

WILDLIFE

Redear Sunfish

by Steven Smith / sgsmith@noble.org



Redear sunfish

(Lepomis microlophus) is a member of the sunfish family. This family of fish contains many species, including bluegill, largemouth bass

and white crappie, just to name a few. Redear and other sunfish, sometimes called bream, are often incorrectly referred to as perch. Perch are very different, belonging to a separate family of fish not related to redear or other sunfish. Common species from the perch family include walleye, sauger, yellow perch and darters. Also, many people refer to any small sunfish seen or caught as a bluegill even though it actually may be a redear sunfish, green sunfish, bluegill, hybrid sunfish or other sunfish species. Therefore, when stocking a pond or making fisheries management decisions, it is important to properly identify sunfish species.

Redear sunfish are mostly known by the red trim along the opercular (gill) flap. The shape and size of their bodies, mouths and fins are similar to bluegill. Redear sunfish body color varies, depending on water quality, sex and age. The dorsal fin usually has 10 spines, but may range from nine to 11, whereas the anal fin has three spines.



Redear sunfish, mostly known by the red trim along the gill flap, can grow up to 12 inches long and weigh as much as 2 pounds.

Redear sunfish, sometimes called shellcracker, feed on aquatic insects, snails, small fish and other small aquatic animals. Snails are intermediate hosts of yellow and black grubs. The larvae of these grubs are often found in the fins and in the muscles of largemouth bass and other fish species. By eating snails, redear sunfish disrupt the yellow grub's life cycle, possibly reducing the grub population in a given body of water.

For more information about grubs, read "Parasite Problems" at www.noble.org/Ag/Wildlife/ParasiteProbs/.

Redear sunfish make an excellent forage for largemouth bass; however, redear sunfish do not produce as many offspring as bluegill. When stocking a pond for a bluegill, redear sunfish and largemouth bass fishery, stock 250 bluegill and 250 redear fingerlings that are 1 to 3 inches long per acre in late summer or early fall. ▶

During the following spring, stock 50 to 100 largemouth bass fingerlings per acre.

Redear sunfish become sexually mature when approximately 3 to 5 inches long and spawn when water temperatures are 65° F to 89° F, but prefer 70° F to 75° F. Spawning beds are usually found in water 1 to 5 feet deep. To construct the nest, the male sweeps away debris, creating a shallow circular depression. Substrates such as sand or gravel are chosen as preferred nest sites. Redear sunfish are considered colony spawners, meaning multiple males tend to construct their nests in one location.

Once the nest is complete, the male begins searching for a female. After the male finds a female, the two circle the nest. Females usually release only a portion of their eggs in the first spawn and the remaining eggs in one or more successive spawns. After fertilizing the eggs, the male defends the nest from predators and aerates the eggs by periodically fanning the nest. Incubation takes six to 10 days depending on water temperature.

Fry (newly hatched fish) feed on the yolk sac of the egg for the first few days of life. Once the yolk sac has been depleted, the fry feed on zooplankton (microscopic animals). The young grow rapidly at this stage and, as their mouth size increases, so does their prey size.

Redear sunfish have the ability to grow up to 12 inches long and weigh as much as 2 pounds, making them an excellent addition to a fishery. When stocking sunfish, consider adding redear to the mix.

If you are interested in ponds or fish management, register for the Noble Foundation's Pond Management Workshop on June 14, 2011. Preregister by contacting Tracy Cumbie at 580.224.6411 or tcumbie@noble.org. ■

The Noble Foundation and Social Media

by J. Adam Calaway / jacalaway@noble.org



The social media phenomenon has impacted millions of people around the world as well as almost every major industry. Despite its popularity, many individuals are still unsure of the technology's purpose and value. To understand social media, you first need to understand how it differs from traditional media – television, radio and newspaper. These communication outlets gather, sort, filter and provide information, but the interaction ends there. It is one-way communication.

They produce. You receive.

As its name implies, social media (e.g., Facebook, Twitter and LinkedIn) involves interaction – specifically with those who share your interests. An organization or person using social media offers information, but then audiences are allowed and encouraged to provide feedback. Social media also allows us to communicate in “real-time,” sharing information as it happens and without the filter of traditional media. This unfiltered interaction feeds social media use among all age groups.

Many believe social media platforms are used primarily by teenagers. However, recent research reveals that 62 percent of all social media users are between 25 and 54 years old with 55- to 64-year-olds making up another 10 percent. This means that more than three-fourths of users are not teens.

The Noble Foundation recently began using social media to reach more audiences and expand the organization's ability to provide valuable information to producers. The Noble Foundation is now on Facebook (www.facebook.com/noblefoundation), Twitter (twitter.com/noblefoundation) and Flickr (www.flickr.com/noblefoundation). Each site provides a look inside Noble's vital work in agricultural programs, research and plant science. Additionally, Noble's posts on these sites are designed to advocate for agriculture and educate those outside of the industry.

The Noble Foundation Facebook page provides an in-depth look at the people, programs and research occurring every day on the organization's Ardmore, Okla., campus. Photos of visitors and tours are being posted, and interesting links, videos and useful information will be available as well.

Noble's Twitter account offers real-time news about agricultural issues, as well as tidbits of timely advice. Through Twitter, Noble Foundation consultants will relay necessary tips to farmers and ranchers on timely agricultural issues. If, for instance, a particular pest is moving into the area (such as army worms did in 2010), consultants can alert producers through our Twitter account.

The Noble Foundation Flickr page offers a catalog of photographs highlighting every aspect of Noble activities, including history, infrastructure, research and agricultural programs. These images are available for noncommercial use by all audiences.

Social media is revolutionizing how we communicate and interact. The Noble Foundation's desire is to provide agricultural producers with the most relevant information. Most importantly, we want to hear from you. Visit our Facebook page or follow us on Twitter, and give us some feedback. That's what social media is all about. ■

Postseason Breeding Bull Management

by Robert Wells / rswells@noble.org



By the time this is published in May, most ranchers in Texas and Oklahoma will have already turned their bulls out to the cow herd for the breeding season

or will be preparing to do so. With this in mind, we should be looking ahead to managing the bulls once the breeding season is over.

It is not uncommon for a bull to lose one to one-and-a-half body condition points during a tightly controlled breeding season. As long as the mature bull goes into the season with adequate condition, he should easily recover with very little supplemental feed for next year. However, if this is a young bull's first breeding season, he will most likely need additional supplemental feed to continue to grow and develop to his full genetic potential. These two situations can have opposing management scenarios since most people want to keep all bulls together after the breeding season. Mature bulls would be eating more than they need if they are fed to meet the needs of the younger bulls. In this situation, it is better to separate the younger and thinner bulls from the rest to most efficiently manage all the bulls. By doing so, the bulls that need more supplemental feed can receive what is necessary to continue their growth or regain condition.

A 2-year-old bull is still growing and developing into a mature animal; thus, he will need a higher plane of nutrition to meet his requirements. You should determine the total amount of weight that the bull needs to gain and how long you have before



the first frost of the year. It is much easier to put weight on cattle in the growing season than it is during winter. In general, a bull that is on a quality pasture and high quality supplemental feed during the growing season should gain enough weight to stay on track for proper growth and development. Once frost occurs and colder weather sets in, intake will have to be increased accordingly. Remember that the goal is to have the bull in a body condition score of 6.5 at turnout time in the spring. It is much easier and more efficient to get the bull to this condition while he is grazing on green forages and then to maintain that condition during the winter than it is to try to put on additional condition during the winter.

Don't forget about an effective herd health program for your bulls. All bulls should receive viral respiratory complex vaccine booster (four- or five-way vaccination; IBR, BVDV, PI3, BRSV). Vaccination against the Leptospirosis and Vibriosis diseases is also recommended. Additionally, guarding

against internal and external parasites will increase the health status of the bull. Use a quality anthelmintic to control internal parasites. Flies, ticks and lice can be easily controlled with a combination of ear tags, sprays and back rubs. Be sure to rotate classes of active ingredients which will reduce resistance issues.

Finally, as a part of your post-season breeding management program, you should determine the number of bulls necessary for next season and identify a source for replacements. Quality bulls are typically sold in the fall before the breeding season to ranchers who are proactive. This leaves the rest of the bull selection for those who wait.

A successful bull program doesn't happen by accident and requires planning all year long rather than only thinking about your bulls just before and during the breeding season. Remember, your bulls are the most important employees on the ranch. Make sure you pay attention to their needs year round. ■

2011 Cattle Prices: Are They Real?

by Dustin Oswald / djoswald@noble.org



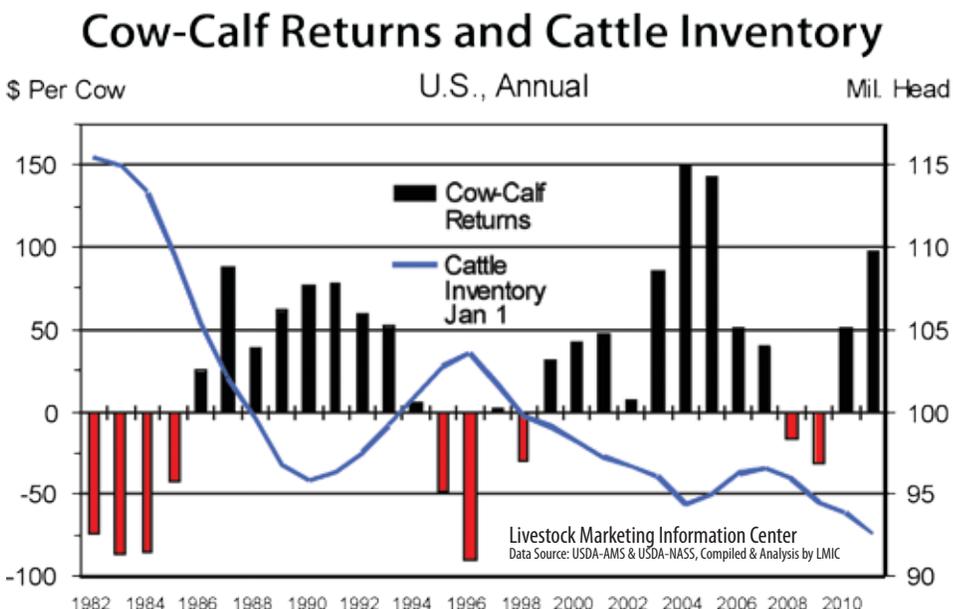
Many producers

have questions about the cattle prices we are seeing in early 2011. Specifically, they want to know if these prices can be maintained

and where prices are headed. They wonder how much higher feeder prices can go, if consumers can afford high retail prices and whether or not current prices are a true reflection of the marketplace. This article will examine some facts about cattle market supply and demand, and how current price levels came about.

First let's focus on demand. There are two main components to beef demand – domestic and international. In the United States, retail beef demand has been in a downward trend since 2004. However, retail all-fresh beef demand increased year to year between 2009 and 2010 for the first time. This was in the face of a recession, which makes it all the more impressive. Currently, many economic indicators point to a sustained recovery, hopefully helping to reduce unemployment and put dollars back in consumers' pockets. If history is any indication, people will spend some of those dollars on food and food products, including beef.

Recently, international demand has been a driver of domestic increases in the price of beef. Exports have risen to almost pre-bovine spongiform encephalopathy (BSE) levels. Demand has been fueled by supply issues in other countries and a lower U.S. dollar. Again, most indicators point to increasing exports as developing countries continue to grow. This factor alone is a huge



opportunity for the beef industry.

The next factor raising cattle prices is the inventory of cattle and, more specifically, the beef cow inventory. On Feb. 1, 2011, the USDA published their semiannual report on cattle inventory levels as of Jan. 1. Estimates for total cattle inventory levels were 92.6 million head, with beef cow inventory levels estimated at 30.9 million head. On a percentage basis, this is just over a 20 percent decrease in the last 30 years for beef cow numbers. Both of these numbers were decreases from 2009 (beef cow inventory was down 1.6 percent) and continued a long decline in inventory levels. Inventories continue to decline as cow slaughter and heifer feedlot placement remain above the five-year average, indicating that producers are not retaining heifers for replacements in their herd. One reason for the decline in beef cow numbers and heifer retention is drought and the response to relatively low profitability in the cow/calf industry. An additional reason may be improved technology

and genetics in the cattle industry that have increased the beef production per cow, eliminating the need for the number of head maintained in the U.S. during the past. The U.S. is producing more beef per cow; however, this has not been enough to increase total beef production.

When you combine flat to slightly increased domestic demand, increased exports and historically low inventories, prices have nowhere to go but up. This has led us to today's situation – historically high price levels for feeder cattle and live cattle. This is a very real event and, barring an unforeseen catastrophe, unlikely to go away in the next two or three years because of the production timeline for developing replacement females. Therefore, I would encourage cow-calf producers to take advantage of the current situation. Use it as an opportunity to fine tune your cow herd, secure profits if you are fearful of a price setback and build net worth for the next few years to ensure your business is competitive in the future. ■

USDA-NRCS Has a Very Useful Tool in Web Soil Survey

by Corey Moffet / camoffet@noble.org



The Web Soil

Survey (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>) is one of the most useful tools a producer, consultant or agricul-

tural scientist will find for obtaining soils information on a particular land area. The interface is clean and easy to use – just click the green “START WSS” button to begin. Locating the land area you are interested in is simple. For me, the easiest way to find a land area is to use the zoom tool (magnifying glass with the + symbol), just above the map panel. The background map will change as you zoom closer from a simple state map showing interstate highways, to a county map with lakes, rivers and more highways until, finally, the base map will be fairly recent color or black and white photography.

Once you have found your area on the map, you must select an area of interest (AOI). You do this by using either the rectangle or polygon AOI (area of interest) tool. The polygon tool is useful if the area boundary is irregular or the land survey was not perfectly north-south aligned. When using the polygon AOI tool, double click or ctrl-click to select the final vertex and close the polygon. Once you have selected the AOI, the panel

to the left will give AOI acreage and soil data sources on which the maps will be based. Some locations still do not have modern soil survey data available. If your area does not have data available you are through, but soil mapping in Oklahoma and Texas appears to be mostly complete.

Now that you have selected your area of interest (AOI), you can produce a soil map by clicking on the Soil Map tab near the top of the Web page.

grass is produced by clicking on the Suitabilities and Limitations for Use tab, then on the left panel, under Vegetative Productivity, select the Yields of Non-Irrigated Crops tab, and, if available for your area, select Improved bermudagrass from the crop drop-down list. Finally, click View Ratings to produce a colored productivity map. The map is colored according to the estimated average yield per acre (1 AUM = 780 lb forage)

that can be expected of the selected crop under a high level of management. A table of the map units and the yield rating will follow below the map.

More basic soil properties such as pH, clay content and organic matter can be mapped by making similar selections under the Soil Properties and Qualities tab. The Ecological Site Assessment tab allows users to map the ecological sites. This has information about the historical plant community includ-

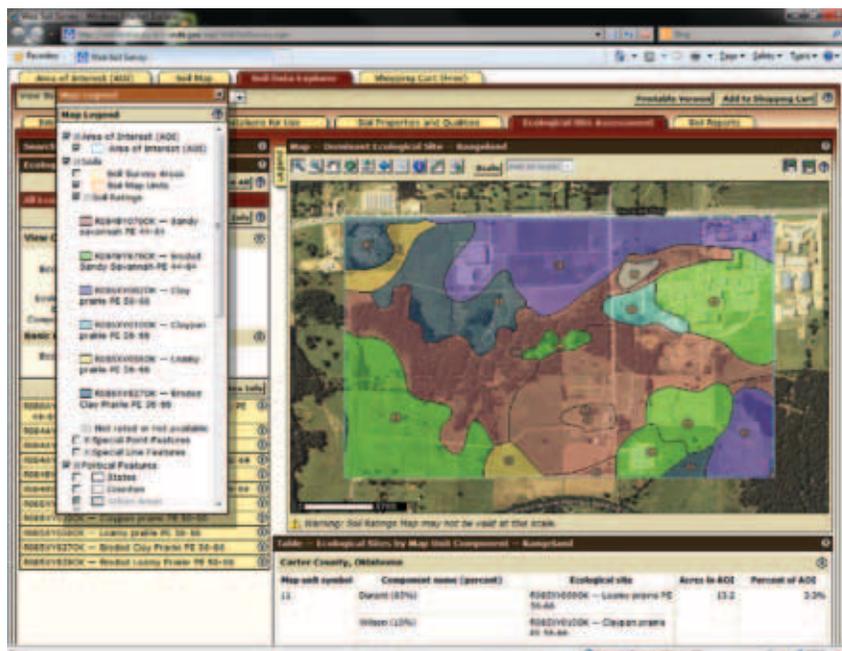


Figure 1. Ecological site map for a portion of the Noble Foundation's headquarters property

The table to the left is a map legend. Click on a map unit name to get detailed information such as map unit composition, slope, soil depth, typical profile, drainage class, frequency of flooding or water pooling, available water capacity and assigned interpretive groups. Click on the Soil Data Explorer tab, near the top of the page, to select a characteristic you would like to map. For example, a yield map for non-irrigated improved bermuda-

ing annual production, plant species composition and a growth curve that indicates the monthly distribution of production. For a growing number of ecological sites, data are also available for alternative states and phases. Modern range science recognizes that past management may have altered the plant community and now is better represented with a different state or phase, but that discussion is for another day. ■

Sesame as an Alternative Crop

by Jagadeesh Mosali / jmosali@noble.org



If you are a producer who is rotating wheat or planning on it, sesame (*Sesamum indicum* L.) is among your choices. Sesame is one of the most

ancient oilseed crops and is used for cooking and other culinary preparations in various parts of the world. Sesame seed contains 50 percent oil and 25 percent protein. Sesame cake is a rich source of protein, carbohydrates and minerals, and can serve as a nutritious feed for dairy cattle. The plant is drought tolerant and sets seeds and yields relatively well under high temperatures and low rainfall. Sesame plants are also thought to improve water percolation in the soil because of their deep, penetrating root system.

Until recently, sesame was harvested manually due to its high seed shattering potential. Newer varieties do not shatter as easily, so combines can now be used. Oklahoma and Texas have a climate suitable for sesame growth, so regional producers can utilize this crop as an alternative in their production systems. A key advantage of using sesame in a wheat rotation is that the producer can use the same wheat equipment to plant and harvest both crops.

Since sesame research data are limited in our region, we initiated a sesame variety trial. This trial is intended to furnish producers with information for use in decision making. The information coming from the variety test should be a valuable tool when used in combination with similar information sources.

We evaluated the crop at four different locations: Ardmore, Burneyville, Gene Autry and Walters, Okla. Previous crops were wheat at Ardmore and Walters, sorghum at Gene Autry and rye at Burneyville. The entries were seeded in late June 2010 into a clean-tilled seedbed at Ardmore, Burneyville and Gene Autry in 30-inch rows at 0.75-inch depth; at Walters, they were planted into no-till ground in 15-inch rows at 0.75-inch depth. Sixty pounds of N/acre was applied pre-planting. Plots were harvested after frost at Ardmore, Burneyville and Walters. Due to stand loss caused by flooding after planting, there is no harvest data from Gene Autry.

Total rainfall during the growing season was lower than the 30-year average at all three locations. Dry weather in August 2010, particularly during pod formation, might have had an adverse effect on crop yield at all locations. Grain yields among the varieties ranged from 657 to 954 lbs/

ac at Ardmore, 384 to 1,028 lbs/ac at Burneyville and 162 to 439 lbs/ac at Walters.

S-70 (a dwarf variety) was the lowest yielding variety at all three locations and much lower in the sandy loam soils at Burneyville. Varieties S-26 and S-32 with fungicide produced consistently higher yields at all locations. Varieties S-28 and S-30 produced higher yields in two of three locations. Variety EXP3 produced higher yields both at Ardmore and Burneyville, but performed poorly in the no-till scenario and drier environment at Walters. Using fungicide has resulted in variety S-32 having higher yields in one location out of the three.

Based on the current contract price of 40 cents per pound and depending on the location and variety, a producer can sell the crop in the range of \$64 to \$411 per acre. Since the input costs are minimal, there is an opportunity for a good profit. ■

Grain yield in pounds per acre of commercial and advanced experimental lines of sesame cultivars

Variety	Ardmore	Burneyville	Walters	Variety mean across locations
S-26	920 ab*	952 ab	439 a	770
S-28	832 b	941 ab	365 abc	713
S-30	886 ab	798 ab	208 bcd	631
S-32	922 ab	753 b	337 abc	671
EXP3**	810 b	1,004 ab	162 d	659
S-70	657 c	384 c	196 cd	412
S-32 with Fungicide	954 a	1,028 a	369 ab	783
LSD	115	234	161	
Location mean	854	837	297	

* Means followed by the same letter are not significantly different

** Experimental variety

Use Moisture Management Strategies to Survive Drought

by James Rogers / jkrogers@noble.org

This article originally appeared in the May 2007 Ag News and Views newsletter.

In the March 2007 issue of *Ag News and Views*, Chuck Coffey wrote about rainfall trends over the past several years. In addition, he offered useful methods to avoid a crisis during a drought. This article continues the theme of proactive drought management and offers strategies for moisture management.

The basis of water management is to capture as much rainfall as you can through infiltration into the soil, where it is then available for the growth of desired plants. When the rain falls, here are some tips and strategies that will help you capture and use as much of it as you can.

- Control Eastern red cedar – A 6-foot-tall cedar tree will pull 30 gallons of water per day out of the soil. In addition, the area underneath the tree will be devoid of vegetation, increasing water runoff and decreasing water infiltration. There are many methods of control, and the Natural Resources Conservation Service has cost-share funds available for cedar control through the Environmental Quality Incentives Program (EQIP) in designated counties.
- Weed control – A rule of thumb in range management is “one pound of forage lost for every pound of weeds produced.” For introduced forages, the effect is often greater. You cannot weed-spray your way out of overstocking and improper grazing management.

Figures 1 and 2 depict the change in forage production of warm-season perennial grass plots from 2002, when no weed control or fertilizer had been applied the previous four

years, to 2003, when weeds were controlled in the spring, phosphorus deficiency was corrected according to soil tests, and 70 pounds per acre actual nitrogen was applied in the form of ammonium nitrate. Note that with weed control and fertility, the response was much greater for introduced forages than the natives. Also note that in 2003, with weeds controlled, plots were essentially pure, allowing grasses to take full advantage of moisture and fertility. Normally, fertility is not applied to natives, but in this particular plot study, all entries were treated alike, which meant fertilizing the native entries. Controlling weeds by proper grazing management – or chemically, if required – is one of the cheaper management strategies to conserve moisture and produce more forage.

- Fertilize – Many producers don’t fertilize during dry weather because it may not rain. Even during dry periods, however, it will eventually rain. A good strategy is to apply nitrogen only according to the production you need and to apply at the appropriate time. Correct phosphorus, potassium and pH, which will help plant drought tolerance and increase nitrogen use efficiency. This requires soil testing to know what to correct and how to spend your fertilizer dollars wisely. Strategize to capture as much rainfall through forage growth in the spring as possible, and then fertilize in the fall to capture late summer-early fall moisture.
- Fill in the gaps – Bare ground increases water runoff, potential weed competition and soil erosion while reducing forage production and water infiltration. Reduce open spaces by using grazing management strate-

Figure 1 Native Forage and Weed Yield 2002-2003

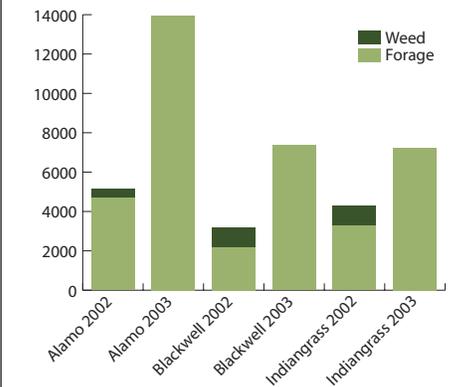
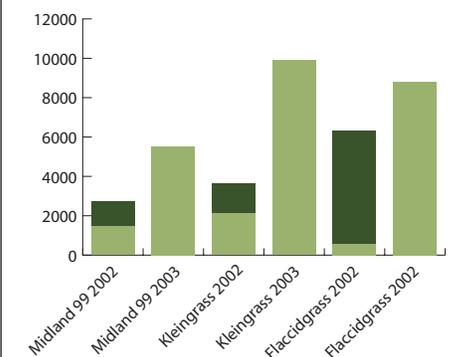


Figure 2 Introduced Forage and Weed Yield 2002-2003



Data is from plots at the Noble Foundation's Pasture Demonstration Farm.

gies that promote plant health and plant spread. In some cases, seed can be added to help fill in the gaps. In higher rainfall zones east of I-35, opportunities may exist to add legumes to fill in the gaps.

- No-till – If you are establishing a forage crop, consider no-till. This reduces seedbed preparation costs, leaves the existing weed seed bank undisturbed and, most importantly, conserves moisture.
- Fine-tune grazing management – Space feeding areas and mineral feeders away from water sources to help draw cattle into areas that are lightly grazed. This will help to distribute grazing pressure and reduce spot grazing.

These tips and strategies will help you be proactive in moisture management. ■

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EVENTS

Advanced Cattle Management School

May 10, 2011

Noble Foundation Kruse Auditorium

10:00 a.m.-4:30 p.m.

Registration Fee: \$20 which includes lunch

Pecan Seminar

May 12, 2011

Noble Foundation Kruse Auditorium

9:00 a.m.-12:00 p.m.

No Registration Fee

Basic AG Summer Management Seminar (two dates and locations)

June 7, 2011, Oklahoma (town and location to be determined)

June 9, 2011, North Central Texas College, Gainesville, Texas

Time: 6:30 p.m.-8:00 p.m.

No Registration Fee

For more information or to register, please visit www.noble.org/AgEvents, or call Tracy Cumbie at 580.224.6411. Preregistration is requested.

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