

FIELD & FEEDLOT



NORTHWEST AREA EXTENSION

Decem-

Feeding Beef Cows

By Beth Ellen Doran, ISU Extension Beef Field Specialist

What a difference a year makes! Who would have suspected \$3 plus corn this fall? When have we expected a shortage of wet corn co-products potentially extending 6 to 12 months? Both of these questions have led to inquiries regarding cost effective rations and feedstuffs. There is no one perfect ration. The ration fed will depend on the availability and physical form of feedstuffs, method of bunk delivery, feedstuff storage, labor requirement, animal to be fed, and cost.

Although there is a shortage of wet co-products, dried distillers grains may be an alternative. Here are some guidelines for the use of dried and wet distillers grains in cow rations:

1. For average cows in good condition for the last 1/3 of gestation, 3-5 lbs. of distillers dried grains or 8-15 lbs. of wet distillers grains per day will meet their protein and energy requirements when fed as a supplement to corn stalks.
2. For average cows in good condition for early lactation, 6-8 lbs. of distillers dried grains or 20-23 lbs. of wet distillers grains will meet their protein and energy requirements when fed as a supplement for corn stalks.

These rations should be fine-tuned for the specific cow size, stage of production, weight gain requirements, environment, feed analyses and operational goals. Vitamin and mineral concentrations also need to be evaluated. The Iowa Beef Center has developed an excellent software program, "BRANDS", to develop beef rations.

There are two versions of BRANDS – a professional version for nutritionists and a standard version for producers. Both versions have modules to develop rations for beef cows, heifers, feedlot animals and growing/breeding bulls. If you are interested in purchasing BRANDS, you

Another challenge for cow-calf producers is the availability of pasture. One way to extend pasture carrying capacity is to supplement grazing cows. University of Nebraska researchers found that 1 lb of dried distillers grains can replace 1.72 pounds of grass. Using this formula, 4 lbs. of dried distillers grains could replace 6.88 pounds of grass, or 16.5% of the grass needed daily by a 1300-lb cow with calf.

The ultimate decision as to whether these or any feeds are feasible comes down to economics – the cost of the feed ingredient compared to the value of the feeds it replaces. BRANDS can help you look at the economics of the total ration.

Feeding guidelines were taken from IBC-26, "Distillers Grains for Beef Cows." This publication and other publications on co-products for beef cows are available at the website:

<http://www.iowabeefcenter.org/content/ethanol.htm>

Feed Cost Increase Impacts Pork Producer Cost

By Dave Stender, ISU Extension Swine Field Specialist

As corn prices have increased rapidly this fall in a counter cyclical rally, pork producers are considering the impact on cost of production and profit margins. With demand for corn increasing because of competition for corn from ethanol plants, pork producers are assessing what it will take to stay profitable as demand and price for corn goes up.

Feed conversion is a more important factor in the cost of production as feed price increases. Operations that have more efficient feed conversion are slightly less impacted by feed price hikes. Historically, pigs have consumed over 5 bushels of corn for each 100# gained, today in the wean to finish phase in some operations not much over 4 bushels of corn are fed per 100# gain. If the whole herd conversion (including sow feed) is calculated on an efficient herd today, about 4.5 bushels of corn is

A thumb rule for the price of corn relative to the cost of gain can be easily calculated. If it requires 4.5 bushels per 100 pounds of gain then a dime (\$0.10) increase in the cost of a bushel of corn will increase the cost of pork production \$.45/cwt. A thumb rule for soybean meal can be calculated. Cost of production will increase \$.27/cwt for each \$10/ton change in soybean meal price. The table below assuming 3.2 feed conversion. At that conversion pigs will eat 4.7 bushels of corn per 100 pounds of gain.

Impact on Cost of Production (\$/cwt) as Corn and Soybean Meal Price Changes. Assuming 3.2 whole herd feed conversion.

Cost of Soybean Meal \$/ton						
Price of Corn \$/bushel	\$2.00	\$180/ton Start	\$ 0.27	\$ 0.54	\$ 0.82	\$ 1.09
	\$2.10	\$ 0.46	\$ 0.73	\$ 1.00	\$ 1.27	\$ 1.55
	\$2.20	\$ 0.91	\$ 1.19	\$ 1.46	\$ 1.73	\$ 2.00
	\$2.30	\$ 1.37	\$ 1.64	\$ 1.92	\$ 2.19	\$ 2.46
	\$2.40	\$ 1.83	\$ 2.10	\$ 2.37	\$ 2.64	\$ 2.92
	\$2.50	\$ 2.29	\$ 2.56	\$ 2.83	\$ 3.10	\$ 3.37
	\$2.60	\$ 2.74	\$ 3.01	\$ 3.29	\$ 3.56	\$ 3.83
	\$2.70	\$ 3.20	\$ 3.47	\$ 3.74	\$ 4.02	\$ 4.29
	\$2.80	\$ 3.66	\$ 3.93	\$ 4.20	\$ 4.47	\$ 4.75
	\$2.90	\$ 4.11	\$ 4.39	\$ 4.66	\$ 4.93	\$ 5.20
	\$3.00	\$ 4.57	\$ 4.84	\$ 5.12	\$ 5.39	\$ 5.66
\$3.10	\$ 5.03	\$ 5.30	\$ 5.57	\$ 5.84	\$ 6.12	

If we start with \$180/ton soybean meal, \$2.00/bushel corn and a \$40/cwt cost of gain, we can look up the effect of \$3.00/bushel corn and \$210/ton soybean meal on the cost of production. In this case, cost would increase \$5.39/cwt, therefore starting from \$40/cwt production cost the new production cost would be \$45.39/cwt. Pork producers should check futures market prices offered today. Depending on price and breakeven, it may yet be possible for producers to lock in corn, soybean meal and market prices at a profit this coming year.

Ethanol Webcast

By Tom Olson, ISU Extension Farm Management Field Specialist

ISU Economists presented, "Impacts of Corn-based Ethanol" in Webcast on Nov 13. This concentrated 3 hour session had presentations from five ISU Economists on varying aspects of the explosive growth of Iowa ethanol capacity.

A few take-home messages are listed below:

Dr. Miranowski: Petroleum prices are likely to stay in the low 60's for the next couple of years. Surplus production has disappeared and the response to higher prices is slow by the very nature of the petroleum industry, all construction takes time.

Dr. Gallagher: Ethanol demand is really at two levels. One is the additive market (E10) and the other is as a direct competitor to gasoline (E85). At present, ethanol has not filled the additive demand. Present production of 4.5 bill. gallons would have to increase to the 6.5-7 bill. gal. range. We can expect present prices for ethanol even with some continued production growth. The E85 price is \$.50-.75 lower than the additive market. E85 is competitive with petroleum priced at \$45-50/bbl.

Dr. Elobeid: Roughly using some rather broad assumptions, in the long run,

\$60crude=\$2.07gas=\$1.89ethanol=\$4.05corn

\$50crude=\$1.73gas=\$1.66ethanol=\$3.36corn

\$40crude=\$1.38gas=\$1.43ethanol=\$2.67corn

\$4/bu. corn will increase corn acres by 21% and reduce corn for feed by 33% (ouch for livestock).

Dr. Wisner: We need 1.7 billion more bushels of corn to feed the plants coming on-line in the next 15-24 months. We raised 2.1 bill. Bu. last year. How is that going to happen?

Dr. Lawrence: Distillers co-products can be added to all livestock. Economic and physical factors limit inclusion rates in all animals except ruminants (cattle). High corn and cheap by-products are net losers for all but ruminants.

Thirty-seven million bu. of corn can be used by an ethanol plant to support 80 jobs or by a farrow-to-finish operation to support 800 jobs, or a feedlot to support 278 jobs. There is a question as to long term net economic benefits.

Dr. Jolly: It is going to take well over \$3/ bu. corn to buy additional acres away from soybeans. If ethanol continues over \$1.50/ gal., the plants can easily bid that amount.

Dr. Ginder: Tremendous infra-structure changes need to be made to adapt to the rapid increase of corn acres and ethanol production. Iowa does not have enough storage or transportation capacity. The lag time to get these investments in place will create serious problems and can retard the growth of the ethanol industry.

This is just a taste of the large amount of information presented. All of the presentations and handouts from this seminar are available on the web:

<http://www.extension.iastate.edu/ag/ethanol.html>

Mega Trends in Agriculture

By Kris Kohl, ISU Extension Ag Engineer Field Specialist

The landscape in Agriculture is changing quickly with new ethanol plants springing up like mushrooms in a wet spring. Each new 100 million gallon plant consumes all the corn from 1.6 counties. To address the big changes that are accruing in rural Iowa, ISU Extension will be presenting a program called *Mega Trends in Agriculture* on **December 12, 2006**, from 10:00 a.m. – 3:00 p.m. at the Prairie Lakes AEA Building, 824 Flindt Drive, Storm Lake. The program cost is \$25 (after December 8, \$35) which includes lunch.

The carbon dioxide increase in our atmosphere has gone up 50 parts per million over the last 30 years. During that same period of time the average Iowa corn yield went from 91 bushels per acre to 168 bushels per acre. The strength of soft wood trees has gone down because of faster and faster growth rates.

The *Mega Trends in Agriculture* program will look at how the environment is changing and what effect it will have on corn and soybean production and the changes that the ethanol industry will have on corn, soybeans, and the livestock industry in Iowa. In the past energy has always been cheaper than food. The high price of oil has made production of fuel more economical than feed for corn. When we ration the last bushel who will win? What are the unintended consequences of converting our corn into ethanol? Will our hogs, turkeys, and cattle have cheaper feed or more expensive rations with higher corn prices?

The speakers for the program are Dr. Kris Kohl, ISU Extension Ag Engineer, who will discuss the changes in the environment. Tom Olsen, ISU Extension Farm Management Specialist, will discuss the economic implications of the evolving landscape in Iowa. Paul Kassel, ISU Extension Crop Specialist, will speak about ISU research on corn on corn production. Dr. John Lawrence and Dr. Robert Wisner, Economic Professors at Iowa State University will discuss the crop and livestock outlook for the coming years.

We look forward to having a good crowd of interested producers and agriculture businessmen who are excited about the future of agriculture.

Production of Corn Following Corn

By Paul Kassel, ISU Extension Crop Field Specialist

Much has been written and discussed about the production of corn following corn. Some decisions have already been made and many more will be made over the winter months. The following is some discussion on yield expectations and fertilizer use when corn follows corn.

Yield expectations. Grain yields from continuous corn are about 10% less than corn grown in rotation with soybeans. This yield difference between corn on corn versus corn grown in rotation with soybeans can vary from zero to over 50% in any given year. Recent advancements in rootworm control, weed control, and tillage/residue management have reduced the effects of continuous corn on grain yields. However, continuous corn will often yield below expectations – on the average – when compared to rotation corn.

Much of this yield variability of growing corn on corn can be attributed to root growth that may affect moisture and nutrient uptake during July. A corn crop can use up to 10.0 inches of moisture during July. Any production factor that affects moisture and nutrient uptake can have a large effect on final yields. Some of these factors might be incomplete rootworm control, soil compaction, and the lack of early season root growth. Therefore any moisture stress during July can have a large impact on the final yields from corn on corn fields versus rotation fields.

Fertilizer use. Corn following corn requires more nitrogen (N) than corn following soybeans. Recommendations from Iowa State University suggest that 50 lb/a of additional N is needed compared to corn following soybeans.

Since the N demand for corn on corn is greater than corn following soybeans, any condition where N losses occur (such as N leaching during a spring with excessive rainfall) will have more impact on grain yields. Be prepared to apply additional N in the late spring if this kind of condition occurs.

The production of two years of corn on corn (180 bu/a each year) removes 135 lb/a of phosphorus (P_2O_5) and 108 lb/a potassium (K_2O) fertilizer. Contrast this to one year of corn (180 bu/a) and one year of soybean (60 bu/a) that removes 116 lb/a of phosphorus (P_2O_5) and 144 lb/a of potassium (K_2O) fertilizer. Surprisingly, the actual cost of these two fertilizer programs is quite similar if you use current fertilizer prices.

Secondary nutrients and micronutrients are an item of discussion for corn on corn production. Zinc is the most important of these. The zinc soil test is accurate and zinc fertilizer is fairly inexpensive. Research on other secondary nutrients and micronutrients shows very little return on investment.

IDA County

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From the Director's Desk

This is my first holiday season with ISU Extension, and I want to take the opportunity to wish you all a safe and happy holiday. Next month will be the anniversary of my hire date. It does not seem possible that a year has gone by. As we ring in the new year many of you may be reflecting on similar thoughts. Where has the time gone?

Our field specialists have included many good articles again this month ranging from livestock to ethanol and crops. We hope this information is helpful to each of you in your ag-related decision making. In the upcoming months we will have a variety of educational opportunities in pesticide application, manure application, and even a new program targeting women in agriculture. Keep your eyes open for an Annie's Project here in Ida County. This will be offered on February 10, 24, and March 10th. It is designed to help women with five major risk management areas: production, financial, marketing, legal, and human resources. For more information you can contact our office at 712-364-3003 or take a look at our webpage at <http://www.extension.iastate.edu/ida>. Pre-registration will be needed to secure your seat in this course and to help us order enough materials.

If you have not been to our new office please stop by and see us. We are right next door to Dollar General in Ida Grove. We have a tremendous amount of information to share with you and many new publications arriving. We have also updated our webpage and have many resources available on-line. Please let us know how we may be of service to you.

Once again, happy holidays!

Kathy S. Schmidt
Ida County Extension Education Director