AGRICULTURE
Golden Plains Area Newsletter

Dennis Kaan, Area Director
Area Community Development Agent
Washington County Office
(970) 345-2287

Ron Meyer
Area Agronomy Agent
Kit Carson County Office
(719) 346-5571

Todd Ballard
Agronomy, Weed Management
Sedgwick County Office
(970) 474-3479

Linda Langelo
Area Horticulture Agent
Sedgwick County Office
(970) 474-3479

Travis Taylor
Area Livestock Agent
Yuma County Office
(970) 332-4151

Joel Schneekloth
Regional Water Resource Specialist
Central Great Plains Research Station, Akron
(970) 345-0508

Annie Overlin
Regional Range Management Specialist
Peaks and Plains Regional Office, Pueblo
970-545-1845

Dr. Brent Young
Regional Agriculture and Business Management Specialist
Regional Engagement Center, Sterling
(970) 522-7207

Scott Stinnett
Livestock and 4-H Youth Development
Kit Carson County Office
(719) 346-5571

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GOLDEN PLAINS AREA AG NEWSLETTER

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GOLDEN PLAINS AREA
COLORADO STATE UNIVERSITY EXTENSION

Colorado State University, U.S. Department of Agriculture and Kit Carson, Phillips, Sedgwick, Washington, and Yuma Counties cooperating.

Extension programs are available to all without discrimination.

Strong Grain Prices Support Pre-harvest Pricing

R. Brent Young
Regional Extension Specialist

Grain markets are currently trading at eight year highs and are offering producers an opportunity to lock in profits on the 2021 crop. With the prospect of marketing a portion of the anticipated production at a profit, producers should strongly consider pre-harvest pricing grain.

Pre-harvest pricing grain should be a technique found in every producers marketing toolbox. A strong seasonal tendency for grain prices to decline from planting to harvest and opportunities to lock in a profitable price are two very compelling reasons to devote time and energy to this marketing practice.

Using corn as an example we can clearly see the inclination for prices to fall from planting to harvest. Considering the December corn futures price on May 1st and December 1st from the 25 year period of 1990 to 2015, we find that the May price was higher than the December price 19 out of 25 years. In 13 out of the 19 declining years the price drop was greater than 10%. We would see a similar pattern in other grain markets.

Locking in a profitable market price should be a driving factor in making any marketing decision. The first step in determining if the market is offering an acceptable price is knowing your cost of production (COP). The secret to knowing your COP is having good farm financial records that allow you to conduct enterprise analysis. If your current record keeping system does not allow you to calculate your

COP there are several reasonably priced, computerized accounting packages available that will help you to complete this important task.

Many times when I suggest to growers that they should consider pre-harvest marketing their grain they reply, “How can I sell something that I don’t have?” This is where crop insurance comes in to play. Revenue Protection (RP) crop insurance provides a bushel guarantee and a price guarantee. Producers can pre-harvest market the amount of grain up to their bushel guarantee and be assured that if they have a crop loss due to an insurable peril that they can cover their pre-harvest marketed production.

The next question I receive regarding pre-harvest marketing grain is “How do I it?” While there are several methods to pre-harvest market grain the three most common are selling grain with a forward contract and hedging using a futures or options contract.

The forward contract is the simplest, least costly option for the producer but has the disadvantage of eliminating the opportunity for taking advantage of rising prices. Hedging using a futures contract can be expensive but can result in higher prices if basis moves are favorable. Options contracts can be less expensive than futures and they allow a producer to take full advantage of improving prices.

The final question I receive is “When should I be looking for pre-harvest pricing opportunities?” My first response is that we should be monitoring the markets daily for pricing opportunities and look for price triggers to implement our marketing plan. Having said that there are times when markets tend to move more than others. Generally speaking those times of price movements correspond with the release of government generated supply and demand reports and key production related processes.

One government supply and demand related report that can have an impact on grain prices is the March Planting Intentions Report. The 2021 version of this report was very bullish regarding corn and soybean prices. The December 2021 CME corn contact was up 7 cents per bushel and the November CME soybean contract increased 7 cents as a result of this USDA report.

Key production related process that tend to drive grain markets are planting, breaking dormancy (winter wheat) and pollination. Any weather related issues during these key production phases can

impact potential grain supplies and therefore market prices.

Grain producers who don't pre-harvest market a portion of their production are failing to use a very valuable tool. If you have questions about this topic or any other agricultural business management issue, please feel free to contact me at 970-522-7207 or by email at brent.young@colostate.edu .

AGRONOMY

Wheat Observations

Rf Meyer, Todd Ballard, Jerry Johnson, Sally Jones-Diamond, Dennis Kaan, Wilma Trujillo
Colorado State University Extension Cropping Systems Team

Recently the Colorado State University Extension's cropping systems team traveled throughout eastern Colorado making stops at the Collaborative On-farm Trials (COFT trials). These are on-farm wheat variety trials that test newer wheat varieties. Approximately 15 wheat fields were inspected for production issues from Prowers County north to Sedgwick County.

South of I-70 wheat fields were noted lagging in maturity with stand establishment noted spotty. Plant growth stage was mostly in the joint stage with growing points found from the soil line to two inches above the soil surface. Recent precipitation has increased yield potential in southern wheat fields, however, drought damage has limited the upside potential. Tillering was found reduced in number, and stands were thin in most fields. Maturity was approximately 10 days behind normal. In addition, brown wheat mite was found in all fields with varying populations. This pest reached economic treatment levels in some fields, while other fields' pest numbers were below treatment criteria. Scouting for brown wheat mite is done by brushing wheat plants onto a white paper and observing mites. Heavy mite populations will stall wheat growth. However, a small amount of precipitation will control this pest as it is a dry weather wheat pest. Treatment costs are approximately $6 per acre, or the equivalent of one bushel of wheat at today's prices.

In addition, locations south of I-70 also showed Russian Wheat Aphid damage, although at most locations, infestation levels were below treatment levels. This pest could continue to be problematic should weather patterns stay dry.

Disease activity was also found. Most fields had low levels of Tan Spot, a fungal wheat disease. This disease was not found advancing to upper leaves and should not be cause for concern if the weather turns warm and dry. In addition, a few fields showed symptoms of Barley yellow dwarf, a viral disease, however levels were low.

Wheat fields were also observed at locations north of I-70 with these fields showing much greater yield potential. Wheat stands were much better with active tillering occurring. Wheat growth stage from these fields were also behind long term normal and were found jointing with growing points near the soil surface to two inches above.

Wheat insect infestations found were much reduced in number with a few brown wheat mites and thrips observed. However, insect numbers were all well below treatment levels. Russian Wheat Aphid were also noticed, but below economic threshold treatment levels. Cutworm populations were not found at any location.

Disease activity was low with tan spot found. Stripe rust was not found in any field observed both from north and south locations. One field showed Cephalosporium stripe, a fungal disease, but it is not expected to be problematic. Wheat yields are expected to be below normal at locations south of I-70 and near normal at locations north of I-70. No freeze damage was noticed in fields that were observed. No field observed had adequate subsoil moisture levels. As a result, timely early summer rainfall will be needed to get fields to normal yield levels.

CSU 2021 Wheat Field Days!

Ron Meyer

There is nothing like seeing new wheat varieties growing in the field and attending a wheat variety tour in person! Colorado Wheat Field Days let farmers see new and traditional varieties side-by-side in our variety trial plots. Dr. Jerry Johnson, a seasoned veteran of crop variety testing, leads off with a short introduction and selection information before our new CSU wheat breeder, Dr. Esten Mason discusses the pros and cons of the varieties in each of ten dryland locations and one irrigated trial. Brad Erker, Executive Director of Colorado Wheat highlights progress made in wheat breeding due to uniqueness of farmer support of CWAC and CWRF. A new director of CSU seed programs, Laura Pottorff, will bring us up to date on the Colorado Seed Programs. CSU experts on weed science, entomology, and pathology will showcase their strong wheat research and extension activities.

The field days will be held on Thursday, June 10th at Walsh, Lamar, and Brandon; June 11th at Burlington and Genoa; June 14th at Orchard and Roggen; and June 15th at Julesburg, Holyoke, and Yuma. The Akron site is tentatively set for June 16th and will depend on Covid restrictions. The flyer with the full schedule and directions can be found on our website at csucrops.agsci.colostate.edu. Plan to attend. Mark it down on your calendars!

Golden Plains Area locations are:

Friday June 11-

8 am, Hinkhouse Farms 1 mile west of hwy 385 and 24, south side of hwy 24.

Tuesday June 15-

8:30 am, Carlson Farms from Julesburg south on hwy 385 about 5 miles,

12 pm Sprague Farms from Julesburg south on hwy 385 3 miles then east on CR 26 for 9.25 miles then south on CR 63.2 for 0.6 miles then east 0.25 miles on CR 76.5,

4 pm Andrews Bros. Farms from Yuma north 5 miles on hwy 59 then 3 east on CR 43 to CR J then south 0.4 miles.

Special Needs Gardens (Holyoke, Colo.)

Todd Ballard

Launch of the Holyoke Garden Location

Funding for a special needs fruit and vegetable garden has been approved at Holyoke High school. This garden will provide an afterschool activity for students enrolled in exceptional student education (ESE) programs. The program will promote food security within the community as well. The garden is modeled after successes in Siebert, CO and in Bowling Green, KY. General education students are invited to help the ESE students to earn volunteer hours as well.

The gardening program will launch with a distribution of starter plants to be grown independently over the summer. These plants will be germinated in the high school's greenhouse this spring. Over the summer planning for the site's location, raised bed construction and a schedule to grow fall crops will be finalized. On site management of the program will be a joint effort between high school faculty and CSU extension. ESE teacher Nancy Miles, FFA sponsor Shauna Strecker, and Principal Angela Powell will be the key personnel from HHS. Area Horticulture Agent Linda Langelo, Area Agronomy Agent Todd Ballard, and Logan county director Brian Kailey will be the active participants from CSU. Linda brings technical knowledge of vegetable production. Todd brings experience working with the special needs community. Brian brings a connection with local seed vendors.

Additional gardens are in the grant application phase for three more locations in Colorado. Special thanks to the sponsors who allowed for the launch of this garden. The Heginbotham Trust has provided financial support and Bomgaars Supply has provided seed.

HORTICULTURE

Plant Select Plants

By CSU Horticulture Agent, Linda Langelo

Plant breeding in the last 15 years has exploded in huge numbers of new introductions. Do your homework and select the best for your landscape.

Whether you are an experienced gardener or a beginning gardener following the correct cultural information for each plant leads you to success. Naturally, no gardener has any control over environmental conditions, but picking the best plants means "right plant, right place".

Why pick a plant that does not do well in our extreme weather conditions? A good understanding of the location in your landscape that needs a plant is well worth the research. There are organizations such as Plant Select, found at plantselect.org which has trialed plants over seven years before being accepted into the plant program and then marketed over Colorado. In addition, Colorado State University Extension offices have trial gardens in which we test out new plants all over the state. This gives Plant Select additional information to add to their website. Each year, CSU Extension offices gets an evaluation form of the plants they are trialing. Some do well and some do not make it

In our area we have a Plant Select Garden at the Phillips County Fairgrounds and in Washington County Fairgrounds. Go and visit them. If you have any questions about a special plant, I can help you with that.

How do Plant Select Plants differ from Proven Winners? Proven Winners are not trialed in our area. They are bred to have one feature such as prolific flowering or no deadheading necessary or resistant to an insect or disease. However, out of Plant Select Plants, many are natives or bred from natives which need little fertilizer and have lower maintenance requirements. Plus, once established they are xeric.

I recommend diversity in any landscape. Mixing Plant Select Plants with Proven Winners or other perennials and shrubs is a good idea. Just one caveat, make sure they all have the same water, soil, and sun requirements. To some degree, plants will adapt to an environment. But if it gets too "stressful' or extreme in conditions, the plant will show a decline then.

I recommend not amending the soil before planting a new plant. Over time the amendment will be utilized and then the plant must acclimate to the soil. So, the plant will do well for a few seasons and then show signs of stress. If you have the time and energy and want to add amendments season after season just remember the one season you miss doing so will set the plants back. They were used to having a richer soil.

Plant breeding in the last 15 years has exploded in huge numbers of new introductions. Do your homework and select the best for your landscape

Volunteer Gardening Opportunities

By CSU Horticulture Agent, Linda Langelo

Grow and Give is returning this growing season. What is Grow and Give? Colorado State University launched Grow & Give in 2020 as a "modern victory garden project" in response to the COVID-19 pandemic. Together with 600 dedicated volunteers we provided over 20 tons of fresh, local produce to people in need. This year Grow & Give continues to provide a platform for Coloradans to

fight food insecurity in their communities by growing food and giving it to those in need. Learn more at GrowAndGiveColorado.org With Grow and Give you grow what you need in your garden and give what you do not need away to a local food bank. Nothing goes to waste.

KloverKare is a newly launched organization started by Jeremy Kilpatrick. Jeremy is an area veteran who has returned home and wanting to build community through food gardens and give back to those in need and area food banks. Veterans along with residents are looking for areas of land to grow fresh vegetables this season in our Golden Plains Area counties. In fact, Jeremy has engaged participation from area veterans to come and help grow food in the Akron Community Garden and in the Holyoke Community Garden, two CSU Extension Community Garden Projects. If you are interested in knowing more about KloverKare please contact Jeremy at (970)580-7194 or by email at ThisKloverKares@protonmail.com . You can also look for the post about KloverKare on Garden the Plains Facebook on March 17, 2021.

Gardening helps everyone. In this particularly stressful time, getting out and exercising in the garden helps relieve both your physical and mental stress. It gives you an opportunity to meet another community member of like mind. There are studies that support gardening helps build your immune system, heart health, better sleep, and weight loss. If you are a beginning gardener, gardening helps boost your self-confidence. If you do not like gardening at all, studies show those of you who knit, or crocheting helps lower stress levels. Gardening reduces dementia, agitation by giving a person more independence, reduces falls and helps a person stay focused.

I hope you come out to volunteer. There is no age limit to volunteering for these gardening projects. There is no full-time commitment either. If you have an hour to give, then that becomes your level of commitment. Your commitment can be once a week or once a month depending on how much time you are willing to give. We appreciate the support. If you are interested in joining either the Akron Community Garden or the Holyoke Community Garden, please call CSU Horticulture Agent, Linda Langelo at (970)474-3479 or leave me a message on Garden the Plains Facebook page.

LIVESTOCK

Beef Breeding Season Preparation

Scott Stinnett, Extension Agent, 4-H Youth Development / Livestock

As calving season ends, producers roll into preparing for breeding season of the cow herd. A few things to keep in mind can help make breeding season more successful.

1. Choose Your Breeding Program

There are multiple options for breeding season. Producers should consider which one fits their operation both financially and with time available. Many producers prefer using natural service. It is the least use of labor and handling of cattle through the chute. Estrus synchronization (ES) gives producers the opportunity to use natural service, artificial insemination (AI) or a combination of both but requires more labor and handling of females through the chute. An AI only breeding program requires more labor and trips through the chute but can prove advantageous using superior quality bulls.

2. Check Your Calendar

The average gestation for beef cattle is 283 day and can range from as few as 279 to as many as 287 days. Planning your breeding season to meet a specific calving season is key. A planned calving season gives two main advantages. First, time calving season when the nutritional plane of pastures is on the rise to match your cows increasing nutritional needs. Second, planning gets the age and sizes of calves you would like to send to market.

Planning of breeding season can allow a producer to modify calving season in many ways. It can be moved on the calendar back and to a degree, forward if it allows for adequate time of estrus to begin post calving. Calving season can also be shortened. This gives an advantage by producing a more uniform set of calves to market.

Do not forget to separate replacement heifers and first calf cows on the calendar. Giving heifers and first calf cows an estrus cycle head start breeding, depending on breeding system used, can pay dividends the following year when it comes time to breed again.

3. Breeding Soundness of Bulls and Cows

No matter which breeding program a producer uses, the services of a bulls will be required for the primary or cleanup breeding of cows and heifers. Understanding the condition and soundness of your bulls is imperative. Are bulls up to date on vaccinations? What are their body condition score? How are their feet and legs? Have bulls had breeding soundness exams (BSE) with your veterinarian? A producer who can answer all these questions without a negative response has bulls ready for breeding season.

Cows too need evaluated prior to breeding season. Culling decision should be made before investing in breeding cows who may be leaving the herd. Culling decisions may be based on a variety of factors including, but not limited to age, body condition, dentition (condition of teeth), udder quality, ease of calving, previous calf quality, lameness or injury.

4. Check Equipment and Supplies

Breeding season can require very few or several supplies depending on which breeding program is being used. A natural service program might only require a truck and trailer in good condition to haul bulls to pasture. More intensive programs require repairs and maintenance of facilities and equipment, ordering ES and AI supplies, as well as organizing labor for handling and breeding of cattle.

Like any situation in production agriculture, planning and preparation lead to more successful outcomes. Understanding where you are, what needs to be done and the desired end result can help focus efforts for a successful breeding season.

Consider Early Weaning Cows on Limited Forage

Taylor Travis CSU Livestock Extension Agent

In conventional cow-calf production systems calves are normally weaned between 180 and 240 days of age. Early weaning is defined as separating calves from their mothers at less than 180 days and can be performed as early as 45 days of age. In dry or drought situations, forage becomes scarce, low quality or expensive during the breeding season and cows are at risk of reproductive failure due to high nutrient requirements during a time of poor diet quality. It is during these drought conditions times that early weaning can become a tool that reduces a cow's nutritional demand by ending lactation, and allowing to gain or at least maintain weight and body condition. **Figure 1** indicates that, for every two weeks that a calf suckles a spring-calving cow, she loses one-tenth of a body condition score (BCS; 1 = thin, 9 = obese). It would stand to reason that a cow calving at a BCS 5 would be a BCS 4 by the time her calf is 140 days old under normal pasture conditions. Early weaning calves (75 to 100 days) would allow thin or nutritionally stress cows an increase chance to breed back and calve within a year interval.

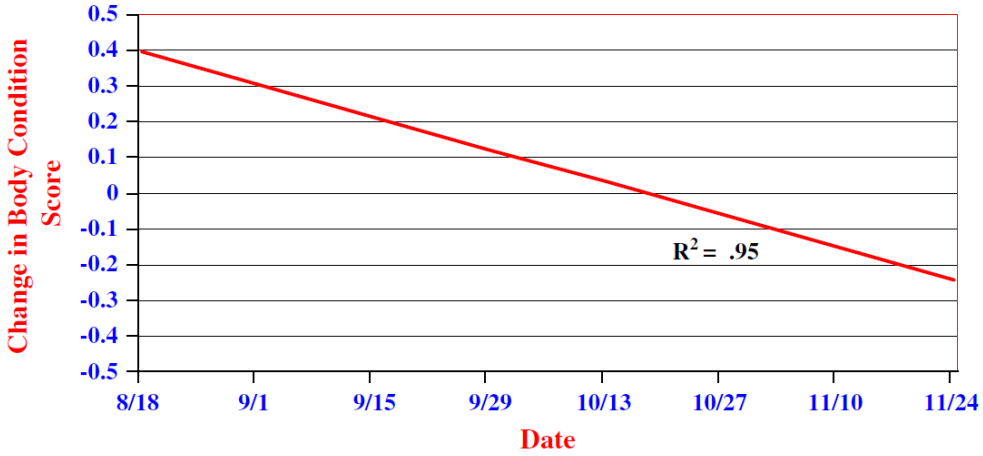


Fig. 1. Effect of weaning date on change in cow body condition score of March calving cows. (*Data from* Ciminski L, Adams D, Klopfenstein T, et al. Weaning date for spring calving cows grazing Sandhills Range. In: 2002 Beef Cattle Report MP 79-A. Lincoln (NE); Agricultural Research Division, University of Nebraska; 2002. p. 3–4.

From the range management prospective, early weaning can decrease grazing pressure on pastures. Calves weighing 250 to 350 pounds have been show to consume 5.3 pounds of forage dry matter daily **(1)**. Likewise a 1200 pound non-lactating cow consumes 4.6 to 5.9 pounds less daily than when she is lactating **(2)**. In theory, this would allow the dry cow one additional day of grazing for every 2.5 days that her calf has been weaned. Removing the sucking stimulus and reducing the cow's nutritional lactation requirement can cause a positive energy balance on the same forage availability having the potential to allow noncyclic cows to resume estrous and become pregnant. Early weaning is a management tool that can reduce grazing pressure on pastures by decreasing the nutrient demand of the cow, and if done correctly has no perceived effect on the calf's ability to convert feed or gain weight **(3)**.

Resources

[1] Jenkins-HollingsworthK, Klopfenstein T, Adams D, et al. Intake and diet selectivity of cow/calf pair grazing native sandhills range. Nebraska Beef Cattle Report 1995;MP 62-A:3–4.

[2] NRC 1996 (2000 update). Nutrient requirements of beef cattle. 7th edition. Natl Acad Press.Washington, DC.

[3] Rasby R. Early Weaning Beef Calves. Veterinary Clinics Food Animal Practice 23 (2007): 29-40.

Early Weaning and Calf Considerations

Taylor Travis CSU Livestock Extension Agent

Early weaning beef calves is commonly used when forage resources are depleted or feed is expensive. It is utilized both as reproductive and nutritional management tool and discussed mainly as a benefit to range utilization and cow body condition during stressful situations. In years when forage is plentiful, early weaning becomes a seldom utilized management strategy. It could be incorporated into regular management to increase or provide alternative marketing opportunities. An operation might wean calves nursing first calf heifers early, allowing those females additional time to regain body condition prior to their second calving and be able to at a weaning premium when marketing those calves. Another strategy may involve calving out older soon to be cull cows and start these pairs on feed. These calves, already on feed, could then be early weaned and the cows then marketed in a more lucrative early summer cull cow market. No matter what your management strategy it is important to set the calf up for early weaning success.

One of the keys to early weaning success is a planned herd health and vaccination program. There are local considerations and ranch differences to keep in mind, so it is imperative that managers consult with their local veterinarian to develop a program right for each operation. Still, preconditioning calves 2 to 3 weeks prior to weaning with the appropriate viral and clostridial vaccinations, as well as booster vaccination on weaning day is recommended. Treating calves for fly control and internal parasites should also be a consideration. It is also recommend to control dust in weaning lots by watering or sprinkling down pens to help prevent onset of bovine respiratory disease issues. It can also be advantageous to wean in the late summer or early fall when daily temperature fluctuations are not as variable in highs and lows as seen in the late fall and winter months.

Newly weaned calves can be selective eaters, and need to be provided an energy dense (65% to 75% TDN) diet that is rich in crude protein (14% to 16%). It is also important to make sure rations for calves are highly palatable, well mixed and relatively dust free. Such a starter diet needs to meet the calf's needs when it consumes 1% to 1.5% of its body weight in diet dry matter[1]. Two weeks after weaning, calves should be ready and willing to eat approximately 2.5% of their body weight on a dry matter basis. Ration changes are necessary and warranted at this time, but avoid the use of low quality forages such as straw, corn stalks or overly mature hay. Such forages provide limited nutrition and excessive fill for young cattle. Target calves to gain two to two and one half pounds per day, similar to the gain you would expect if they were still on their mothers. As always, water intake is important and clean fresh water provided to calves may need to be placed along the fence line as fresh weaned calves walk fences in search of mother.

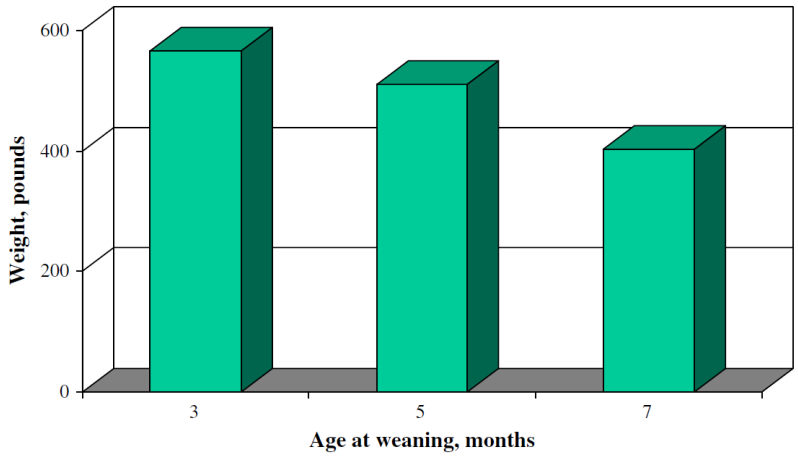


Fig. 1. Difference in calf weights on the normal weaning date (7 months of age) for calves weaned at 3 and 5 months of age and placed in a feedlot versus calves weaned at 7 months of age. (Data from Myers SE, Faulkner DB, Ireland FA, et al. Comparison of three weaning ages on cow/calf performance and steer carcass traits. J Anim Sci 1999;77:323–9.

If done right early weaned calves can perform as well or even better (figure 1) than there conventionally weaned counterparts. However it is important to remember that retained ownership of such early weaned calves for forty-five to one hundred days is required to see such results. Early weaning can be utilized by operations for more than just drought management and may be a way to increase cow numbers, or change your operations calf and cull cow marketing strategies.

Resources

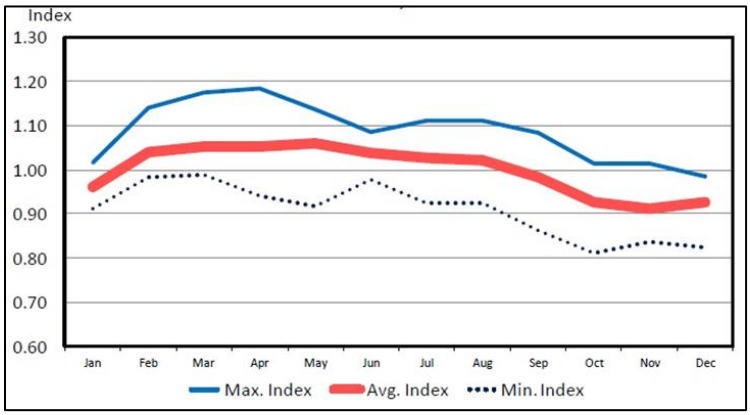
[1]Rasby, R. (2007). Early Weaning Beef Calves. The Veterinary Clinics of North America. Food Animal Practice, 23(1), 29–40. https://doi.org/10.1016/j.cvfa.2007.01.002

Market Cull Cows Sooner Than Later

Scott Stinnett, Extension Agent

With all of Colorado in some state of abnormal to severe drought conditions and an extended weather outlook calling for La Nina conditions, planning for drought will most likely include some culling of the cow herd. While culling is a typical part of livestock production, a drought year can create a glut in the supply therefore decrease prices cow slaughter cows.

When looking at seasonal trends for slaughter cow prices, high prices are typically paid during the late winter and early spring from February to May. Prices flatten during the summer and begin trending to the lowest price when the supply is highest from September through January as producers across the country market cull cattle to keep from feeding them during the winter months.



Seasonal Price Index for Utility (Slaughter) Cows, Southern Plains, 2004-2013. Data Source: USDA-AMS, Compiled & Analysis by Livestock Marketing Information Center (LMIC).[1]

For Colorado producers looking to take advantage of high slaughter cow prices, timing this seasonal trend is one part of a successful marketing plan. Another consideration is the condition of the cows to be marketed. Slaughter cattle are divided into four classes based on body condition: light, lean, boner and breaker. Light cattle receive the lowest price due to their thin condition. Breaker cattle have the highest body condition, but boner cows tend to be the highest priced as they exhibit the preferred amounts of lean and fat. Increasing body condition of light and lean cows can improve the price received. As pastures traditionally green up in the spring and provide better nutrition, an expected increase in body condition should be seen in these cows. Since pasture grazing is usually the lowest cost feed, the input cost may be justified by the increased market value of cows due to improved body condition.

Average Prices for Cull Cows

Marketing Class	*Price ($/lb.)*	*% Change in Price Relative to Lean Class*
Breaker	51.33	3.76
Boner	52.07	5.32
Lean	49.44	-
Light	41.58	-15.90

Source: Livestock Market Information Center, January 2004-July 2007.[2]

A final consideration is culling of cows with a calf. To try and market these cows during the seasonal high price period, early weaning may need to be done. Calves can be weaned as early as 45 days old[3]. Early weaned calves will require some supplemental feed, but studies have shown they are just as efficient in growth as normal weaned calves. Cows who have their calves weaned early can focus their nutritional intake toward their body condition and not lactation. A producer needs to evaluate the cost of supplemental feeding of early weaned calves with the expected increased market price of culled cows to determine the possible profitability.

For producers to receive the highest possible value for culled cows, timing of marketing and body condition of cows at time of marketing are the keys. Early weaning of calves from cows selected to be culled can help meet both desired market timing and body condition.

Resources

[1]Raper, K. C.& Biermacher, J.T. (2016) Beef cull cow management and marketing alternatives. Oklahoma Cooperative Extension Service Fact Sheet AGEC-629. Stillwater, Oklahoma. https://extension.okstate.edu/fact-sheets/beef-cull-cow-management-and-marketing-alternatives.html

[2]Peel, D.S., & Doye, D. (2008). Cull cows grazing and marketing opportunities. Oklahoma Cooperative Extension Service Fact Sheet AGEC-613. Stillwater, Oklahoma. https://extension.okstate.edu/fact-sheets/cull-cow-grazing-and-marketing-opportunities.html

[3]Rasby, R. (2007). Early Weaning Beef Calves. *The Veterinary Clinics of North America. Food Animal Practice*, *23*(1), 29–40. https://doi.org/10.1016/j.cvfa.2007.01.002

Poultry and Summer Heat

Scott Stinnett, Extension Agent, 4-H Youth Development / Livestock

Poultry can be adversely affected by summer heat. There are several factors that can be controlled to help them remain healthy and productive throughout the summer.

Poultry are homoeothermic and need to maintain a constant body temperature. Chicken's body temperature ranges between 105°F and 107°F. Poultry have some basic means of lowering their body temperature. Panting allows poultry to release vaporized water from the respiratory tract cooling the body. Poultry may also hold their wings out which increases surface area and increases radiant heat loss. A producer can also provide additional items to help poultry endure high temperatures.

Water is the most important item for poultry as it is for any other animal. Water should be constantly available to prevent dehydration which can occur quickly when poultry are already panting. Cool water is preferred to warm or hot water as it facilitates cooling better. Waterers should be kept out of sunlight.

Feed and the digestion of it can increase body temperature. Feeding poultry during the cooler parts of the day can help prevent overheating.

A proper shelter or environment is important too. Providing shade gives poultry relief from direct sunlight. It also provides cooler ground where poultry can rest and lay their body against the lower temperature ground. Care must be taken in

providing shade. A metal roof may provide great shade, but the radiant heat created by the sun on the metal may make the area under the shade warmer than the ambient air temperature.

Ventilation is another important component of a proper shelter. If the shelter can be oriented to take advantage of summer winds, the natural air flow will help to cool the shelter and poultry. If natural ventilation is not possible, adding fans to move air through the shelter will prevent the air from becoming stale and hot.

Providing adequate space is another factor to consider. The more birds can spread out, the better they are able to regulate their own body temperature. Birds crowded into a shade may produce more body heat than if they were left out of the shade.

Poultry kept indoors during the summer are at the greatest risk for overheating. Be sure birds have cool water available, shade, adequate space, ventilation and are fed during cool hours. Some producers choose to use misting systems to help with cooling. Others provide frozen water bottles for birds to cool themselves against. As long as poultry, whether indoors or outdoors, can be provided some basic necessities, they can endure the heat of summer quite well.

Moving Up Breeding Season

Scott Stinnett, Extension Agent, 4-H Youth Development / Livestock

Producers like to have uniform sets of calves to market each year. Getting the age and subsequent size of calves desired for marketing takes planning. The most significant factor in getting the desired age calf is determining calving season. And simply put, calving season is controlled by breeding season. A producer who would like to move calving season earlier on the calendar needs to begin by planning when breeding season will be

To move calving season, producers must keep a few numbers in mind. First is the average gestation for a cow of 283 days. Second is cows usually can be bred 45 to 60 days after calving as their reproductive tract will have time to recover and begin to cycle. Adding these two sets of numbers, we need 328 to 343 days from breeding to gestation and include recovery to occur before cows can be re-bred. The last number to consider is the number of days in a calendar year. 365 days does not leave much extra time for a cow to have her one calf per year.

Mathematically, a producer could move breeding season up by 22 to 37 days earlier, but how practical is it? The problem lies in the current calving season itself. Many producers have a goal of a 45 to 60 day calving season. If breeding season is moved earlier in the year, will all the cows be ready for breeding on the first day for breeding? The answer is no. Only the cows who calved 45 or more days prior to the new beginning date of the breeding season have the best chance of being ready for breeding. The good news is, if the new desired calving season is also 45 to 60 days long, the breeding season can be the same length and most of the cow herd will be able to be bred within in the new breeding season.

How much can the calving season be advanced in a calendar year? By the math it can be moved 22 to 37 days earlier, but a producer may want to be cautious in trying to move the cow herd up this much in one breeding year. Let's assume a producer would like to move calving up a full month. It may be more advisable to make the goal be 14 days early the first year and move it up again another 14 days the next year.

There will always be some outliers in the cow herd. Some cows will calve 10 or more days earlier than the first expected calving date and others will be just as late. There will also be cows who will either be ready to breed before 45 days after calving and some cows who will take more than 60 days to

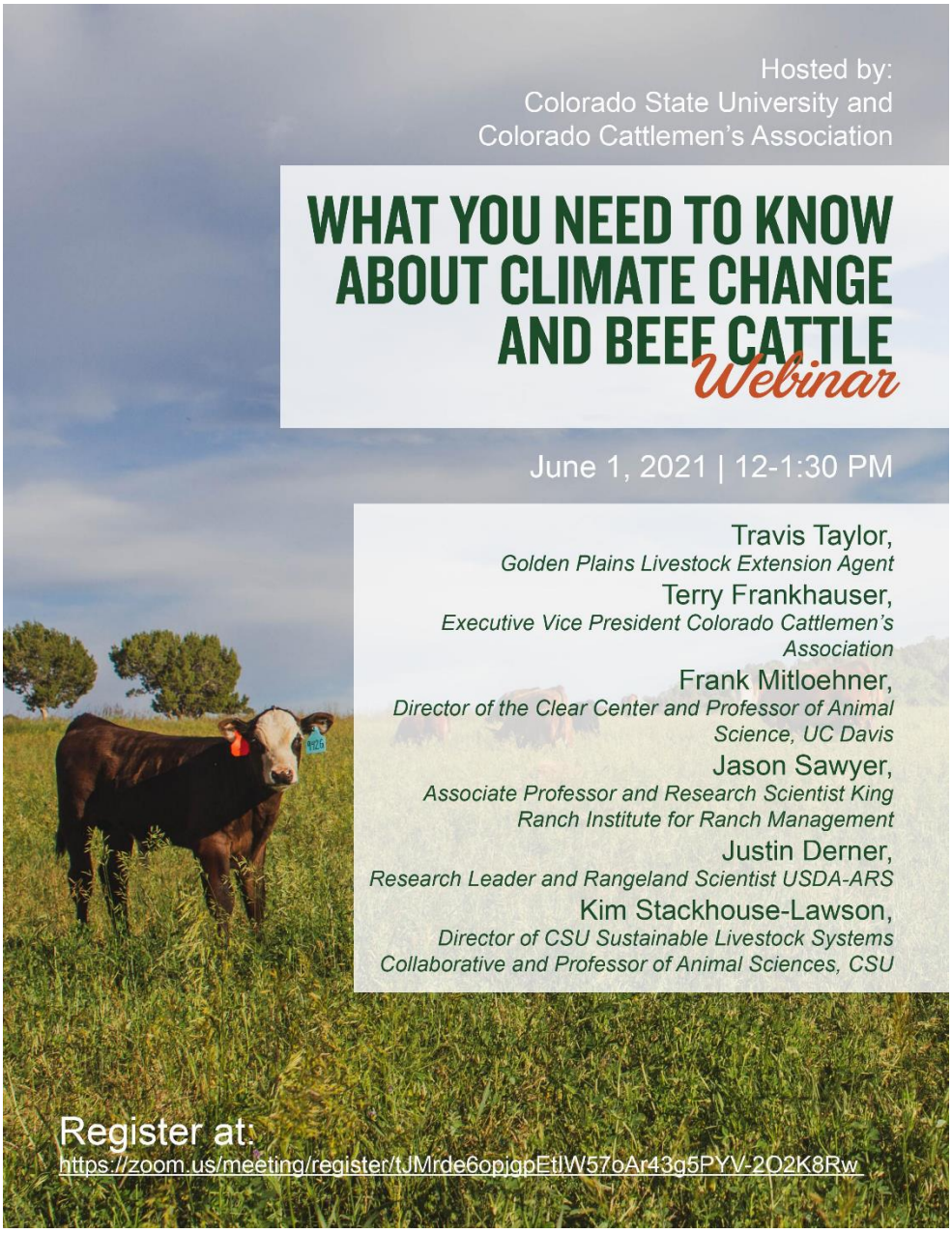
recover. These cows can have an effect on the pregnancy rates of the herd when pregnancy checks are performed, but the overall herd can be successfully moved earlier in the calendar.

There are a few other factors to consider ensuring success in shifting the calving season. The body condition of your cows is important. Studies have shown a considerable difference in pregnancy rates between cows in body condition score (BCS) 4 and those in BCS 5. A good rule of thumb is for every 2 weeks a calf nurses a cow, the cow losses one tenth (1/10) of body condition[1]. To counter this loss, producers need to provide appropriate forage and supplementation which can provide the energy and protein necessary to maintain body condition. Calving difficulties can cause delays in breeding. Any damage, minor or major, to the cow's reproductive tract will take extra time to heal and therefore more time before she can be ready for breeding.

Overall, it is possible to move calving season earlier within limits. Success is dependent upon planning, proper nutrition and recovery of cows.

Resources

[1]Rasby, R. (2007). Early Weaning Beef Calves. The Veterinary Clinics of North America. Food Animal Practice, 23(1), 29–40. https://doi.org/10.1016/j.cvfa.2007.01.002



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