

The Latest Across the Plains

Timely Reminders

- ◆ Use at least two methods of fly control.
- ◆ Deworm cows and bulls.
- ◆ Test bulls and make sure they have an adequate diet including mineral.
- ◆ Review your heat synchronization program and time-line.
- ◆ Put up shades.
- ◆ Make sure that waterers have enough space, recharge rate, and are cleaned weekly.
- ◆ Review your implant program with us.
- ◆ Review diets with current feed costs.
- ◆ Optaflexx® is profitable to feed to conventional feedlot cattle the last 28 days prior to slaughter.
- ◆ Keep pens scraped.
- ◆ Implant suckling calves going to pasture.

Unused Feed

“You don’t have to change but you have to compete with those who do.” – Dr. Libby Fraser, Zoetis
(original author unknown)

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

Be sure to talk with your consultant and veterinarian about a VFD for Anaplasmosis mineral this summer.

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

- **May 31 - June 3** Beef Improvement Federation Symposium, Athens, GA
- **May 31 - June 8** National Cattlemen’s Beef Association - Young Cattlemen’s Conference, Denver, Chicago, and Washington D.C.
- **June 1** Sandhills Cattle Association Convention, Ord, NE
- **June 9 - 11** Missouri Cattlemen’s All Breeds Junior Show, Sedalia, MO
- **June 12 - 14** Colorado Cattlemen’s Association Convention, Grand Junction, CO
- **June 13 - 14** Illinois Beef Association Summer Conference, Quincy, IL
- **June 14** Flag Day
- **June 18** Father’s Day
- **July 12 - 15** Cattle Industry Summer Business Meeting, Denver, CO
- **Aug 10 - 20** Iowa State Fair, Des Moines, IA
- **Aug 10 - 20** Missouri State Fair, Sedalia, MO
- **Aug 25 - Sep 4** Nebraska State Fair, Grand Island, NE
- **Aug 25 - Sep 4** Colorado State Fair, Pueblo, CO
- **Aug 31 - Sep 4** South Dakota State Fair, Huron, SD



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Chaparral™: A Management Tool for Fescue Pastures

By Luke Miller, M.S., Nutritionist

Chaparral™ is a herbicide manufactured by Dow AgriSciences. This product is effective at controlling most common pasture weeds such as thistle, ragweed, and goldenrod among others. It also targets many invasive woody plants including buck brush, blackberry, locust and rose. Chaparral™ is unique from most other herbicides because of its ability to reduce fescue toxicosis, a phenomenon that costs the cattle industry \$1 billion annually by most estimates. These financial losses are due primarily to reduced pregnancy rates and milk reduction, as well as lower weaning weights of calves. Chapparral™ reduces the negative effects of fescue toxicosis by preventing the plant from producing a seed head. As tall fescue matures, the fungus responsible for causing fescue toxicosis becomes concentrated in the seed heads. Cattle tend to selectively graze the fescue heads causing a decrease in performance. Suppressing the growth of tall fescue has been shown to not only reduce the negative effects of fescue toxicosis, but also allows the plant to remain in a more vegetative state, resulting in increased forage digestibility and higher protein content.

Three separate trials conducted by the USDA-ARS Forage Animal Production Unit in Kentucky resulted in approximately 0.25-0.5 lbs increased ADG of steers grazing suppressed tall fescue pastures than those on adjacent pastures that were not suppressed. A number of cow-calf operations in Missouri have experimented with seed head suppression in fescue pastures using Chapparral™. In these studies, conception rates improved from 9-13% and weaning weights were 30 lbs heavier on average in cattle that were on the treated pastures. Some of these trials are summarized in Table 1. The estimated cost of Chapparral™ is \$18-\$20/acre (including application). It should be noted that Chapparral™ will kill most broadleaf plants, including any existing legumes that may be present. For more information go to <http://www.dowagro.com/en-us/range/products/chaparral>.

Table 1. Effect of seed head suppression on 205 day adjusted weaning weights of calves and breed back of cows.

Location	205 Day Adjusted Weaning Weight			Cow Pregnancy Rates	
	Chaparral Treated	Non-Suppressed	Difference	Chaparral Treated	NonSuppressed
Farm 1	473 lbs	418 lbs	+55 lbs	95%	80%
Farm 2	483 lbs	463 lbs	+20 lbs	95%	70%
†Farm 3	476 lbs	459 lbs	+17 lbs	Equal at 91%	

†Heavy spring grazing on treated and untreated paddocks resulted in seed head suppression through grazing, thus the non-treated paddock behaved similarly to the suppressed paddock.

Adapted from Boyer et al, 2015

Data was collected from three different locations owned by Whitesell Land and Cattle Co. At each location the pastures were split into 2 paddocks so that half the herd would be on a Chaparral™ treated paddock (tall fescue seed heads suppressed) and the other half would be on a GrazonNext® HL treated paddock (nonsuppressed).

Increasing Grazing Acres Through Forest Management

By Luke Miller, M.S., Nutritionist

The center part of the country contains a large amount of unimproved standing forest. In the Central Hardwood Region alone (Michigan, Wisconsin, Minnesota, Missouri, Ohio, Indiana, Illinois and Iowa) there is an estimated 16.3 million acres of forested land that is owned by farmers. The University of MO Department of Agroforestry estimated in 2004 that approximately 35% (5.7 million) of the 16.3 million acres is being pastured without the benefit of intensive management. The other 65% of this land is offering little to no return on investment. Many times if the landowner decides to put forested ground into production it is completely cleared before being seeded to the desired crop, be it forage or grain. However, incorporating a silvopastoral system is an alternative management practice that should be considered for those interested in getting a return from their forested acres. A silvopasture is defined as the intentional combination of trees, forage and livestock managed as a single integrated practice. Silvopastures can be initiated by either planting trees into open pastures or by selectively thinning existing forests and establishing forages. Thinning existing forests can be a quick source of revenue if the forest has logging potential. Not only that, but if managed properly, it can significantly improve available grazing acres, will lead to a healthier stand of timber for future harvest, and can be more beneficial to livestock compared to other grazing systems.

A partially shaded environment can have a positive impact on both forage quality and yield compared to an open pasture. While warm season grasses need at least 85% sunlight to achieve maximum photosynthesis, many cool season forages have the ability to perform as well or better in a 50% shaded environment as they do in open sunlight. Research spanning from the 1960's to the early 2000's has shown that cool season forages grown under 45-50% sunlight have both higher protein values and improved fiber digestibility throughout the summer months compared to the same forages developed in open pastures. Furthermore, the research shows no decrease in production, and many times actually an improvement in yield of cool season grasses under a 50% canopy compared to the open.





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It is no secret that environmental factors can play a major role in influencing cattle performance. Cattle originating from temperate climates have been reported to show signs of heat stress at only 85° F. Cattle grazing under natural shade have exhibited decreased signs of heat stress compared to cattle without shade, or even under artificial shade. Pastures managed for a partially shaded environment will cause cattle to graze in a more uniform fashion, and will be less likely to overuse or underuse forages at different locations in the pasture. Time spent grazing will be greater for cattle under shaded pastures, causing an increase in weight gain and reducing the effects of “summer slump” often observed in July and August.

Incorporating a silvopastoral system may not be the best fit for every operation. However, having pastures available with both abundant, high quality forage and a large amount of natural shade would be a welcome asset to many grazing operations. Managing wooded pastures along with a traditional rotational grazing system would allow producers the flexibility needed to best utilize available forages based off season and weather conditions. Increasing land prices and fewer acres available for grazing have forced many cattle producers to seek alternative management practices in many parts of the country over the last 10 years. If forested acres exist on your farm or ranch, with a little management, they could significantly increase available grazing days and become an essential part of your operation.



Cattle grazing a silvopasture in South Missouri.

industry emerged with new emphasis on capturing more margin from their products, and plants generally paid more attention to how they were pricing distillers grains. The recent development of the biodiesel industry has increased the demand for corn oil as a feedstock for biodiesel manufacturing and many plants have invested in the technology needed to extract the oil to meet that demand. The oil now represents a third income stream and it has been estimated that as much as 80% of ethanol plants nationally are extracting oil for sale to manufacturers of biodiesel. A few years ago, the price of corn oil was around \$0.40/lb and today it is about \$0.30/lb, so if you operate an ethanol plant it is clearly a good business decision to extract the oil.

The most common method used for extracting oil in dry-milling ethanol plants is through the liquid syrup or solubles stream. Grain is first ground through a hammer mill and then water, enzymes and yeast are added for fermentation. Once the slurry or mash is fermented, it undergoes distillation to remove the ethanol and then it is centrifuged and separated into thin stillage and wet grains. The thin stillage is subsequently evaporated to remove excess moisture and concentrated into syrup (sometimes called solubles). It is the syrup that is centrifuged yet again to separate the oil, and then the syrup or solubles is added back to the wet grains to form distillers grains plus solubles. Corn and milo are the two most common grains used for ethanol production in the U.S. Corn usually runs about 4% fat and milo closer to 3%, so distillers grains with no oil removed will typically be 11-12% fat depending on grain source. Centrifuging the syrup will remove approximately 1/3 of the oil which will reduce the fat content of the final product to 7.5-8%. There is variation due to many factors (grain source, plant operations, season of the year) both from plant to plant and also within a specific plant, but in general this fat level in distillers grains is commonly seen.

Much research has been conducted to better understand the impact that oil removal has on cattle performance, and in general results have been variable. In a study conducted at the University of Nebraska-Lincoln by Jolly, de-oiled wet distillers grains plus solubles (7.9% fat) was compared to normal distillers (12.4% fat) and fed in finishing rations to yearling steers at 35%, 50%, or 65% of the ration on a DM basis. In this study, they reported that regardless of distillers grains inclusion level, oil removal had no significant effect on gain, feed conversion, or carcass characteristics. The same research group conducted an additional study with calf-fed steers comparing de-oiled (7.2% fat) to normal (12.0% fat) modified distillers grains plus solubles in finishing rations. As the inclusion level of de-oiled distillers grains increased from 0 to 60% of the ration on a DM basis, feed conversion improved as expected. When distillers grains were fed at 15% of the ration, no performance or carcass differences were observed between distillers grains fat levels. However, when fed at 30% of the ration, feed conversion was improved approximately 3.5% for cattle fed the full-fat distillers grains. Likewise, data from the University of Minnesota evaluating multiple finishing cattle trials with varying distillers grains inclusions and fat levels indicates that reducing oil from the distillers does reduce energy value dependent on level fed in the ration.

How does oil removal from distillers grains impact growing cattle performance? In one study conducted at UNL, cattle were fed de-oiled (7.2% fat) or normal (12.0% fat) modified distillers grains plus solubles at either 20% or 40% DM basis in a cornstalk-based ration. Average daily gain and feed conversion improved for cattle fed 40% distillers, but oil level in the distillers did not impact performance. In that trial, they calculated the energy value of distillers to be about 125% of dry rolled corn based on feeding performance, with no difference between the de-oiled and normal distillers sources. Taken together, most of the available research would support that reducing the oil content from distillers in the ranges looked at in these studies does not appear to greatly reduce the feed value for growing and finishing cattle, but the response is inconsistent. As more oil is removed from distillers beyond the levels discussed, the impact it has on cattle performance may be greater. With technology advancements, ethanol plants will likely continue to find additional ways to capture value from the main components of distillers grains (protein, fat, fiber) which will likely change the feed even more. Currently, distillers grains remain an excellent feed and often times our least expensive source of protein and energy, but it is important that we remain mindful of the technologies in place by ethanol plants and how it may impact the value of the feed in the future.

Oil Removal from Distillers Grains in an Evolving Ethanol Industry

By Jason Warner, Ph.D., Nutritionist

One could make a very strong argument that the development of the bio-fuel industry and proliferation of dry-mill ethanol plants across the major grain production regions of the U.S. has had the single greatest impact on how we feed cattle over the last 25+ years. There certainly have been many other advances made in the field of cattle nutrition, but the increased production of an economical feedstuff such as distillers grains that is not only very nutrient dense but also provides many inherent feeding benefits (ration conditioning, palatability, etc.) has significantly changed the way our rations look for all types of cattle compared to those from several years ago. As with any business, the ethanol industry has changed over time. Extraction of oil from distillers grains is one of those changes that has understandably received much attention from the cattle industry. Nutritionally the oil represents an energy source, containing 2.25 times the energy of a carbohydrate. It seems there continues to be many important questions being asked about oil removal. My objective with this discussion is to review those topics focused on dry-mill plants because it is key that as users of distillers grains we understand why ethanol plants are doing this and the impact it may have on the end feed product.

In the early days of the dry-milling industry, revenue for ethanol plants was generated from two sources. The primary one (approx. 85%) being ethanol fuel and to a much lesser extent (approx. 15%) the distillers grains by-product. Most ethanol plants considered distillers by-products to be just what they were...by-products. Therefore, there was little value placed on them and many plants marketed distillers with the objective to simply get rid of the product. Many of us remember when you could routinely buy distillers for not much more than the cost of trucking. The ethanol industry then went through a period of financial difficulty with many temporary closures, bankruptcies, and sales of plants. After this time period, the



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Welcome, Karl Harborth!

Great Plains Livestock Consulting, Inc. would like to announce the addition of Dr. Karl Harborth as our newest consultant! Dr. Harborth was raised on a cow-calf and hay operation in South Central Texas. He earned his Bachelors of Science and Masters of Science degrees from Texas A&M University in Animal Science. He earned his Ph.D. at Kansas State University in Ruminant Nutrition. While at K-State, his research focused on by-product supplementation, supplementation strategies, and increasing the value of cull cows. Dr. Harborth worked for over eight years as a beef extension specialist for Kansas State University and Louisiana State University. His passion for the livestock industry started at a young age working at his father's veterinary practice. He has worked with producers in all facets of the cattle industry throughout Kansas, the midsouth, and Texas.



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