

Field and Feedlot



Northwest Area Extension

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Soil Testing for P-index Plans

by Kris Kohl, ISU Extension Ag Engineer Field Specialist

Many manure management plans for The Department of Natural Resources (DNR) will require updating to the P-index in the next year. The P-index requires more intensive soil testing than has been required in the past. The requirements are:

- Soil testing on ten acre field areas
- Soil erosion calculation using Revised Universal Soil Loss Equation (RUSLE) on the most erosive soil that makes up 10% of field
- Distance of open water

While most of the information can be gathered at any time of the year the soil testing is easiest when there are no standing crops and the soil is not frozen. Therefore, the best time to collect samples is this fall. Samples must be analyzed for phosphorus and soil pH. I would suggest using the Mehlich 3 soil test because it does not have a pH restriction making it easy to average for a field.

The soil erosion calculation using NRCS' revised Universal Soil Loss Equation II is required in the plan. Most of the NRCS offices will provide producers with this calculation and provide the profile summary needed for documentation for the DNR. The calculation requires the producer to list all of the tillage done on a field during the rotation. The DNR is also looking at the crop yields to be sure that they are using the NRCS crop yields for the most erosive soil type which will be much lower than the county crop yields. This number is then put in the P-index calculation and is the most important factor.

The P-index also requires that a producer know the distance from the center of a field to the nearest open water. Vegetative filters that would filter out the sediment are also given beneficial treatment in the P-index calculation.

Once all of the information is assembled for the P-index it is a straight forward calculation of the potential risk of phosphorus entering our surface

waters. Proper management of our soil resource will insure top production without off site pollution.

Adding Value to Your Feeder Calves

by Beth Ellen Doran, ISU Extension Beef Field Specialist

Feeder cattle prices differ greatly due to market (cattle and corn prices) and cattle factors (sex, weight, frame, muscle score, condition and color). However, there are a lot of different programs and claims to try to differentiate feeder cattle even further. This includes Green Tag, Gold Tag, private company health programs, producer programs, source-verified, age verified, electronic identification, breed, management and nutritional programs.

What information has value in the market place? And if it has value, what is the magnitude of the premiums paid? ISU Extension, the Iowa Beef Center and the Iowa Department of Agriculture Market News Service worked together to answer these questions. Feeder cattle prices and information were gathered at 9 major Iowa auction markets last fall and winter and across more than 20,000 lots of cattle to determine the impact of information on feeder cattle prices.

This study confirmed the value of basic management procedures. Castration added \$6.20/cwt. above the sale price of a bull calf. Cattle that were dehorned or polled sold for \$1.70/cwt. more than feeder calves with horns. Clean cattle had a \$1.18/cwt. premium over dirty cattle. Healthy cattle sold for \$9.36/cwt. more than those that were not healthy. Fleshy calves were discounted \$2.41/cwt.

Vaccination and weaning added value to the feeder calf price, but the amount of the premium depended upon who was the "verifier." Calves that were

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“officially” vaccinated and weaned for 30+ days sold for \$6.15/cwt. more than calves that were not weaned and not vaccinated. If the seller verified that both the weaning and vaccinations were performed, the premium was half of “official” verification of both processes.

The bottom line is that you can add value to your feeder calves with basic management procedures and with verification of vaccination and weaning. This research would suggest that this added value was \$35 per head. Cow-calf producers are encouraged to work with their local livestock auction markets to obtain information about featured calf sales this fall and winter.

Ethanol By-product for Swine Producers
by Dave Stender, ISU Extension Swine Field Specialist

I have recently had the opportunity to attend workshops regarding ethanol by-product. With new Ethanol plants coming on line and some existing plants expanding, there is going to be more byproduct available to feed livestock. Swine producers can utilize a dried product called distillers dried grains with solubles (DDGS). To best utilize DDGS, the producer should know the source, nutrient content and formulate diets appropriately.

Not all DDGS are created equally because ethanol plants may utilize different equipment and processes in the production of ethanol. Processing factors such as grain source, grinding fineness, cooking techniques, dilution, the quality of the fermentation process, type of distillation and evaporative process, ratio which solubles are added to the grain fraction and the DDGS drying process will impact the nutrient composition of DDGS. The more consistent the process is at the plant the more consistent the product is likely to be.

Given the potential DDGS nutrient variation between different production plants, producers are encouraged to work with one plant to minimize nutrient fluctuation that may impact animal performance. If DDGS is purchased from a broker or feed supplier, ask if they are working with a single source. Swine producers should ask if the ethanol plant has standardized operating procedure (SOP) for monitoring incoming grain for mycotoxins, manufacturing, handling “sour batches” (incomplete fermented batches) and nutrient analysis of the DDGS.

Producers must also beware that not all ethanol plants are marketing DDGS. Some plants are marketing a distiller dried grain (DDG- solubles not added back in). DDG is a different product than DDGS. It is higher in protein; however, without the solubles it has lower

energy and a poorer amino acid profile with higher fiber.

	Corn	DDGS	Distiller's grains DDG	Distiller's solubles
Crude protein, %	8 to 10	30.9	33.5	18.5
Crude fat, %	3.5	10.7	9.0	15.7
Crude fiber, %	1.9	7.2	9.5	2.5
Phosphorus, %	.24 to .34	0.75	0.54	1.28
Lysine, %	.22 to .32	0.90	1.05	0.68

Swine producers should view DDGS as an ingredient that will primarily replace corn. As a rule of thumb, DDGS nutrients levels are about 3 times that of corn. Nutrient variation is a real issue. DDGS values for protein may range from 29 to 32%, while lysine (a critical amino acid in a pig diet) has a wider range of values from 0.61 to 1.06%, and phosphorus, may vary from .42 to .99%. Nutrient quality and availability is also an important consideration.

Currently, it is generally accepted that the color of the DDGS is the quickest and most economical estimator of quality. Swine producers should purchase only “golden” colored DDGS. Consider a color range of yellow (corn) to dark brown. As the DDGS becomes a darker shade it may indicate that the drying process was at too high of a temperature or for too long of a period and the protein has become denatured and may not be available to the pig. Color counts. Accurate nutrient analysis is needed from the source to formulate the swine diets.

Utilizing DDGS in swine diets is a source of protein, energy and an excellent source of available phosphorus. Maximum suggested inclusion of DDGS in the diet: nursery (15-50), finishing (50 – mkt), 20%; gestation, 30% and lactation, 20%.

Swine producers wanting to try DDGS feed as generally recommended should start at a low proportion of the diet, like 10%. That would be adding 200 pounds of DDGS per ton of feed, replacing 146 lbs of corn, 55 lbs of soy meal and 6 pounds of dicalcium phosphate. Producers would add back 1 pound of lysine, 2 pound of white grease and 3 pounds of limestone with the distillers to make an equivalent ration. This book-value substitution will change based on the actual nutrient levels of DDGS.

At current prices there is a feed savings per ton when feeding DDGS. Previous research results have shown that producers can expect similar performance to a corn soy diet when feeding high quality DDGS. There is typically a reduction in yield in pigs on trials

feeding DDGS, therefore groups of pigs being fed DDGS will likely need a couple days longer feeding period to reach the equivalent carcass weight of pigs fed a corn soy diet.

For more detailed information, call Dave Stender, ISU Swine Field Specialist or visit a comprehensive web site maintained by the University of Minnesota at: <http://www.ddgs.umn.edu>

2006 Harvest Information

by Paul Kassel, ISU Extension Crop Field Specialist

Grain Moisture Content for Safe Storage

Soybeans – sold by spring	14.0 %
Soybeans – stored up to one year	13.0 %
Corn - sold by spring	15.5 %
Corn – stored 6 – 12 months	14.0 %

Harvest Losses – Rules of Thumb

Soybeans

- 4 soybeans per square foot equal one bu/a loss.
- be sure to include soybeans in uncut stubble.

Corn

- 2 kernels per square foot equal one bu/a loss.
- one ear per 125 feet of 30 inch row equals one bu/a loss.
- one ear per 100 feet of 38 inch row equals one bu/a loss.

Hidden Losses

Hidden losses when soybeans are harvested at less than 13% moisture:

- 0.5 bu/a loss per point of grain moisture.
- example – soybeans combined at 10% grain moisture equals a 1.5 bu/a loss (13% minus 10% equals 3% times 0.5 bu/a loss/point of moisture equals 1.5 bu/a loss).
- actual losses are based on 40 bushel per acre yield levels; losses are greater when yield levels are in the 50 to 60 bu/a range.
- this hidden loss does not include extra harvest loss that may occur when soybeans are combined at less than 13% moisture.

Cost of over drying corn – with on-farm high temperature drying systems.

- you lose about 5.3 cents per bushel per point of moisture for every point of moisture that corn is dried below 15.5 percent moisture.
- this includes the cost of extra grain shrink and extra energy costs to dry it
- this assumes an LP gas cost of \$1.40/gal and electric cost of \$0.06 kWh for on-farm high temp drying and a cash grain price of \$2.00 per bushel.
- Example – corn dried to 12% moisture compared to 14% moisture (for long term storage) represents a 10.6 cent per bushel loss.

Iowa Beginning Farmer Tax Credit Act

by Tom Olsen, ISU Extension Farm Management Specialist tolsen@iastate.edu, 712-732-5056

During the 2006 legislative session the Iowa Legislature passed a bill which allows a tax credit for those who control agricultural assets and lease them to beginning farmers. This program is still in its infancy and the Iowa Ag Development Authority (IADA) and related agencies are still working on the administrative rules of S.F. 2268.

Who Qualifies as a Beginning Farmer

- To be considered a beginning farmer the prospective tenant must have net worth of less than \$300,000.
- The beginning farmer must also have sufficient education and training to operate a production operation and actively participate in the management and labor of the operation.

General Guidelines

- The definition of Agricultural Asset is stated as “agricultural land, depreciable agricultural property, crops, or livestock.”
- Asset transfer agreements can be as short as two years or as long as five years and must be in writing.
- The tax credit is limited to those items addressed in the asset transfer agreement.
- A copy of the agreement must be included with the application to the IADA. The credit can only be claimed if the taxpayer has received a tax credit certificate from the IADA. The certificate must be attached to the taxpayer’s return.
- The tax credit will be issued in the taxpayer’s name for the amount of 5% of a cash contract and 15% for a crop or livestock share agreement and is non-transferable.
- The amount of the credit is based on the gross amount paid to the taxpayer under the asset transfer agreement.

*From an article by Mike Duffy, ISU Extension
Economist*