

Cow Efficiency

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Efficiency from a ranching perspective could be defined as the optimum use of resources toward a sustainable level of production. In regard to beef cattle, this could be further defined as the pounds of calf weaned per unit of forage consumed. This can be challenging to figure on western rangelands as precipitation and forage production are highly variable each year.

A more simple way to figure efficiency in beef cattle production could be the total pounds of calf weaned per cow exposed to a bull. This measure of efficiency takes into account reproductive efficiency of the herd and growth characteristics of the calves.

Feed costs represent the largest expense in beef cattle production. Cows that can convert available feed into more pounds of a saleable product (which is the calf) in relation to their individual consumption are more efficient and often more profitable. There are several factors that affect production efficiency. Cow size, milking ability, and reproductive performance are major factors.

Cow Size

All cows have a minimum energy requirement to stay alive, maintain body weight, and carry out normal body functions. This is known as maintenance energy. Larger cows require more energy for maintenance because they have more pounds of body weight to maintain. Research has shown that smaller cows can wean more pounds of calf per pound of feed consumed than larger cows. It is true that a larger cow can wean a larger calf however her production efficiency will be sub-optimal.

In an environment where feed resources are unlimited, larger cows may be able to offset the greater feed requirement by weaning larger calves. However, on western rangelands where forage supply is often limited, larger cows are generally not as efficient as smaller cows.

Milking Ability

Milking ability or milk production of the cow is related to preweaning growth of the calf. For this reason, increased milking ability of the cow is often seen as a positive trait. It should be noted however that milk production requires high levels of energy inputs by the cow. If feed resources are limited (as they often are on rangelands), milk production can have a negative effect on overall beef production efficiency.

Additionally, research has shown that higher milk producing cows are less energy efficient. This means that they require more energy per pound of body weight than lower milk producing cows. Higher milk producing cows have a greater total energy requirement during the lactation and dry periods. A comparison of energy requirements for high and low milk producing cows shows that a high milk producing cow requires almost 800 lbs. more forage/year than a low milk producing cow.

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Likewise, if you know of someone who would like to receive the newsletter, please let us know at 208-459-6003 or canyon@uidaho.edu

Past editions of the newsletter are available at <http://www.extension.uidaho.edu/owyhee>

Transferring Cattle to the Next Generation

Jim Church
UI Extension Educator

Time Moves On!

According to USDA data, the average age of farmers and ranchers in the United States is 57 years old, with one quarter of that population being 65 or older. It is predicted that the average age will increase when the next Census of Agriculture is conducted.

The bottom line is that the agriculture industry is aging. If any of you have attended a cattle event or bull sale recently you would have to agree. There is a lot of gray hair in the audience.

We desperately need an influx of young people in this industry. We all know how hard it is to get started farming or ranching. The capital needed to secure land, machinery and livestock is unbelievable, which is why many young people are not able to choose farming or ranching as their career.

However, it is important to remember that there is hope and with careful planning, assets can be transferred from one generation to the next.

If you are a cattle producer and are at the age where you are starting to give some thought of retiring or letting a son or daughter take over the operation, there are options for transferring cattle from one generation to the next. Those options include; outright sale, installment sale, gradual sale, leasing and gifting. Let's look at each of these options.

Options for Transferring the Cattle Herd

Option 1. Outright Sale. In this option, all animals are sold to the buyer at an agreed upon price. This is the easiest option, but it requires a great deal of capital upfront for the buyer. It also may cause cash flow problems for the new buyer as well. In addition, the seller will have immediate tax consequences compared to other options.

Option 2. Installment Sale. With this option, the owner sells the cattle over an extended period of time to the buyer. This may take

Plans for transferring the cattle herd to the next generation should be done early, don't wait until your son or daughter is 50 years old or older.



several years. The two parties must agree on the value of the cattle at the beginning. Terms of the sale need to also be agreed upon by both the seller and buyer.

The advantages of this option is that it helps the buyer with cash flow, it may provide a lower interest rate if the seller is willing to reduce the interest, will allow for a longer repayment schedule and the payments can be timed with the sale of the calves.

Years ago I visited with a producer who shared how he purchased a cowherd using the installment option. The value of the cattle and the interest rate was determined at the beginning.

The possession of the cowherd was passed to the buyer. When the calves were sold the first year, the buyer paid the seller 1/3 of the value of the calf crop. The second and third years, the buyer paid 1/2 the value of the calves to the seller when the calves were sold. Year 4, what ever was still owed was paid to the seller. The cowherd was then owned free and clear by the buyer after 4 years.

This is just one example of an installment option. There can be many deviations from this depending on the needs of the seller and buyer.

Of course there are tax consequences that need to be considered. A tax accountant would need to be consulted prior to entering into an installment sale.

Option 3. Gradual Sale. With this option, a portion of the cattle are sold to the new owner each year. For example, the cull cows are sold with the seller keeping all the income. The replacements going back into the herd are purchased by the new owner. These can be raised

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Gestation and Dystocia

Ron Torell
Long-Standing Educator and Advocate of Agriculture

Oftentimes when a first-calf heifer experiences calving difficulty we automatically cast all the blame on the immediate sire of the calf. We may forget that the sire contributes only half of the genetic merit. The pedigree of the dam determines the other half. If the dam's pedigree is stacked with growth and large birth weight sires and dams this is likely to influence calf delivery as a first-calf heifer. Conversely, if the dam's pedigree is stacked with calving-ease sires and dams, one would expect shorter gestations, lower birth weights and less dystocia.

Information about gestation lengths of specific bulls are revealed when breeding and calving dates are documented from pasture-bred registered operations and/or artificial insemination (A.I.) breeding programs. Averaged together the gestation length for all breeds of cattle is 283 days. The range is 279 days for Jersey and up to 292 days for Brahman. On the average, the Continental breeds of Charolais, Simmental, and Limousin exhibit gestation lengths of 289 days. English-bred cattle such as Angus, Shorthorn, and Hereford exhibit shorter gestation lengths of 281, 282 and 285 days respectively. Within these breeds the average gestation length may vary an additional twelve days on either side of the average for the breed.

Take for example the following A.I. calving data obtained on registered replacement heifers recorded over the course of ten years from a northern Nevada ranch. During this time frame a total of 202 head of *properly developed and nutritionally sound* registered Angus replacement heifers were artificially inseminated to twelve different *high accuracy* calving-ease Angus sires. A success rate of 69% of the artificially inseminated first-calf heifers resulted in 140 A.I. pregnancies. Actual calving dates were recorded and compared to the 283 day gestation table. Any calves born over the 283 day gestation mark were DNA confirmed or denied to be from the A.I. sires.

Over the ten year period 37% of the calving-ease A.I. sired calves were born between 276 and 278 days of gestation (see Chart 1). Twenty-seven percent were born between 272 and 275 days of gestation. Twenty-three percent were born between 279 and 283 days of gestation, while only 13% were born between 284 and 291 days of gestation. The average gestation length on all 140 of these calves was 279 days, 4 days less than the 283 day Angus breed average. The range was from 272 days clear out to 291 days. By the time these heifers had reached the 283 day average Angus gestation length, delivery of the A.I. sired calves was 87% complete.

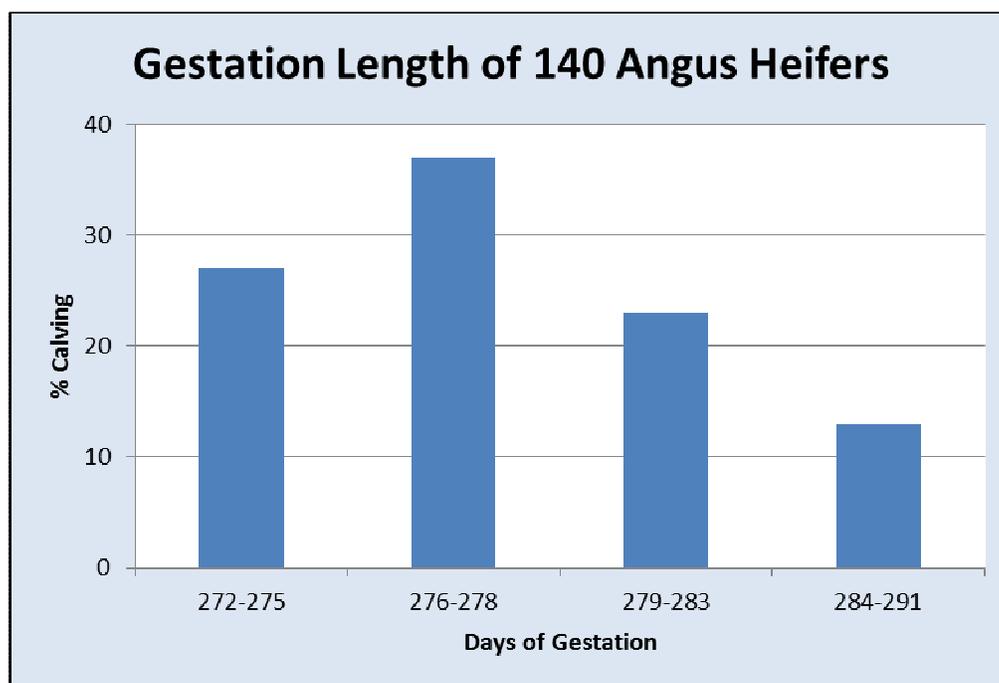


Chart 1

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Sires used at the Nevada ranch were obviously short gestation, calving-ease and low birth weight for only a light pull was required on less than 3% of the A.I. sired calves. Many of these assists were due to an abnormal presentation of the fetus and not due to excessive birth weight. Ninety-one percent of the calves weighed less than 80 pounds at birth. As birth weights increased over 80 pounds so did the assist rate.

Research has shown that there is an 80 pound birth weight threshold relative to dystocia in first-calf English bred heifers. During the last ten days of gestation, 1 to 1½ pounds of birth weight per day may be added to the size of the fetus. Within a five day extended gestation as much as 8 pounds could potentially be added to the birth weight of a calf. This could mean the difference between an unassisted birth when calving or a dystocia situation.

In addition to genetics and gestation length there are several environmental and nutritional variables that also may contribute to dystocia. Many calving-ease sires are calving-ease partially because they are short gestation. This theory held true with the Nevada cattle. Second and third generation short gestation and calving-ease sired heifers tended to have even smaller calves at birth with shorter gestations. This would support the idea that true calving-ease sires are stacked with calving-ease in their pedigree, not simply the immediate sire.

In an effort to reduce dystocia on first calf heifers the process of selecting for smaller birth weight calves over several generations may come at the price of reduced growth potential. Additionally, very small newborn calves do not have the body capacity to withstand severe weather nor the gut capacity to fully utilize the milking ability from the dam. As is true with most genetic selection tools, moderation is the best course of action.

A big advantage of short gestation bulls is an increased postpartum interval and breed back for the cows. Research clearly shows that young cows and those cows who have difficult and slow deliveries require additional days of postpartum interval to cycle and re-breed. If a calf is born at 275 days gestation versus the breed average of 283 days, that cow will usually have an easier delivery and will automatically have an additional eight days postpartum interval advantage.



heifers or purchased cows/heifers.

With this system it would take 5 to 6 years or more to transfer the herd to the new owner. The seller would have to report income for each animal sold in the tax year. The income would be from the sale of cull animals and the sale of replacements to the new owner.

Option 4. Lease the cowherd.

Leasing the cowherd to a younger person is a great way for them to enter into the cattle business, especially if they do not have the money to purchase cows.

The owner of the cows and the person leasing them need to agree on many things prior to entering into a lease. How the cattle will be managed, who is responsible for replacements, bull selection and lease payment amounts are examples of what needs to be agreed upon and documented in a written agreement. There are several examples of lease agreements and worksheets available for parties wanting to enter into a lease agreement.

In most lease agreements, the payment is based on dividing up the cash received from the sale of calves. Depending on the lease arrangements, a typical split would be 1/3 to the owner and 2/3 to the person leasing the cattle.

I ran across a lease arrangement that is used in Nevada that I thought was pretty good. The specifics of this lease are as follows:

- ◆ Owner maintains ownership of the cows.
- ◆ The value of the cows is determined by the owner and the person leasing the cows. Value can be determined by monitoring the sale of comparable cows at area markets.
- ◆ Determine a fair interest rate if the cows were purchased using borrowed money. Local banks can offer insight into going interest rates.
- ◆ Replacements are supplied by the owner. Replacement heifers can be retained in the herd or purchased by the owner.
- ◆ Person that is leasing the cattle

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pays all the expenses.

- ◆ Person that is leasing the cattle gets all the income from the sale of calves (minus the replacement heifers) and culls.
- ◆ Annual rent is figured by multiplying the value of the cows times the interest rate. (value of cows x interest rate)

This is a simple way to setup a lease agreement allowing a young person to enter the business while allowing the owner to receive an interest payment as if loaning money while maintaining ownership in his/her cows.

Option 5: Gifting. The older generation can give the cattle to their relatives or other younger ranchers as a gift. They can be given all at once or gradually over a period of years.

It is critically important to talk to a tax accountant before giving any cattle away as a gift. There are tax laws that come into play. Each year a person can gift a certain amount of value to another person tax free. However, this figure changes so check with your accountant before making this decision.

Planning for a Transfer. Plans for transferring the cattle herd to the next generation should be done early, don't wait until the son or daughter is 50 years old or older.



Teach and prepare your family members how to manage when they are young. Start by handing over control of one enterprise on the ranch when the son or daughter is in their 20's or early 30's. This would include all decisions on the enterprise such as budgeting, purchasing, marketing and whatever decisions need to be made. All aspects of the enterprise including talking to salesmen should be handled by the young person.

This prepares the individual for the time when they will be responsible for managing the entire ranch.



Have regular business meetings. Weekly meetings are recommended. Do more listening than talking during the meetings. Develop a working agreement and succession plan in writing with dates for turning over control of the operation and stick to them. Planning will make the succession process much easier.

Summary

I have just touched the surface of this topic. Hopefully I have helped you to start thinking about how you will transfer your cattle and other assets to your children, relatives or other young people.

There are options available for transferring assets. Please contact a tax consultant and or a lawyer with expertise on estate planning and the succession process. These experts are worth the money and you need them on your planning team.

Once again planning is the key. **Start now**, don't put it off for another month or year. Good luck!



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According to research by Montano-Bermudez and Nielsen (1990), when production efficiency was estimated as weight of calf weaned per unit of energy intake, lower-milk producing cows were more efficient producers to weaning, and their calves retained this efficiency advantage through the feedlot. This efficiency advantage to weaning appears to remain throughout the lifetime production of the lower-milk producing cows.

Additional research by Clutter and Nielsen (1987) showed that cows that produce more milk have been shown to wean heavier calves than low-milk producers but the higher weaning weight may not be economical because of the efficiency loss and increased forage cost. Calves from low-milk producing cows tend to replace milk nutrients by increasing their non-milk feed consumption at an earlier age.

Reproductive Performance

Reproductive performance plays a huge role in the profitability of a cow-calf operation. Improving reproductive performance can positively affect profitability independent of most other factors. Research has repeatedly shown that energy status of the cow will affect her reproductive performance. Cows in poor body condition are slow to cycle and slow to breed back which puts them calving later during the calving season (if they breed and calve at all). This is definitely detrimental to reproductive efficiency.

Cows that breed/conceive early in the breeding period will calve earlier. These calves will be older at weaning and will likely be heavier at weaning. Earlier calving cows have been shown to use feed more efficiently. These advantages result in higher net returns from earlier calving cows. Research also shows that cows that maintain a shorter calving interval are more efficient throughout their lifetime.

Conclusions

Efficient beef production is essential to maintaining profitability. Matching cow size and milking ability to the environment can increase production efficiency. Additionally, maintaining or improving reproductive performance is more likely to be achieved when cows are better paired with their environment.

References

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We invite you to attend the **LOST RIVERS GRAZING ACADEMY**, in Salmon, Idaho. This is an outstanding workshop that provides hands on instruction in management-intensive grazing. The University of Idaho Extension has been presenting this grazing academy since the late 1990's. It is internationally recognized and has received state and national awards for livestock and pasture education. Upcoming sessions of the Lost Rivers Grazing Academy: Intensive Management of Irrigated Pastures, featuring Jim Gerrish, will be held **June 11-14** and **September 9-12**. For more information about attending either session contact Charles Cheyney at ccheyney@uidaho.edu or (208)-527-8587 or Scott Jensen at (208) 896-4104 or scottj@uidaho.edu. You may also download a brochure at <http://www.extension.uidaho.edu/owyhee/AgLostRiversGrazingAcademy.htm> or contact the Extension Office.





Southwest Idaho Beef Producers Industry Tour

Q Idaho Beef
Quality
Assurance

May 13, 2013

Beef

Have you ever wondered about other segments of the beef industry?

Join Idaho Beef Quality Assurance and University of Idaho Extension as we tour each segment of the beef industry. This will be a great opportunity to discuss concerns about feedback and market signals.

Quality

Assurance

Ranch-Feedlot-Processor-Retailer

- 8:30 am Registration/Welcome — Caldwell R&E Center
- 9:30 am Tour Starts — Purebred Operation — Shaw Cattle Company
- 10:45 am Commercial Operation Tour
- 12:00 pm Lunch (Provided by Grubbin' BBQ)
Consumer Perceptions and Market Signals — Idaho BQA
- 1:45 pm Feedlot Tour — Boise Valley Feeders
- 2:15 pm Processor/Retail Tour
- 4:30 pm How BQA Impacts Each Segment



Meal guaranteed with RSVP by **May 8** to Audra Cochran, Idaho BQA Program Coordinator at audrac@uidaho.edu, or 208-790-4650.

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Upcoming Events . . .

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| May 14-17 | Lost Rivers Grazing Academy II, <i>"Pulling it Together for Profit,"</i> for livestock producers who have previously attended LRGA or a similar training, Shoshone |
| June 11-14 | Lost Rivers Grazing Academy, Salmon |
| July 27
July 25-28 | Owyhee Cattlemen's Association Summer Meeting, Silver City
Canyon County Fair & Festival |
| August 7-10
August 16-25 | Owyhee County Fair & Rodeo
Western Idaho Fair |
| September 9-12 | Lost Rivers Grazing Academy, Salmon |
| January, 2014 | Farm and Ranch Estate Planning Class, <i>"Keeping the Legacy Alive"</i> will meet once a week for four weeks. More details coming soon! |

