



Telling Month for Cattle Ranchers

BROOKINGS - The month of March signals two seemingly very different events, basketball playoffs and for many South Dakota ranchers, the peak of calving season.

"On the surface they may not have much in common, but they both represent the end point of a lot of time, energy and resources," said Warren Rusche, SDSU Extension Cow/Calf Field Specialist.

Rusche takes this analogy one step further. "The goal of a basketball team is to make a deep run in the playoffs and the goal of a rancher is to save as many calves as possible," he said.

Preparation, Rusche said is the key component for success in both fields. "For a rancher, success during calving is critical. More than 60 percent of calves that are born and die before weaning are either born dead or are lost within the first 24 hours of birth," said Rusche quoting data from the USDA National Animal Health Monitoring System. "Calving difficulty is the most significant cause of death."

Preparation = Success

"Being well prepared for the start of calving season can make a tremendous difference in successfully getting live calves on the ground," Rusche said.

He explained that it is a lot easier to get all the necessary supplies on hand and in place ahead of time, rather than scrambling in the dark when the first heifer needs some help. To ensure timeliness of preparation, he suggested cattle

producers review gestation tables as well as breeding and turn-out dates to predict when the first calves will be expected.

"However, some cows don't read the book," Rusche said. "It's not at all uncommon for genetic lines that have been selected for easier calving and lower birth weights to show a tendency for shorter gestation as well."

In those cases, he said it would be prudent to be ready a week to 10 days earlier than what the gestation table suggests.

Ensuring that everyone on the team understands the game plan and their role is also important. "Going over the plan for calving season with the entire team is a good idea to make sure that everyone is on the same page, even if the plan hasn't changed and even if the team is only one person," Rusche said.

He added that factors such as when to provide assistance and knowing when to call your veterinarian can impact not only this year's production, but future calf crops as well.

Rusche referenced research from the Ft. Keogh Research Station in Miles City, Mont., which showed that heifers which were assisted later during labor had a 19 percent reduced pregnancy rate compared to heifers that were helped within a half hour (Table 1).

Even in cows, the research demonstrated a 9 percent improvement in pregnancy rates by assisting earlier.

"Given the value of bred females this year, being prepared

to assist early will help increase the odds of getting cattle bred back in a timely manner and lower the losses from premature culling," Rusche said.

Reviewing the actual procedures of delivering calves can also be useful, even if a producer has years of experience.

Below are some general recommendations from Dr. Russ Daly, SDSU Extension Veterinarian/Associate Professor, and State Public Health Veterinarian:

Take a short pause after the chest of the calf is delivered before pulling again. This mimics what happens in a normal delivery. When the calf takes its first breath it begins to transition away from oxygen from the umbilical cord to oxygen from the air.

A slight rotation (45 degrees) often allows the hips to pass more easily.

Use a piece of straw or vigorous rubbing to encourage the calf to breathe. One might think that picking up the calf with his head down would help get fluid out of his breathing passages, but actually that creates increased pressure on the lungs making it more difficult to breathe.

Call for assistance if one can't determine how to correct the problem or if 30 minutes of assistance have gone by without significant progress.

- See more at: <http://igrow.org/news/telling-month-for-cattle-ranchers/#sthash.6jOKT0w1.dpuf>

■ SDSU iGrow

Kenny Rogers At State Fair

HURON -The South Dakota State Fair announces Kenny Rogers and the John Conlee Show will perform at the Fair Grandstand on Friday, Sept. 4, 2015.

Known for his trademark raspy vocals, Country Music Hall of Fame member Kenny Rogers is one of music's legions of voices with classic hits like "Lucille," "The Gambler," "Islands In The Stream" and "Lady." Rogers has sold more than 120 million albums worldwide during his career of over 50 years, including one Diamond, 19 Platinum and 31 Gold albums.

With three Grammys, 18 American Music awards, eight Academy of Country Music awards, six Country Music Association awards and 11 People's Choice awards, it's obvious Kenny Rogers has swooned the country and pop music fields for many years.

"It's an honor to have a country legend like Kenny Rogers play at the State Fair," said SDSF manager, Peggy Besch. "Our classic country shows do well, so we are happy to bring Kenny Rogers and John Conlee to fairgoers."

John Conlee is one of music's great storytellers with hits like "Rose Colored Glasses," "Common Man" and "Got My Heart Set on You." Of the John Conlee Show's 29 released singles, 26 of them have charted in the top 20 or higher on national country charts, with eight of them reaching number one.



Pre-sale on tickets will begin June 15 for backrest holders followed by Friends of the Fair ticket sales on June 18. General public ticket sales will begin June 22.

The 2015 South Dakota State Fair will run from Thursday, Sept. 3, through Monday, Sept. 7. Channel Seeds preview night will be Wednesday, Sept. 2. This year's theme is "Sew it. Grow it. Show it." For more information on State Fair events, contact the Fair office at 800-529-0900, visit www.sdstatefair.com or find them on Facebook or Twitter.

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■ SOUTH DAKOTA STATE NEWS

Trapping Pollutants With Natural Soil Components

BROOKINGS - Using natural soil components to trap pollutants will allow producers to control soil contaminants and reuse draining water while protecting their agricultural crops, according to Mohamed Elsayed, a Fulbright Postdoctoral Scholar at South Dakota State University's chemistry and biochemistry department.

Elsayed concentrates some humic acid fractions by evaporating the water. His research seeks to use natural soil components to trap pollutants and allow producers to irrigate their crops with recycled drainage water.

Elsayed uses ultrafiltration techniques to break humic acid down into smaller molecules that can then combine with clay

minerals in the soil to trap pollutants.

A researcher from the Soil Water and Environmental Research Institute at the Agricultural Research Center in Egypt, will present his work at the American Chemical Society National Meeting March 22-26 in Denver. "I am honored that Mohamed chose my group as the place to spend his fellowship," said Jim Rice, head of SDSU's Department of Chemistry and Biochemistry. "It's another sign of the strong international recognition that our research program is building." If crops are sown in polluted soil, the plants absorb the contaminants, Elsayed explained. These are then transferred to humans when they consume the vegetables or grains.

Because of water shortages in Egypt, Elsayed said, "we need to use water again and again, but before we reuse it, we need to clean it." His research seeks to increase the ability of humic acid to adsorb or trap pollutants in combination with either of two clay minerals—kaolinite or montmorillonite. Humic acid is one of the major organic components in soil and is also used as fertilizer. "The idea is to use natural materials to reduce the pollutants," he explained. "Natural components are cheaper, more easily available." Plus, artificial ingredients run the risk of adding to the pollution problems—natural ingredients don't. By breaking humic acid into smaller molecules, a process called fractionation, Elsayed hopes to improve

the interaction between humic acid and clay minerals and, therefore, their ability to trap pollutants, particularly heavy metals. This project is a continuation of his doctoral research. If fractionation produces good results, the next step will be to determine the optimum humic acid fractionation combination for each clay mineral to enhance the trapping process, Elsayed explained. The long-range vision is for producers to apply humic acid, either in solid or liquid form, to enhance soil properties. "These compounds would capture the heavy metals and organic pollutants so the plant won't take it up," he said. The resulting crop would be contaminant-free.

■ SDSU iGrow

■ FARM SIZE, From

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"From this analysis it can be inferred that in South Dakota it is again Group 1 (negative 6.7 percent) which has the greatest risk to its sustainability," Garcia said. "Group 2 on the other hand showed an interesting, encouraging growth since 2013." In spite of South Dakota's larger operations, South Dakota farms that fit into sales groups 1 and 2 make up 56.7 percent of the total farms in the state.

"Oddly enough it was the middle-sized farms that took the greatest hit in numbers. Both groups 3 and 4 showed quite a significant reduction with negative 2.2 and negative 7.9, respectively," he said. "Similar to the rest of the country, farms in groups 5 and 6 increased and were responsible for more acres farmed, mostly because more farms entered this group and not because of a significant increase in farm size."

Farms that sell less than \$10,000 in agricultural products have their sustainability compromised both in the U.S. and in South Dakota, explained Garcia. "These farms are roughly under 86 and 145 acres for the U.S. and South Dakota, respectively. On these smaller operations, sales may compromise the adoption of cutting edge technologies and the reaping of the benefits of efficiencies of scale," Garcia said. "Larger farms with greater overall sales are usually more attractive to the agricultural allied industry with increased technical support which entice them to farm more acres usually resulting in higher sales."

However, Garcia added, smaller operations, like those in groups 1 and 2 combined still constitute one-third (31.1 percent) of all U.S. farmland, and more than 80 percent of U.S. farms.

"This makes Group 1 and 2 farms a significant group for U.S. agriculture. South Dakota also shows the relevance of these two groups which combined represent a relatively smaller portion of the acreage at 14.5 percent but more than half of the total farms in the state (56.7 percent)" he said.

■ SOUTH DAKOTA STATE NEWS

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