The Latest Across the Plains

Timely Reminders

- Clean water sources on a weekly basis.
- Keep an eye on commodities contract prices the next two months.
- Have us sample hay and silage (silage greater than 3 weeks after harvest).
- Start thinking about pre-weaning calf diets.
- Contact your nutritionist for creep feeding options.
- Re-implant cattle with the current high beef prices.
- Spring calving herds should be pulling bulls soon.

Unused Feed

No animal can be better than it's genetic potential, yet no animal ever reaches its true genetic potential due to environmental and management limitations.

Save Money $$$ Test Your Feeds

Tests are relatively inexpensive, usually costing less than $18, for the information derived. Contact our office to set up an appointment to have us pull feed samples if we have not done so yet.

What's New in the Industry

Feeder Cattle and Live Cattle Markets for the week ending June 30 are both at record high levels. There has been significant drought relief in the Midwest and Plain States over the last one to two months.

We want to hear from you...

Do you have a question you would like one of the nutritionists to address in depth in our newsletter? Just submit your question through our website www.GPLC-Inc.com and we will get to work on it.

Calendar of Events

- **July 10 - 12** 3i Show, Dodge City, KS
- **July 11 - 27** California State Fair, Sacramento, CA
- **July 17 - 26** Delaware State Fair, Harrington, DE
- **July 18 - 20** Four State Farm Show, Parsons, KS
- **July 18 - 26** North Dakota State Fair, Minot, ND
- **July 22 - 24** Michigan State University Ag Expo, East Lansing, MI
- **July 23 - Aug 3** Ohio State Fair, Columbus, OH
- **July 29 - Aug 3** PRCA Dodge City Roundup Rodeo, Dodge City, KS
- **July 31 - Aug 10** Wisconsin State Fair, West Allis, WI
- **Aug 1 - 17** Indiana State Fair, Indianapolis, IN
- **Aug 5 - 7** Empire Farm Days, Seneca Falls, NY
- **Aug 5 - 7** Minnesota Farmfest, Morgan, MN
- **Aug 7 - 17** Illinois State Fair, Springfield, IL
- **Aug 7 - 17** Iowa State Fair, Des Moines, IA
- **Aug 7 - 17** Missouri State Fair, Sedalia, MO
- **Aug 11 - 17** Michigan State Fair, Detroit, MI
- **Aug 12 - 14** Wisconsin Farm Technology Days, Stevens Point, WI
- **Aug 12 - 14** Penn State University Ag Progress Days, Pennsylvania Furnace, PA
- **Aug 14 - 24** Kentucky State Fair, Louisville, KY
- **Aug 19 - 21** Dakotafest, Mitchell, SD
- **Aug 20 - 21** Midwest Ag Industry Expo, Bloomington, IL
- **Aug 21 - Sept 1** Minnesota State Fair, St Paul, MN
- **Aug 22 - Sept 1** Colorado State Fair, Pueblo, CO
- **Aug 26 - 28** Farm Progress Show, Boone, IA
- **Aug 27 - Sept 6** Nebraska State Fair, Grand Island, NE
- **Aug 28 - Sept 1** South Dakota State Fair, Huron, SD
- **Sept 1** Labor Day

The Great Plains News Feed

Storing Round Hay Bales

By Jeremy Martin, Ph.D., Nutritionist

It is the time of year for making hay, and many of you are busy day and night doing just that. Putting up hay is the major project of the summer for many producers, whether for feed or sale. Due to the time and cost involved, it is important to take the necessary steps to prevent excess loss of hay. While some hay is stacked or baled in square bales, the majority is baled in round bales of various sizes. Stacks provide limited storage options, square bales are readily organized and covered, but round bale storage offers several options.

To begin with, when round-baling hay, losses can be prevented by using net wrap, particularly net wrap that covers the edge of the bales. University of Wisconsin research indicates net-wrapped hay shrunk only 7.3%, compared to 11.3% shrink on hay tied with plastic twine, and 19.5% for hay tied with sisal twine. The additional cost of netwrap varies depending on your cost of materials and labor, but is likely between $1 and $2 per ton of hay, which is more than recovered by reduced shrink. In the same study, high-moisture balage wrapped in plastic tubes shrunk as little as 3%, which is comparable to hay stored in a barn (usually 2-4% shrink). The University of Minnesota estimates the cost of plastic wrapping bales at $6 to $8 per bale, on an as-is basis. So, the economics of plastic wrap likely depend on your climate and ability to bale high-quality dry hay.

Another option if you struggle to get hay dry enough to bale is to use preservative, which allows hay to be baled at 20-24% moisture without the heat-damage typically associated with baling hay too wet. Propionic acid preservatives can cause some discoloration of hay, but preserve nutrient value, particularly if they allow you to bale hay before it gets rained on. At a cost of approximately $10/ton, they offer a good value if you need to increase your harvest window or retain nutrient value of hay that may otherwise get rained on.

Spoilage on the outside of round bales may seem minimal, but when you take into account the percentage of the bale that is affected, it is quite staggering. For instance, in a 6' diameter round bale, spoilage that penetrates 4" into the bale accounts for 21% of the hay contained in the bale. The outside 4" of a 5' diameter bale contains 25% of the volume of the entire bale.

Regardless of the type of hay you are storing, it is critically important to choose a suitable location. For hay stored outside, or in a barn, the ideal location consists of enough slope to prevent rainwater or snow melt from collecting, and a base layer that drains well. Moisture needs to be able to drain away from both sides of the hay stacks. In more humid climates, consider storing hay on top of old tires, power poles, pallets, or other inexpensive methods to keep them off the ground. Airflow is also important to allow hay to dry if it does get wet, allow adequate space between rows for sunlight to dry the ground and/or melt snow. If possible, place the rows in North to South orientation to limit the amount of moisture trapped between rows.

In general, round bales can be stored individually, in long single-bale lines with space between, in large groups with several lines of bales side-by-side, stacked in pyramids, or stacked in mushroom style. Hay stacked mushroom style consists of 1-2 bales high with the flat end on the ground, topped by a bale on its side. Hay placed in either stack configuration allows moisture from the bales on top to penetrate those in the lower layers. If stacking is a must, it is important to cover hay with a tarp to prevent moisture from collecting in the lower layers.

Researchers at University of Tennessee compared storing hay in several configurations and found twine-tied hay stored on the ground with no cover shrunk 37%, while net-wrapped bales shrunk 19%. In the same study, placing the bales on top of old tires or tarping reduced losses to 29%. Hay that was stored on tires and tarped shrunk only 8%, which was comparable to the 6% shrink realized for hay stored in a barn. Losses likely would have been less in a more arid climate.

In a study conducted in South Dakota, storing grass hay in pyramids resulted in 10% loss in one year's time. However, storing bales individually cut losses to 4%, and bales stacked in long lines with the flat ends placed tightly together shrunk only 1%. These losses are minor compared to the Tennessee study, which clearly illustrates that the right choice for your operation is highly dependent on your environment. We would be happy to discuss hay storage for your operations now, when there is still a chance to preserve hay quality before feeding time.

Corn Silage Value

By Ki Fanning, Ph.D., PAS, Nutritionist

For the past 15 years, the price of byproducts and crop residue reduced the price that many of us could pay for corn silage (per ton) to much less than 10 times the bushel price of corn. The result is that, economically, many of us were not able to justify cutting or buying corn silage. Over the past year, the price of corn has dropped more dramatically than the price of the byproducts and crop residue. Additionally, the export market for byproducts has been strong, in addition to the widespread use and the higher inclusion rates of byproducts. As for crop residue, short hay crops coupled with long winters have run forage availability short. The proliferation of bedded barns has also increased the demand for crop residues used for bedding, particularly in areas in the northern U.S.

Table 1 shows recent research results from the University of Nebraska. This study examined feeding differing levels of mWDG at either 20 or 40% of the diet, with 15 or 45% corn silage. The control diet used corn stalks as the roughage source instead of corn silage. There was not a significant difference in performance between the 15% corn silage and the corn stalk diets.

Table 1. Effects of Corn Silage and mWDG Level of Feedlot Performance and Carcass Characteristics.

	Control 0:40	15:20	15:40	45:20	45:40
ADG, lb.	3.70	3.95	3.64	3.44	3.62
F:G, lb	7.87	7.46	7.87	8.55	8.20
Marbling	540	583	548	554	532
Dressing %	60.3	60.3	60.3	59.1	59.6

2014 Nebraska Beef Report, Burken et al.

Table 2 shows data from forty years ago where ADG and F:G improved with each incremental reduction in corn silage from 80% down to 10%. When applying $3.50 corn and a value of 7.5 times the price of corn for corn silage, the most profitable level of corn silage was the high level of 80%. There is no doubt that the hybrids have changed significantly as well as our farming and silage harvesting practices. Additionally, distiller's grains have changed feeding practices. Either way, the difference in performance in the lower two levels is slight and I would argue that corn silage cannot be harvested and delivered to the bunk for 7.5 times corn's bushel price. The old rule of thumb of 10 times the price of corn still calculates very close to most operations true value.

For your own operation simply multiply the estimated bushels of corn per acre by the price per bushel (or use the total expenses per acre including land rent and taxes) and then divide by the tons harvested and then multiply it by the shrink (i.e. if it is 15% then multiply by 1.15). That dollar figure is your cost per ton of silage. Adjusting the corn silage price in Table 2 to 10 times the price of corn for 240 days (assuming the same days on both 10 and 80%) would reduce the magnitude of the difference in profitability from its $14 to only $5 for the 80% diet compared with the 10% diet; however, the 80% ration would still be the most profitable.

Table 2. Corn silage % in the Diet

	10	20	30	40	50	60	70	80
ADG, lb.	2.52	2.49	2.43	2.36	2.28	2.17	2.05	1.91
DMI, lb.	15.3	15.7	16.0	16.1	16.2	16.0	15.6	15.1
F:G, lb.	6.06	6.32	6.58	6.84	7.10	7.36	7.62	7.88
Profit, $	25.09	25.10	26.49	29.33	32.03	34.74	37.10	39.27

Corn: $3.50/bu.; Silage: $26.45/ton (32% DM)
Goodrich et al., 1974

Table 3 shows the results of a study with four different levels of corn silage with 40% mWDG. Table 3 agrees with Table 2 in that ADG and F:G improve as the level of corn silage is reduced in the diet. It is also similar in the fact that the performance loss is slight when the corn silage is less than 30% of the diet (DMB).

Table 3. Corn Silage % with 40% mWDG

	15:40	30:40	45:40	55:40
Final BW, lb.	1426	1403	1375	1335
DMI, lb.	23.15	22.77	22.70	21.92
ADG, lb.	4.04	3.92	3.76	3.53
F:G, lb.	5.73	5.81	6.03	6.21
Dress %	63.3	62.6	61.2	61.1
Marbling	556	557	543	532
Fat Thickness, in.	0.55	0.53	0.52	0.43
F:G Difference		-1.5%	-5.0%	-7.7%

Burken et, al. 2013.

According to Burken, et al. 2013, corn silage included in the diet at 45% on a dry matter basis (DMB), compared with 15, 30 and 55% had the lowest cost of gain when corn was $3.50 and $5.00 per bushel and corn silage was priced at 8, 8.5 and 9 times the price of corn. When corn was priced at $6.50 per bushel, the lowest cost of gain inclusion rate of corn silage was 55% of the diets DMB. All these diets contained mWDG at 40% on a DMB. Increasing mWDG to 65% of the diet with 30% corn silage or removing mWDG completely with 45% corn silage was not as profitable. A comparison to corn stover was not made in this study.

The overall result is that corn silage is not only economical to add into the ration but is also a great way to secure some forage for this fall. So how much should you plan on cutting? A rule of thumb is that 6 pounds of corn silage will replace 1 pound of hay, 1 pound of corn and 4 pounds of water in a ration. The bulk density of corn silage can range from 35 to 55 pounds per cubic foot, wet; but would average around 45 pounds per cubic foot, wet. A typical feedlot steer will need 6 to 8 pounds to meet their roughage needs, but as we have seen, corn silage could be 2 to 3 times that level without significantly impacting performance. Growing calves can use 15 to 30 pounds in their ration and cows can utilize 10 to 30 pounds. Consult your Great Plains Livestock Consultant for customized feed budgets and recommendations.

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A Notice to Sellers and Users of Pesticides Containing Dichlorvos.

Several products containing the active ingredient dichlorvos have recently changed from General-Use Pesticides to Restricted-Use Pesticides (RUPs).

Dichlorvos, also known as DDVP and Vapona, is an organophosphate insecticide often used in nuisance fly control. It is formulated as a liquid for spraying on animals and in farm buildings, feedlots, stockyards, corrals, holding pens, dairy barns, etc. It is also formulated on plastic strips and sold as fly strips and as fumigant strips for bedbug control on mattresses and luggage. Additionally, it is labeled by two companies for use in warehouses, railroad cars, flour mills, and grain handling facilities.

In 2006, the Natural Resources Defense Council (NRDC) petitioned the Environmental Protection Agency (EPA) to ban the chemical, due to cancer concerns, but that request was denied. Since that time, the active ingredient dichlorvos has been under review by EPA. The agency has concluded their re-evaluation and has reclassified any product containing more than 3% dichlorvos as a Restricted-Use Pesticide. The labels for products containing dichlorvos have been changing since 2013 and now any products with more than 3% dichlorvos clearly state that they are "for retail sale to and use only by certified applicators."

In Nebraska, the list of dichlorvos products for fly control, which now have an RUP designation, includes the following:

EPA Registration Number	Product Name
5481-204	Alco DDVP 4-E Emulsifiable Concentrate
5481-204-47000	Prozap Vapona 400E
11556-162	Ravap E.C. Livestock, Poultry & Premise Spray
11556-174	Vapona Concentrate

Entities (including veterinarians) which sell these products need a pesticide dealer's license issued by the Nebraska Department of Agriculture (NDA) and must meet record keeping requirements established by the Nebraska Pesticide Act and Regulations (see specific requirements on the web at bit.ly/NDAPPregs).

Entities (such as livestock producers and feedlot personnel) that wish to purchase and/or use these products must have a pesticide applicator's license issued by NDA. Either a private applicator license or a commercial/non-commercial license with the Ag Animal (02) category would meet this requirement. Record keeping requirements for application of RUP's are required for the use of these products.

Specific to the products with an RUP status for use in warehouses, railcars, and flour mills, the list includes:

EPA Registration Numberber	Product Name
47000-74	CT Vap-5
1015-68	Max Kill Vapo-Cide

Persons who wish to purchase and/or use these two products need to have a commercial or non-commercial license in the Structural category. Again, RUP record keeping requirements apply.

If you have questions related to the use of any of the products listed above, please contact the Nebraska Department of Agriculture at 402-471-2351.

Dichlorvos notice_062414.doc

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The Great Plains News Feed

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July/August
2014