

FIELD & FEEDLOT



NORTHWEST AREA EXTENSION

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Grain Storage and Management Considerations

By Mark Licht, ISU Extension Field Agronomist

This year has proved to be challenging and once again the weather is to blame. Grain harvest is going slowly due to many factors including, but not limited to, lodging and un-timely rains. This year more corn has been planted than in the past and due in large part to weather related factors there is going to be more damage and grain quality problems. Therefore, it is probably a good idea to go over some key points of grain storage and management. Storing grain on-farm is truly a winter saving account to avoid off-farm storage and drying fees. And like many people I expect to receive interest on my saving accounts.

Also remember that damaged grain, whether mechanical or biological (i.e. bugs and disease), is a huge factor in grain storage and management. Damaged grain that is stored can increase spoilage during storage, making it all that more important to reach optimal storage temperatures and moistures.

Storage temperatures for maximum storage times

Grain Temperature	Corn Moisture Content (%)					
	13	14	15	16	17	18
°F	----- months -----					
40	150	61	29	15	9	6
50	84	34	16	9	5	3.5
60	47	19	9	5	3	1.9
70	26	11	5	3	1.7	1.1
80	15	6	3	1.6	0.9	0.9

Desired grain moisture for safe storage

Soybean sold by spring	14.0%
Soybean sold up to one year after harvest	12.0%
Corn sold by spring	15.5%
Corn sold up to one year after harvest	14.0%

Rules of thumb on harvest losses

- 4 soybean per ft² = 1 bushel/acre
- Soybean yield loss also occurs from uncut stubble

- 2 kernels per ft² = 1 bushel/acre
- 1 ear per 125 ft of 30 inch row = 1 bushel/acre
- 1 ear per 100 ft of 38 inch row = 1 bushel/acre

Grain shrinkage

Corn shrinkage is caused by two factors: 1) water shrink and 2) handling loss. Handling losses can be estimated at 0.5%. Water shrink on the other hand depends on the harvest grain moisture and the final grain moisture. Water shrink therefore is determined by multiplying the percentage of moisture points removed by the water shrink factor. And total shrink is water shrink plus 0.5% handling loss.

Water shrink factors for drying shelled corn to various moisture levels.

Final Grain Moisture	Water Shrink Factor
%	% shrink / point
15.5	1.183
15	1.176
14	1.163
13	1.149
12	1.136

Soybean yield loss when harvested below 13% moisture.

Harvested Yield	Soybean Moisture at Harvest						
	7	8	9	10	11	12	13
bu/ac	----- Yield Loss (bu/ac) -----						
60	4.1	3.4	2.7	2.0	1.3	0.7	0
50	3.4	2.8	2.2	1.6	1.1	0.6	0
40	2.7	2.3	1.8	1.2	0.8	0.5	0
30	2.1	1.7	1.4	1.0	0.7	0.4	0

A couple of great resources for more details on grain storage and management considerations can be found at:

<http://www.extension.umn.edu/distribution/cropsystems/DC1327.html> and <http://www.extension.umn.edu/distribution/cropsystems/DC6577.html>.

Lamb Feedlot Meeting November 8

By Beth Doran, ISU Extension Beef Specialist

Fine-tuning your management, the new Lamb Livestock Risk Protection Insurance and Lamb Market Outlook will be featured at a Lamb Feedlot Meeting on November 8 at the Community Center in Ireton, Iowa. The meeting, from 7:00 – 9:30 p.m., is sponsored by ISU Extension, Northwest Iowa Sheep Producers Association, Iowa Sheep Industry Association and Iowa Sheep and Wool Promotion Board.

Dr. Dan Morrical, Extension Sheep Specialist at Iowa State University, will visit about how producers can fine-tune their day-to-day management practices and enhance profitability. Topics he will discuss include lamb implants and feed additives, treating and preventing common health problems, controlling feed cost and improving feed efficiency, shearing, and feedlot facility design.

Dr. John Lawrence, ISU Extension Livestock Market Economist, will present market outlook for lamb producers. Dennis DeWitt, ISU Livestock Field Specialist, will explain Lamb Livestock Risk Protection (LRP) insurance. The LRP insurance is a new risk management tool that lamb producers can use to hedge the price they will receive for market lambs.

Meeting participants will have an opportunity to sample a new lamb meat product – lamb jerky. The jerky, produced by an Iowa lamb producer, is a favorite product at local farm markets.

To obtain a brochure about the meeting, contact Beth Doran, ISU Extension Beef Field Specialist, by e-mail at doranb@iastate.edu or phone 712-737-4230. Interested participants are encouraged to pre-register (\$10/person) by November 5.

Harvesting Cornstalks

By Dennis DeWitt, ISU Extension Livestock Field Specialist

Higher priced hays and forages have increased the need to harvest corn stalks for feeding beef animals. This year we will see a very large difference in baled stalk quality due to areas of drought stress, hail damage, excess rain and flooding. Corn stalk bales already harvested will be of a high quality, because they consist of a larger volume of cobs, leaves and husks. These products are the next best thing to corn in nutrient value. The remaining corn stalk is less digestible and lower in energy and protein; however, the corn stalk shank is much better than snowballs this winter. A concern from now on will be getting the corn stover dry enough to harvest for long term storage without molding or rapid deterioration. No recommendations are available, except to wait for drying or freezing before harvest. Be safe as you finish fall harvesting!

This Fall will be Tough on the Swine Industry

By Dave Stender, ISU Extension Swine Field Specialist

Swine producers have not yet responded to ethanol driven higher feed prices as record hog numbers come to market this fall. In fact good profits in the last 43 out of 44 months in the swine industry have triggered expansion. Sow herd expansion has been slow and cautious, however this summer the availability of a new vaccine has generally reduced death loss and increased gains bringing more pigs to market this fall.

As ethanol production competes for corn the price increases. Of course as corn price goes up so does the cost to produce a hog. In a modern system it takes about 4.5 bushels of corn to produce 100 lb of live weight (cwt). As corn price has increased about \$1/bu from the 2006 price, the cost to produce 100 weight has increased by about \$4.50. Soybean meal (SBM) price has also increased about \$60/ton. A \$30/ton increase costs the swine producer about \$1/cwt.

Therefore a \$4.50/cwt corn cost increase and a \$2/cwt SBM increase has increased the cost of production about \$6.50/cwt over last year.

Typical cost to produce pigs has been \$38 to \$40/cwt; higher feed prices have increased this to mid to upper \$40's/cwt. The price this summer has been above \$50, but this fall the extra hogs have sent prices below the cost of production.

The impact of ethanol in the retail meat case is minimal because of the proportionately low percent of the retail dollar that go to the swine producer.

Eventually, losses in the swine industry will slow and even reverse expansion as a higher market price is determined by supply and demand. Producers are faced with the choice of cutting supply or wait until demand increases through exports or population growth to increase prices. The problem of cutting supply is that the cost of the system is most efficient when output is optimally high.

If margin remains negative, some operations will start to reduce production, culling more severely, running a few less sows, increasing weaning age to try to capture some efficiencies in the grow finish barns.

There is interest in ethanol as a "renewable" fuel because it only takes about 2/3 gal of petroleum to make a gallon of ethanol. If we have extra grain, corn based ethanol will help us become less energy dependent, but it is not likely to replace much of our crude oil needs. In comparison to total energy needs, ethanol from corn can only be a small portion. The ethanol from all the existing plants and those under construction in the US represents less than 10% of US gasoline consumption (1 billion gallons vs. 150 billion gallons consumed).

It could be argued that there is not much extra grain, as the price of corn is historically high in spite of good yields on expanded acres. Tighter wheat and soybean supplies have increased those market prices. Not only is the price of corn over \$1.00 a bushel higher, but the price of wheat in Chicago has jumped from \$4.50 to \$8/bu. and soybeans from \$6 to \$10/bu. since the fall of 2006.

In the past, as grain prices spiked, livestock farmers who raise their own grain would absorb the higher feed cost by, in effect, taking a lower than market price return to the grain operation and missing some extraordinary profit opportunities from grain sales. After a couple of years, prices come back into balance. With this new ethanol demand being in place for many years into the future, these short term adjustments will not solve the feed price problem, as crop input costs are increasing so fast.

Typical tax charged to each gallon of gasoline is about \$.51/gal, while ethanol is exempted from this tax. The relationship between gasoline price and corn price is somewhat variable with ethanol plant efficiencies and input energy prices. The thumb rule relationship between corn and gas price is a \$.10/gal change in gas price is worth \$.25 to \$.30/bushel corn price. Therefore a \$.50/gallon tax break for ethanol is worth up to \$1.50/bushel for corn growers.

More emphasis is being put on cellulose production, but several problems need to be researched and solved yet. It will take time to bring much cellulosic ethanol on line. We need to leave some covered to slow soil erosion, bulky material will be difficult to store and transport and currently it is more expensive to make ethanol from biomass than from corn.

The by-product from the ethanol plants can be fed as distiller's dry grain with solubles (DDGs). Swine finishing diets can include DDGs up to 15 to 20% of the diet. Higher levels lead to meat quality problems in the final product. There is a yield of about 18 lbs of DDGs for each 56 lb. bushel of corn. Every bushel used for ethanol removes 38 lbs per bushel that would have been available for pig feed.

New Risk Management Tool for Sheep Producers

By Ron Hook, ISU Extension Farm Management Field Specialist

A new risk management tool was made available to sheep producers starting September 17, 2007. Livestock Risk Protection (LRP)-Lamb is a livestock insurance risk management product that is designed to insure against unexpected declines in market prices. Coverage may be purchased from approved livestock insurance agents each week on Monday from approximately 10:00 a.m. through 7:00 p.m. central time.

Sheep producers submit a one-time application for LRP-Lamb coverage. Once an LRP-Lamb application is approved, Specific Coverage Endorsements (SCE) may be purchased for different groups

of lambs. The number of lambs that can be insured under each SCE is limited to 7,000 head; however, there is no minimum number. There is an annual limit of 28,000 head per producer per crop year, which runs from July 1 to June 30. To be insured the lambs must be located in one of the 27 states approved for LRP-Lamb at the time insurance is purchased. Premium rates are established by the USDA and must be paid when the SCE is purchased. Producer premiums are subsidized 13 percent by the USDA.

The three choices for the length of insurance for each SCE are 13, 26, or 39 weeks. Producers should choose the coverage period that best matches their own production and feeding system. Coverage prices available are 80, 85, 90, and 95 percent of the expected ending value. The expected ending value is calculated by the USDA each week using an economic model composed of slaughter lamb prices, actual slaughter under Federal inspection, live weight, pelt price, a moving average seasonal index and other variables.

The actual ending value is the price of live lambs as calculated by the Agricultural Marketing Service (AMS) in the "National Weekly Slaughter Sheep Review" report. The price series used is the "Weighted Average Net Price" under the "Domestic" heading in the section labeled "Formula Prices established for previously slaughtered lambs (live basis)." If the actual ending value is less than the coverage price at the end of the insurance period, an indemnity will be paid for the difference between the coverage price and the actual ending value. In order to receive an indemnity a producer must submit an LRP Claim Form within 60 days following the coverage end date. Producers and feeders may continue to market their own lambs through their own market channels and at the maximum price they can negotiate, however, neither the actual market weights nor the actual market price received by a producer is used with respect to the insurance.

For further information on LRP-Lamb, contact Ron Hook at rhook@iastate.edu or 712.754.3648 or Dennis Dewitt at dewitt@iastate.edu or 712.336.3488. A fact sheet with more information about LRP-Lamb is available at: <http://www.extension.iastate.edu/agdm/livestock/pdf/b1-52.pdf>