

# **COW/CALF CORNER**

The Newsletter

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In this Issue:

## **Impacts of Drought and Regional Change on Hay Production**

Derrell S. Peel, Oklahoma State University Extension Livestock Marketing Specialist

## **Key Factors that Affect the Percentage of Cows Cycling at the Start of Breeding**

By Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

## **Impacts of Drought and Regional Change on Hay Production**

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Lingering winter weather this year is exaggerating the impacts of limited forage supplies for beef producers. Drought in 2011 and 2012 reduced U.S. hay production and increased hay demand leaving the country with very limited forage supplies at this time. On December 1, stocks of all

hay were down nearly 28 percent from a 2001-2010 average prior to the drought. States with the biggest decrease in hay stocks are (in descending order); Texas, South Dakota, Missouri, Kansas, Iowa, Wisconsin, Oklahoma, Arkansas, Nebraska, Michigan, and Minnesota. These 11 states all had reductions in hay stocks of 1 million tons or more and accounted for 72 percent of the total decrease in December 1 hay stocks compared to the 2011-2010 average. Decreased hay stocks for Texas, South Dakota, Missouri and Kansas all exceeded 2 million tons.

Drought reduced hay production in many states in either 2011 or 2012 or both. The 2011-2012 average all hay production for the U.S. was down 16 percent from the 2001-2010 average. A comparable list of the top eleven states with decreased 2011-2012 average all hay production is the same as above for hay stocks with two exceptions; South Dakota and Minnesota are not in the top eleven decreased hay production states and are replaced on the list by California and Ohio. South Dakota did have sharply reduced hay production in 2012 but it followed high production in 2011 so the two-year average was only 9 percent below the 2001-2010 average. Compared to the 2001-2010 average, the eleven states with the biggest decrease in 2011-2012 production accounted for 77 percent of the total U.S. decrease in production.

Drought generally has a bigger impact on hay yields compared to harvested acreage. The recent USDA-NASS report on prospective plantings also included estimated hay harvested acreage for 2013. A look at how harvested hay acreage has changed in recent years indicates changes in hay production that go beyond the drought impacts of the past two years. Compared to the ten year pre-drought average (2001-2010), total hay harvested acreage for 2013 is projected to be down by 8.4 percent, a decrease of 5.2 million acres. The largest decreases by state include South Dakota, down 785,000 acres (20.2 percent); Wisconsin, down 599,000 acres (30.3 percent); North Dakota, down 484,000 acres (16.8 percent); Iowa, down 387,000 acres (26.0 percent); Tennessee, down 307,000 acres (16.0 percent); and Missouri, down 301,000 acres (7.3 percent). Rounding out a similar top eleven list includes the states of Minnesota, Pennsylvania, Kansas, Kentucky and Ohio, all with decreased hay harvested acreage of 200,000 to 300,000 acres compared to the 2001-2010 average. Together these states account for 79 percent of the decrease in total U.S. hay harvested acreage. Most of these changes in hay harvested acreage are not the impact of drought but rather reflect longer term shifts in crop production. Significant amounts of hay land are being converted to annual crop production in and around the Corn Belt from North Dakota to Tennessee. The decrease in hay harvested acreage in the Northern Plains and Upper Midwest is particularly dramatic. By contrast, some of the worst drought affected areas, including Texas and Oklahoma, have projected 2013 hay harvested acreage that is unchanged or up from the ten-year average.

# Key Factors that Affect the Percentage of Cows Cycling at the Start of Breeding

By Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

The breeding season is, or soon will be underway for those herds that have a spring calving program. The most important factors that determine if, and when, a cow returns to cycling activity were [studied by Kansas State University reproductive scientists](#). Over a period of 7 years, Kansas State scientists used more than 3,200 beef cows in estrous synchronization studies. As a part of these studies they determined which cows were cycling before the start of the breeding season both before and after synchronization treatments. They then looked at the previous data about each cow and determined the major factors that influenced the likelihood that she would have returned to heat by the start of the breeding season. The research indicated that three main factors were the most important determinants as to whether the cow would recycle before the breeding season began. **Body condition, age of the cow, and the number of days since calving** were the biggest influences on incidence of cycling activity before breeding.

**Body condition:** Cows ranged in body condition score from 1 (extremely emaciated) to 7 (very fleshy). As body condition score increased the percentage of cows cycling increased in a linear fashion. The Kansas data reported that there was an 18% increase in percentage cycling for every 1 full condition score improvement.

**Age of the cow:** The percentage of first calf two-year-olds cycling was about 10% less than mature cows that were having at least their second calf. The extra nutrient requirement for growth clearly limits the cycling activity at the beginning of the breeding season of two-year-olds. Also two-year-olds are in the stage of life where the baby teeth are being replaced by permanent teeth. Some of these young cows have problems consuming roughage similar to “broken-mouth” older cows. This explains why many producers choose to breed replacement heifers ahead of the cow herd and therefore give them more days before the breeding season begins for mature cows.

**Numbers of days since calving:** Cycling activity was also influenced by the number of days since calving. For every 10 day interval since calving (from less than 50 days to 70 days) the percentage cycling increased by 7.5%. A short calving season is important because it allows a higher percentage of cows to be cycling by the start of the breeding season.

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