant things about farming — farmers look forward to it and like it — the soil looks nice after plowing. Chisel plowing, on the other hand, does not look nice — but according to Advanced Ag, it's a good, solid soil management practice if it's done properly.

Depth and chisel spacings are two of the more important considerations. What's done with the soil after chiseling is also important — whether it's further work with the soil directly, or seeding it with a cover crop.

Defining minimum tillage, Schriefer coupled it with the phrase: "meeting proper soil management." It's good, in other words, as long as soil and plant requirements are satisfied properly. "But, if the idea is to do nothing, then the soil is abused," he added.

One Chester County small grains and corn farmer who is positively sold on the Advanced Ag concept is Wilfred Mast. Soon to be entering his third full year in the program, Mast first learned about Advanced Ag at the Agriculture Department in Harrisburg. He had been attracted to a meeting in March, 1974, by a post card mailed to him which claimed that a man named C. J. Fenzau was 25 years ahead in farming. Impressed by Fenzau's speech, Mast went home to study his notes and apply the "new technology." With two harvests of Advanced Ag managed crops behind him, Mast now says he's impressed with the results and A.A. has very definitely helped my farming program." He and his two sons farm 260 acres of prime Chester County farmland near Elverson. According to him, approximately a dozen farmers near here use the Advanced Ag program, which has now spread to 20 states and Canada. Mast describes it as being primarily an educational service, and points out that they're not in the business of competing with fertilizer companies. But they do offer and provide trace minerals if needed which would not be available elsewhere, he added.

Schriefer, a former ag teacher and graduate of Illinois University, is head of Advanced Ag Associates' eastern division and works out of DeMotte, Ind. His company analyzes soil samples and offers management tips. A full explanation of the program encompasses 10 major soil management areas. The cost of a composite soil sample is $40.00 which works out to about 60 cents to $1.25 per acre, depending on soil differences. In addition, the complete program involves an annual consultation and educational fee which varies from $1.00 to $1.50 per acre, depending on the size of the operation. Expensive?

Advanced Ag answers with an emphatic "No!" They claim it's the lowest priced service of its kind and add that the complete program costs less than "one trip custom application to apply fertilizer or chemicals." Mast agrees enthusiastically, saying that his experiences have proven to him that soil nutrients can be balanced properly — resulting in better crops, bigger yields, fewer diseases, and less insect problems. "The more the soil is out of balance, the more insect problems you'll have," he warned in an interview at his farm.

Changing to the AAA program has meant changing some management procedures as well as acquiring new equipment, Mast pointed out. Last year, for example, he used only one-third of the normally recommended amount of herbicides while cultivating to make up for it. He uses a Lilliston rolling cultivator, hitched up with nitrogen applicators to take care of that job at the same time.

As Mast and Advanced Ag technicians see it, the 11 primary reasons for tilling the soil are: 1. manage residue, 2. direct decay, 3. prepare seed bed, 4. improve weed control, 5. aeration, 6. hilling, 7. water management, 8. root extension, 9. biological support, 10. chemical support, and 11. material application. That's a long string of reasons to be tilling the soil which might lead one to think the more the better, but not so if Advanced Ag suggestions are followed. The key is not how much or how often, but simply "how." Whatever is done should be done scientifically and properly. Desirable physical properties (lack of lumps and clods) in conjunction with properly balanced soil components and nutrients is of utmost importance for achieving optimum plant growth which in turn leads to good animal production and better human health.

Schriefer challenges farmers to believe that high crop yields are as much influenced by tillage practices as chemical applications. He and his firm believe that "more yield is lost due to mis-management of tillage rather than mismanagement of chemistry. "A tillage system must be custom designed to fit the soil situation of a particular farm or area. Regardless of the soil situation, the principles remain constant and only the ways and means will vary." He states:

"We believe a proper tillage program must begin in the fall to lay the foundation for reaching the maximum productive capacity for a given operation. The fall tillage program must satisfy the following objective:

To position the soil in ridges with crop residues

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