

Nutrient Management Begins With The Whole Farm

ANAHEIM, CA — "Proper nutrient management begins with a look at the whole farm, not each field individually," said Dr. Douglas Beegle, Penn State associate professor of agronomy.

Penn State research has shown that records are extremely important as a tool to keep track of trends and maximize profitable crop response. Beegle said that a sound nutrient management plan and records are the most important resource a farmer has to manage nutrients for maximum economic benefit and minimal environmental impact.

Beegle reported on the importance of developing a nutrient management plan. "The problem has been that manure nutrients have not been well accounted for because of the difficulty in knowing the amount applied," he added. He made his remarks as part of the 1988 annual meeting of the American Society of Agronomy.

He and Phil Durst, a Penn State county extension agent, reported on a system developed at Penn State to help make developing plans easier. The programs organize information into a more useful form, while alleviating the drudgery of evaluating and condensing a pile of accumulated soil test results. Both standard paper worksheets and computer-generated spreadsheets have been developed.

The computer program uses information such as the number and size of animals, length of confinement during the year and other factors to estimate manure production on a farm. Another program matches up analyses on a field-by-field basis and then decides on manure application rates to meet the nutrient needs of the crop.

Beegle explained that the comprehensive program integrates farm nutrient management with the whole farm. Soil test information from each field on the farm must be entered, along with the manure analyses and crop rotation

information. Finally, the computer program organizes fields on a priority system and indicates which fields stand to benefit the most from manure application and which could be harmed by additional manure.

Penn State agronomists have also developed paper worksheet on manure analysis. Like the computer-generated spreadsheets, the worksheet matches up the soil test requirements with the manure analysis to decide how much manure should be applied to each field.

Another worksheet helps farmers calibrate manure spreaders.

"The economics of nutrient management are clear," Beegle concluded. "Managing plant nutrients for maximum economic benefit is the bottom line; however, the environmental effects of nutrient management are also just as important."

Good managers need to understand what nutrients in the manure can be utilized to grow a crop. Also the average amounts of nutrients may vary greatly. Beegle says that it is important to use an actual manure analysis rather than depend on average values from a table.

Although there can be signifi-

cant farm to farm variability, there is generally little on-farm variability from year to year if the management on a farm stays constant. Thus, information from this year's manure analysis can be used as a guideline in planning next year's management.

Beegle concluded by emphasizing that planning is essential in recycling nutrients. The key to maximizing recycling potential is soil testing. A soil test indicates which fields need nutrients and how much manure to apply them to meet the crop needs for optimum yields. A soil test also helps avoid imbalances.

EPDs Aid In Bull Selection

BILLINGS, MT. — When it comes to bull selection, can you depend upon EPDs to do the job, according to Roy Wallace of Select Sires Inc. Wallace spoke at the American Angus Association Conference.

"It's a game of averages," Wallace said in describing the use of EPDs for bull selection. The higher a young bull's EPD, the more likely he is to perform the way you want him to.

Wallace described how he evaluated the records on 257 registered Angus bulls with accuracy records of .7 or better. He first figured the bulls' projected EPDs for yearling weight as if they were

young bulls with no other record than their own and their sire's and dam's. Then he figured in the bulls' records based upon their progeny performance. What he found was that all bulls in the range of zero to plus 10 pounds projected EPDs for yearling weight has average EPDs based upon progeny results of plus 10.45 pounds. Those with plus 20 to 30 pounds projected EPDs range averaged 24.63 pounds EPDs with progeny results figured in. The bulls with plus 30 to 40 pounds projected EPDs had progeny-added EPDs of 39.85, while bulls in the projected plus 40 to 50 pound EPD range averaged 55.7

pounds EPDs with progeny results figured in.

Wallace pointed out a few bulls in each category fell out of the group, either above or below. But he stressed, "You could sample zero to plus 10 pound projected EPD bulls and never find a plus 50 pound EPD bull, while in the plus 40 to 50 pound projected EPD group there were a high percentage of them."

As far as EPDs on proven bulls are concerned, they are right on the money, according to Wallace. He used as an example the most used bull in the Angus breed with 12,500 progeny records recorded with the American Angus Association's AHIR program. His yearling EPD is plus 39 pounds and the standard deviation (or how you might expect his progeny to vary from his own record) is only plus or minus one pound.

"The beef cattle breeding business has finally advanced to the stage of science," Wallace said. "We now have a good reliable predictor for evaluating the genetic

merit of the animals within a population. Sure there are errors, sure some bulls are better than the data says and some not as good. But get enough numbers on them and you have a pretty good idea of how they will perform," Wallace said.

"What's more," he added, "the first planned breeding program in Great Britain was based upon the principle of 'Like Begets Like.' We are using the same principle today. When cattle that perform well are mated, their offspring are likely to perform the same way, like Begets like."

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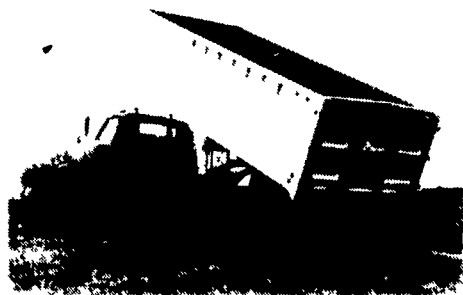
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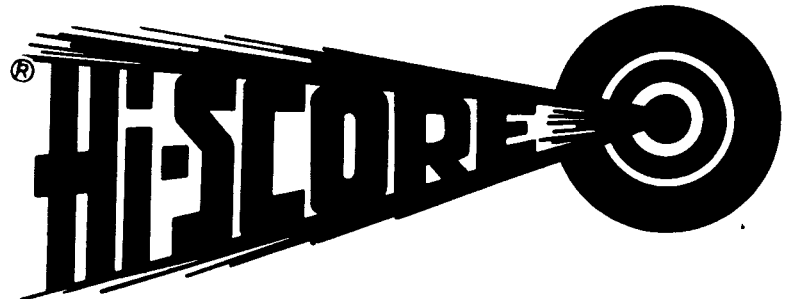
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