



Beef Tips

November 2014

Department of Animal Sciences & Industry

www.asi.ksu.edu/beeftips

Upcoming Events

State of Beef Conference

November 4-5, 2014
North Platte, NE

<http://panhandle.unl.edu/state-of-beef-conference>

Sunflower Supreme Spring-Calving Bred Heifer Sale

November 14, 2014
Parsons, KS

www.sunflowersupreme.org

Emergency Preparedness for Livestock Operations: When Disaster Strikes

December 10, 2014
Salina, KS

December 11, 2014
Dighton, KS

www.KSUBeef.org

Winter Ranch Management Series

January, 2015
Multiple locations
Details available soon at

www.KSUBeef.org

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Water– A wise investment

Jeff Davidson, Herschel George, Will Boyer, Ron Graber, and Stacie Minson, watershed specialists

If you've been in the cattle business the last few years, you've seen a good return on the dollars that you've invested. But, you've also survived the worst drought situation in Kansas since the 1950's. While 2014 gave us improved moisture supplies over the previous three years, the debate continues as to what the weather in the years ahead will bring. Some climatologists predict water resources will remain limited, but regardless, the recent drought has brought water supplies to the forefront of every Kansas cattleman's mind.

Water is the most essential nutrient and the greatest attractant in the pasture where cattle are grazed. Other attractants are salt/mineral feeders, shade, wind protection (winter), breezy heights (summer), supplemental feeding areas, and cattle in adjacent pastures. Some of these can be used to better distribute, or re-distribute the grazing throughout the pasture.

Cattle tend to concentrate around water sources, leading to reduced vegetation and increased manure in and around the water source. Cattle will spend hours on a hot summer day simply standing in the pond. This concentrated activity around water leads to water becoming polluted with sediment, nutrients such as phosphorus and nitrogen, as well as fecal coliform and streptococcus bacteria. Phosphorus is the nutrient attributed to the algae blooms which have become more prevalent in recent years. Decomposition of manure will also deplete the dissolved oxygen in the water, which is vital to fish.

This "good time" in the cattle business offers a chance to improve quantity and quality of water resources. Water location has a big impact on grazing distribution, yielding a more

efficient harvest of forage resources and the ability to practice rotational grazing. Existing water resources can be renovated or modified and new sources of water can be added. Often, as existing water source can be used with a relocated distribution point (waterer or tank). Cattle spend only a few minutes a day actually drinking, but will spend hours loafing around a water source and it's the "loafing" that should be minimized.

There have been multiple studies researching the performance of cattle with access to either high quality or low quality water with inconclusive results. But, studies have definitely shown that cattle have a distinct preference for water in a tank, as compared to water direct from a pond.

Ponds are the most common source of livestock water throughout much of Kansas. They generally store large quantities of water, can be constructed in various settings, and may provide other benefits like recreation and flood control. However, if cattle are allowed free access to the pond, the life of the pond will be shortened due to sedimentation from bank erosion, water quality will be impaired, and the pond can be hazardous in winter if cattle walk on the ice. These ponds dry up quicker during dry times because they are already shallow and don't hold much water.

There are two solutions to the problem of cattle having free access to a pond. One involves putting a pipeline through the dam and gravity feeding a tank below the pond dam. Once the tank is installed, the pond can be fenced, keeping cattle from direct access. This allows vegetation to grow on the bank of the

continued...see Water on page 5

“You can’t manage what you don’t measure.”

Tally Time – Relationships Change

Sandy Johnson, livestock specialist

More than one US President started their term with very high approval ratings that subsequently lowered over time. Relationships can change over time. Before distillers grains became widely available; alfalfa hay was often the lowest cost source of crude protein for cow/calf producers on a cost per pound of crude protein basis. In the ethanol era that is no longer the case. Alfalfa prices have been higher the last several years partially due to demand for more corn acres and drought. Even with lower alfalfa prices this year, the higher protein content distillers grains is currently about \$0.10 less expensive per unit of protein than alfalfa. Relationships change, players change. Continuing to do the same thing (i.e. use alfalfa as a protein supplement) year after year without doing a comparison at current costs may be costly.

One other relationship that has changed in the last year or so is the difference in cost per pregnancy using natural service sires compared to AI. The increased value of bulls has risen faster than the cost of semen and supplies. Producers that have been using AI talk of expanding their AI program to minimize risk with high accuracy EPD bulls, tighten calving distribution with synchronization and in some cases to delay the purchase cost of the next bull.

If you bring up the KSU-Bull vs AI Breeding Cost spreadsheet (<http://www.agmanager.info/livestock/budgets/production/default.asp>) the default values show natural service only at \$72 per pregnant female and AI and clean-up natural service at \$64 per pregnant female. Have you estimated your cost per pregnant female recently? We are certainly past the time when it was \$30 to \$35 per pregnancy. This spreadsheet will let you input your own values for purchase costs, bull to cow ratios, bull maintenance cost, AI costs and any additional value attributed to AI sired calves.

Alternatively, if you are a smart phone user, you may want to download the AI Cowculator to compare costs between AI and natural service. This simple tool uses base values from a study involving 8 herds that bred half of the herd with natural service and the other half with one fixed-timed AI followed by natural service clean-up. On a per cow exposed basis, AI groups returned \$49 per head more than natural service alone. One of the herds reported a loss of \$10 head exposed.

The AI Cowculator asks for one number for the bull maintenance costs whereas the KSU spreadsheet has the details to help you calculate that number (feed costs, depreciation, interest, etc.). The KSU

spreadsheet allows you to insert your own value for any additional value of the AI sired calf (i.e., age, genetics) compared to the study value used in the AI Cowculator. With your inputs, either can give you an idea of how those systems compare today.

A key factor in comparing the difference in cost between natural service sires and one round of AI followed by natural service sires is the number of natural service sire bulls. At the experiment station in Hays, we figure roughly half of the cows will conceive to AI and we plan to use half of the bull power that we would for the same group with natural service alone. If a pasture holds 30 cows you will still need one bull for natural service, regardless if you use AI or not.

Cows that fail to conceive to AI are not so tightly synchronized the following cycle that the natural service sired bulls will have trouble covering this group. That said, good judgment is needed as this might not be the best situation to try out a single yearling bull nor to take a week’s vacation with no one checking on the herd.

If trying AI for the first time, heifers are a great place to start. It’s hard to put a figure on the value but high accuracy calving ease sires are an excellent risk management tool. If you can grow replacement heifers so that open heifers can be marketed profitably, expose twice as many heifers to AI as you need and keep the AI bred heifers and sell the opens. The short breeding season on the heifers will have value on its own.

Costs relationships have changed so that natural service may not differ in cost from a breeding season that starts with AI. Many commercial producers AI to high value, high accuracy EPD bulls to improve profitability. Technology to synchronize ovulation which facilitates fixed timed AI works. If you need help getting started there are a number of ways to get help by contacting me, your local county extension agent, your veterinarian or an AI technician/semn company representative. You can find lots of good information on this technology at www.beefrepro.info.

Facilities: Is it time to make a change?

Justin W. Waggoner, beef systems specialist

Building or improving existing cattle handling facilities is a substantial investment for any cattle operation. However, this is an investment that can make a number of routine tasks easier, more efficient and safer. In many cases, facility improvements must be made within the confines of an existing location or set of pens. Very rarely, do we get the opportunity to build a new site and “build it right the first time”.

An important question to ask yourself is “what doesn’t work well or at all in your current facilities?”. In some cases, a very simple change such as adding an additional gate or turning it around, so it hinges on the other side of the alley can make a tremendous difference. As many producers consider expanding their current operations, or consider entering a different segment of the industry, such as a backgrounding or stocker enterprise, a second question arises, “Will my current facilities meet the needs of the operation in the future?” Planning a working facility that has the ability to expand requires additional and careful consideration.

A common misconception is that well designed working facilities have to be complex and consist of circular tubs and arcing alleyways. Producers should be aware that simple facilities can be just as effective as complex facilities. One type of simple working facility that is gaining popularity among cattle producers is a “Bud box”. A “Bud box” is essentially a rectangular pen in which the alleyway leading to the chute is placed at a right angle at the point of entry into the box (See Figure 1, page 4).

This type of facility is incredibly simple and highly effective. Cattle are brought into the box (only as many as will fit down the alley to the chute) and the position of the handler along the opposite side of the box effectively stimulates cattle to move past the handler and into the alley leading to the chute. The effectiveness of the “Bud box” and the manner in which cattle seem to flow into the alley is a result of several basic principles of cattle behavior and movement: 1) Cattle want to move past the handler; 2) Cattle desire to be with other cattle (herd instinct); and 3) Cattle want to go back the way they came in. As with any facility, the cattle handling skills and attitude of the handler are a major component. If you have not had the opportunity to see a “Bud box” in action I would encourage you to do an on-line search for “Bud box cattle handling video”.

A well-designed “Bud box” will provide sufficient space for the number of animals that will fit down the alley leading in to the chute. A “Bud box” that is at least 12 feet wide and 20 feet deep should be adequate for most cow-calf operations. For more information on constructing a “Bud box”, including suggested dimensions and other resources go to <http://agrilifecdn.tamu.edu/beefinfo/files/2014/01/Designing-a-Bud-Box.pdf>.

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for Figure 1...see Facilities on page 4

Facilities continued from page 3

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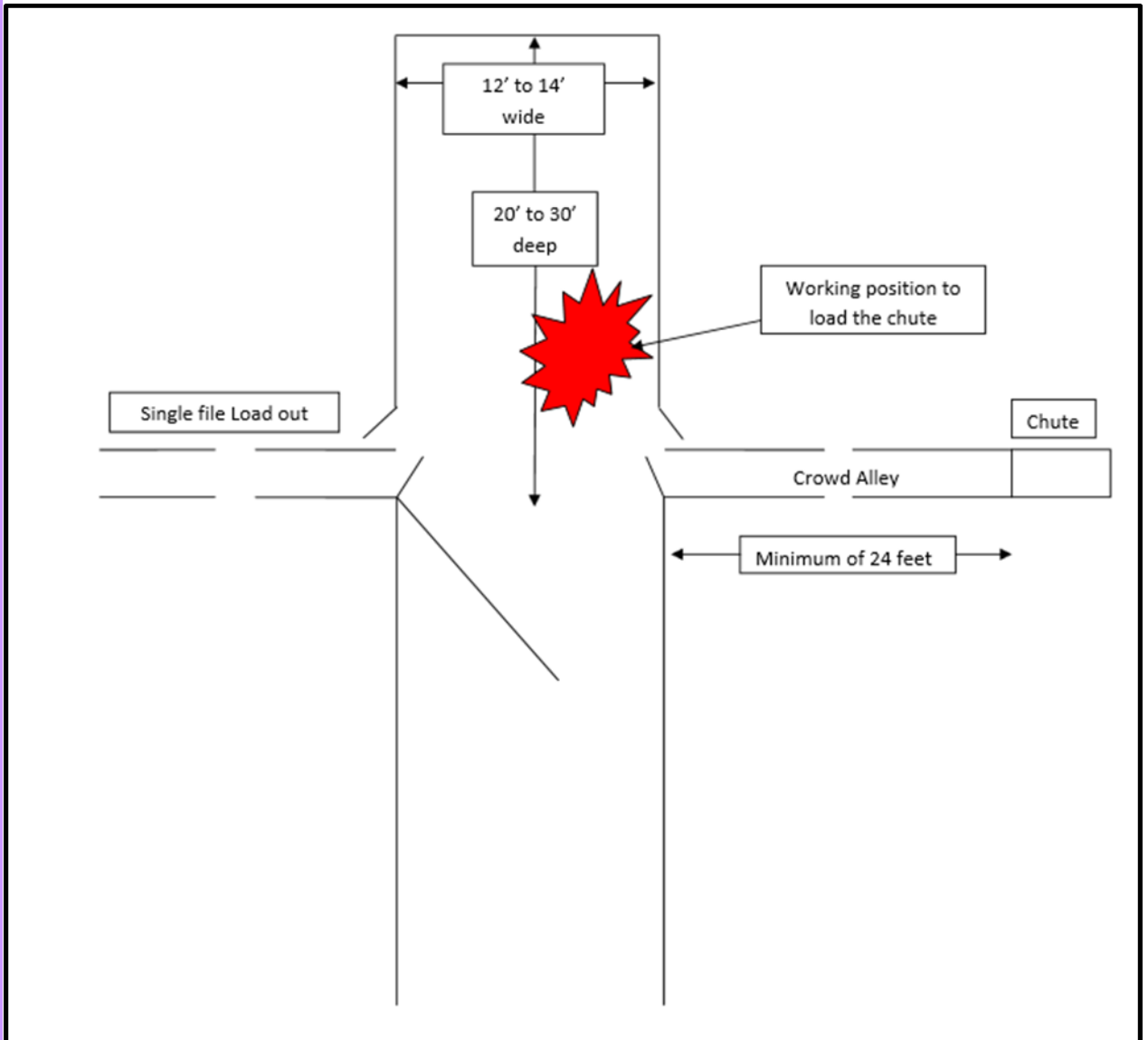


Figure 1. Adapted from: Gill and Machen, “Designing a Bud Box”, Texas Agri-life Extension

Water continued from page 1

pond, protecting it from erosion and thereby extending the life of the pond. A float is placed in the tank to shut off the water from the pond when the tank is full. Geotextile fabric should be placed around the tank, with gravel on top. This will prevent the immediate area around the tank from becoming excessively muddy. The “line through the dam” is the best way to prolong life of a pond and ensure good quality water. However, this method does require sufficient elevation difference from the water level to the tank below the pond. Generally, six feet of fall is desired from the bottom of the primary spillway to where the tank will sit. While it’s best to install the pipeline as the pond is being constructed, the line can be laid in an existing pond with virtually no loss of water.

Limited Access

Not every pond has the necessary elevation difference to place a tank below the dam. But, in situations where a tank is not practical, there is still the limited access option. In this situation, the pond is fenced, but a small area, designed similar to a boat ramp, allows cattle access to the water, but only in that limited area (Figure 1). The approach to the water’s edge should be reinforced with geotextile fabric and topped with gravel. The approach should have a slope of 6:1 or even be flatter. The width of the access will vary, but minimum recommendations are 10 feet plus one foot for each 10 head of cattle– for example, 15 feet for 50 head. The water’s edge of the access must also be fenced allowing for 3 feet or so of water, and should be constructed in such a way to allow moving the fence if water levels in the pond lower enough to require the fence be moved. The limited access allows cattle water, but not enough water to stand and loaf in. The hardened, graveled surface keeps cattle out of mud and the fenced pond eliminates bank erosion as well as greatly reducing the amount of fecal material getting into the water.

Moving water with solar pumps

The solar pump is gaining in popularity, often replacing windmills as the preferred way to pump water from a well. They are cost efficient and can be used not only for the traditional well, but also for spring developments and can be used to pump water from a pond or a stream. The power of course comes from sunlight. They are stand-alone pumping systems that require no fuel and very little attention. Solar panels generate maximum power in full sun conditions when larger quantities of water are typically needed. Solar units can be portable and used to provide water in fields where grazing is temporary, such as corn stalks or cover crops.

Water development is perhaps the most important investment we can make to land resources. Ponds that cattle are allowed free access to are estimated to cost from \$300 to \$600 per year more than a fenced pond, in terms of lost water storage and increased maintenance costs. Adding watering sites can improve grazing distribution and beef produced per acre. The management of water, cattle, land and money is all tied together. Wise management of water will be wise management for the other three.



Figure 1. Limited access watering site.

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Planning for Farm & Ranch Succession

One-day succession planning conferences designed to educate and support farm and ranch families preparing for the future of the enterprise.



January 5, 2015

Allen Community College - Iola

January 10, 2015

Pratt Community College - Pratt

January 16, 2015

Kansas Farm Bureau Plaza - Manhattan

January 17, 2015

Flint Hills Technical College - Emporia

March 3, 2015

Agricultural Research Center - Hays

Farm & Ranch Succession Conferences Planned Across the State

The transfer of ownership, management and leadership from one generation to another is an important issue for farms, ranches and rural communities across Kansas. This winter, K-State Research & Extension and Kansas Agricultural Mediation Services will offer one-day succession conferences designed to educate and support families as they prepare for the future of the enterprise.

The conferences will take place at five sites around the state and bring together a network of K-State Research & Extension professionals offering comprehensive insights for families transferring their farm or ranch. Each one-day conference will begin at 9:00 am and includes an overview of the succession planning process; developing a vision, mission and goals for the operation; family dynamics and communications; financial planning; legal issues and power transfer. Cost at each location is \$60 for the first family member and \$40 per person for each additional member.

Registration for the “Planning for Farm & Ranch Succession” conferences is available at www.ksre.k-state.edu/kams, or call 1-800-432-8222.