Thank you to everyone who is reading our newsletter! We will continue to broaden the scope and subject matter of the newsletter as needed or requested. If you know anyone that would like to sign up for our newsletter, they can sign up on the USU BEEF Extension Facebook page, or contact Dr. Mathew Garcia and he will put them on the email list. Furthermore, feel free to contact any of the authors for more information or to suggest a column for a future newsletter!

Beef Species

The Beef Producers Role in Advocating for the Beef Industry

Dr. Matthew Garcia

matthew.garcia@usu.edu
435-797-2144

The population that the American Beef producers supplies their product to has become very detached from the agricultural system that feeds them. As a result there are many misconceptions about what is in beef and the production practices that are utilized to produce final beef products. Many of these misconceptions have been introduced to the public by entities that have no real agricultural background but do have a great motivation to provide non-scientific content that is damaging to the beef industry. The main problem with these activist groups is that they have been the single source of information and their information relatively unchecked. Thus, for many people that currently or used to utilize beef products this has been a major source of information (inaccurate as it may be). The issues that are typically highlighted are things like antibiotic use, public land use, animal welfare, animal handling, and hormones in meat. As a result many of these misconceptions and non-scientific facts have been accepted by the public and have gained traction as facts even though there is no scientific or beef system basis for their claims.

The American beef producer can no longer allow these misconceptions to be propagated and circulated to their consumers without providing a counter argument based on scientific facts. These misconceptions have damaged the beef industry's reputation and has resulted in our consumers being even further removed from what we are actually doing. The beef producers in this country are the most knowledgeable individuals about the beef production system and what goes into producing the high quality beef final product. The time has come to start educating those not involved in agriculture but are still our final consumer about where their food is coming from and how it is produced. Utah State University beef extension has developed a program to help beef producers disseminate scientific information about the beef system to those individuals that need it most. A series of business card sized fact sheets along with video shorts dealing with antibiotic use, hormones in meat, and the benefits of grazing have been developed (more will be developed in the future). These cards are designed to be carried on your person, contain scientific based facts, and can be given to those who many have questions or believe the misconceptions that have been propagated by anti-beef groups. Due to the ever changing issues with our industry

and the decreasing number of individuals involved in agriculture, it is essential that beef producers join forces with extension programs to educate the public about our industry. The active education of the public will not only increase our public support, but has the potential to increase the number of individuals utilizing beef, thus making the industry more profitable and sustainable. If you have any questions or would like to obtain some of the business cards feel free to contact Dr. Matthew Garcia.

For more information or in depth conversation please contact
Dr. Matthew Garcia
Email: matthew.garcia@usu.edu
435-797-2144

Equine Species

U. S. House Appropriations Committee Votes to Lift Equine Slaughter Ban

Dr. Karl Hoopes
karl.hoopes@usu.edu
435-535-5140

Horse slaughter for human consumption has been highly debated for several years. Horse meat in not typically consumed in the United States but exporting to foreign markets in Europe and Japan has been profitable. 2007 marked the last year in which equine slaughter for human consumption occurred in the United States. According to the Federal Meat Inspection Act of 1906, USDA Food Safety Inspections Service (FSIS) personnel must be present during the slaughter of horses to ensure the meat is safe, wholesome, and labeled correctly. FSIS inspection is mandatory and requires USDA to inspect all cattle, sheep, swine, goats, and equines slaughtered and processed into products for human food. Meat inspectors also are charged with enforcing the Humane Methods of Slaughter Act, which requires that livestock be rendered unconscious prior to slaughter. Since 2007 legislation was passed that included language that effectively prevents horse slaughter in the United States by blocking funding for the USDA to pay inspectors for horse slaughter facilities.

On July 12, 2017 the US House Appropriations Committee met to mark up and vote on the Fiscal Year 2018 Agriculture Appropriations Bill. The move to renew the slaughter ban was defeated by a 27-25 vote.1 The vote against the renewal of the equine slaughter ban means that the Fiscal Year 2018 Appropriations Bill can move forward to include funding for the FSIS inspectors to be present at equine slaughter facilities.2 Horse slaughter will remain unfunded through September 30, 2017 when the current fiscal years ends. The Appropriations Bill still needs to pass by the House and Senate before the USDA could begin inspections for 2018. However, the way has been opened and may continue for equine slaughter to begin anew in the United States in the coming months.

The debate is not over. Since 2007 almost 138,000 horses a year are shipped to slaughter facilities in Mexico and Canada.3 Arguments arise that with the slaughter facilities outside of the United States, we cannot effectively regulate the safety and humane treatment of horses at these plants. Others argue that horses are no longer livestock, but are companion animals that should not be subject to that form of death and meant for human consumption in foreign countries.3 Animal rights groups are endlessly calling for legislation to permanently ban equine slaughter for human consumption. Individuals within the equine industry are calling to reinstate equine slaughter for industry health and economic benefits. Regardless of whether you are for or against equine slaughter this development will have far-reaching effects into the equine industry in the coming months.

Reference:
1Washington Post 07/12/2017: House panel lifts ban on slaughtering horses for meat. https://www.washingtonpost.com/politics/congress/house-panel-lifts-ban-on-slaughtering-horses-for-meat/2017/07/12/fb53a882-6730-11e7-94ab-5b1f0ff459df_story.html

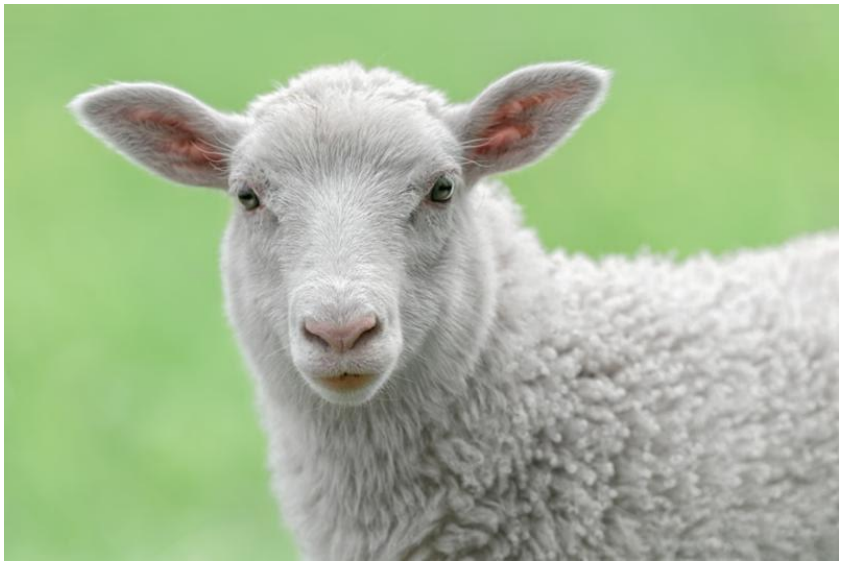
2American Horse Council: House Ag Appropriations Committee Vote on Horse Slaughter Defunding. https://www.horsecouncil.org/press-release/house-ag-appropriations-committee-vote-horse-slaughter-defunding/

3CRS Report for Congress: Horse Slaughter Prevention Bills and Issues. http://nationalaglawcenter.org/wp-content/uploads/assets/crs/RS21842.pdf

Small Ruminant

"Going once, Going twice, Sold! Tis the Season of Ram Procurement!"

Dr. Lyle McNeal
lyle.mcneal@usu.edu
435-797-2140



In the Western States, ram and buck sales have started, whether by private treaty, contracted, trades, or established auction sales. We are approaching the key time of the of year, that rams and bucks, that have been culled due to age, sterility, unsoundness, death, and for other considerations need to be replaced for our commercial range operations. As I learned myself a young buck, with my own sheep, and managing the former National Wool Growers Association National Ram Sale for many years, and up until the American Sheep Industry Association was formed in 1989, "The ram is half of the flock!" Which most of you know. Assuming you have fifty(50) or less breeding ewes, and you use one (1) ram annually to breed those ewes, when those lambs are dropped in the next lambing season, each and every lamb has within

him/her fifty percent (50%) of the sire's genetics, and the rest of the lamb crop have their dam's genetics, or 1/50th of the flock is her contribution.

The most important revenue generating product of our western range operations first and foremost, are the number of lambs produced and/or pounds of lamb sold, with the wool clip being lower to the income of a range operation. Obviously, the wool clip can vary as well in value, due to it's micron or fiber grade, staple length, clean wool yield, and pounds sheared per ewe. Thus, in commercial sheep production, one can't ignore either product, pounds of lamb produced, wool quality and pounds produced.

But today, western range operations run bands, and not flocks. A band can be anywhere from 800 to 1,200 or more breeding ewes. So, obviously multiple rams are needed to service those ewes in each and every operation in our region. Thus, ratios of ram to ewes have been established, but I know producers that do employ different ratios, i.e. 3:100 (3 rams per 100 ewes), some at 3.5:100, and even some down to 2:100, or two (2) rams per one hundred (100) breeding ewes, and that low of ratio can be very hazardous to one's future lamb crop, when at that level. This has been well documented, as too low of rams to ewes ratio. It's generally recommended to go for a 3:100 ratio, or higher, if possible.

The most important good ram husbandry practice, I want to get out to all producers is, as we prepare for the upcoming breeding season, make sure ALL your rams or bucks, currently owned, and planning to buy are "reproductively sound" and are up to breeding those 30+ plus ewes under range conditions. If you're breeding under range conditions, it's far different then those that breed small farm flocks.

I'm recommending to each of you producers, is to have your currently owned rams, as well as those going to be purchased, have a Ram Breeding Soundness Examination (Ram BSE) conducted, and at least 30 days before you turn those bucks out to breed. I can't ignore getting into the genetic EPD's, nutritional aspects, or supplemental feeding, due to space limitations, but perhaps in a future newsletter. I've conducted Ram BSE's on literally thousands or rams, over the years, since the Ram BSE was developed, and many, but not all veterinarians can conduct this exam for you. This comprehensive exam is about breeding season readiness on the rams to be utilized. But, there is part of it you can do yourself, if you're willing to learn and/or teach yourself, as you read the details below.

These are the components utilized in an effective Ram BSE:

1) General Appearance - i.e. condition of skin, eyes, teeth, jaw, legs, feet, and gaited movement, soundness.
2) Body Condition Score (BCS) - general nutritional condition of ram, and the BCS scoring goes from a #1 (very skinny) to a #5 (fat, obese), and with #3 being desired.
3) Fleece - on white-faced bucks, i.e. grade, uniformity, colored fibers present, kemp, belly wool, etc.
4) Testicle Palpation - checking for any signs of tone, i.e. hardness, and swelling, for epididymitis, a sheep STD, impairing the ram's fertility, and possibly making him permanently sterile.
5) Scrotal Circumference - measuring the total circumference of the scrotal sac with both testicles. This measurement has been proven not only with cattle but sheep, and that the larger the circumference the sooner his offspring will reach puberty or reproductive ability, assuming nutrition meets the lambs needs too. The bull scrotal circumference tape is the same one to use on the rams. A minimum of 30 cm is the usual standard for rams.
6) Penis and Prepuce - check for any deviations, shearing cuts, lesions, sheath rot, etc.
7) Semen Test - collection of ejaculate, and check for viability, concentration, motility, abnormal sperm cells, and white blood cells present, etc.,
and most important, by your local veterinarian, the

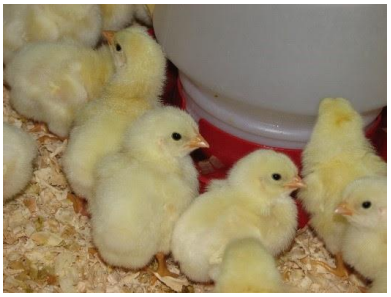
8) Blood Collection - collection of blood of each ram or buck to have analyzed in the State's Veterinary Diagnostic Lab, which we have in Utah, for the STD, Brucella ovis, which is a sexually transmitted disease, that results in sterility or infertility, which equals, fewer ewes bred and to lamb the next lambing season.

The Ram BSE sounds complicated, but here again, a producer can do many of the basic components, but the key test unit, blood collection and lab analysis should be conducted by your local veterinarian, and then send the sample(s) to the State Veterinary Diagnostic Lab for Brucella ovis testing. Again, these Ram BSE's should be conducted on especially ALL newly purchased, traded, etc. rams and bucks, minimally thirty (30) days before being put within your ram battery, and then your ewes. I strongly recommend annual testing of all rams owned, because B. ovis is an STD, and ewes can give it to the ram during breeding, if a possible carrier. The Utah Veterinary Diagnostic Lab just charges a few dollars for each sample, and it's the best insurance policy for reproductive efficiency of the ram(s) too. If any readers want more details on the Ram Breeding Soundness Exam, contact your local Extension Agent, or let me know?

Poultry Species

Evaluation of Laying Hens for Egg Production Status

Dr. David Frame
david.frame.usu.edu
435-851-2233



Culling of non-productive laying hens from the flock during a production cycle is seldom a part of modern poultry production practices; however, it still may be a something that a small backyard flock owner chooses to perform in order to maximize egg production efficiency and remove "freeloaders." Besides the obvious presence or absence of eggs in the nest, the status and duration of egg production in chickens can be evaluated by:

* Pigmentation
* Body condition
* Feather condition

Pigmentation

Genetically predisposed yellow-skinned chicken breeds (e.g., Mediterranean and Continental) fed a diet containing xanthophyll will exhibit a yellow color to fat, skin, beak, legs, and feet. This same pigment is also responsible for the yellow color of egg yolk. When in egg production, the hen will preferentially deposit the pigment into the yolk rather than transferring it to other parts of the body. As production progresses, the yellow areas of the body will gradually be replaced by non-pigmented tissues. This gain and loss of body tissue pigmentation is a valuable tool in assessing the lay status of these hens.

Approximate time in lay can be estimated by observing the successive loss of pigment in body parts. For example, a hen with an entirely bleached beak but pigment still on the feet and legs will have been in egg production for about 4 to 6 weeks. After the hen has ceased laying, pigment will reappear in the same order (i.e., vent first, then eye ring, base of beak, etc.). Consequently, length

of time since cessation of egg production can be estimated by the location of reappearing pigment. Pigment will come back about twice as fast as it bleaches out.

Body condition
High producing hens will have a tendency to lose body weight as sustained egg production progresses. During the rest period between clutches of eggs, the body will rejuvenate itself by the loss and replacement of feathers (i.e. molting) and by gaining back optimal body weight. This is dependent, of course, on the birds receiving proper nutrition.
Other body indications of egg production status:
Comb and wattles: Bright red and turgid in hens in production; shrunken and pale in non-producers.
Vent: Soft and pliable in hens in production; shrunken and dry in non-producers.
Pelvic bone spread just below the vent (standard-sized fowl): In a non-producer, it is only possible to insert one or two fingers between the bones; a mature hen in production will generally allow sufficient room for the insertion of three to four fingers.

Feather condition
Condition of the feathers can reveal a lot about the production status of a hen. As the season progresses, feathers will become worn and ragged. High-producing hens will often have an unkempt appearance late into the fall after the normal time when molting should take place. Feathers become worn because they have not yet been replaced. This is caused by the persistent egg production that takes priority over feather replacement.
Keep in mind that the shedding and growing of feathers is a dynamic process. Feathers in some areas will be growing back as others are being lost in other parts of the body. High-producing strains, and even certain individual hens, may tend to continue to lay and molt at the same time, but only if they can maintain their body weight. Because both laying eggs and molting require a huge amount of energy, if egg production continues as molting proceeds, the molting process will take longer.

For further detailed information, please refer to the USU fact sheet AG/Poultry/2009-01pr entitled, "Molting and Determining Production of Laying Hens" (http://poultry.usu.edu/files/Chicken_Fact_Sheet-_Laying_Hens.pdf).

Figure 1. Non-layer (left) vs. hen in production (right). Compare eye ring and beak color, and comb and wattle size.

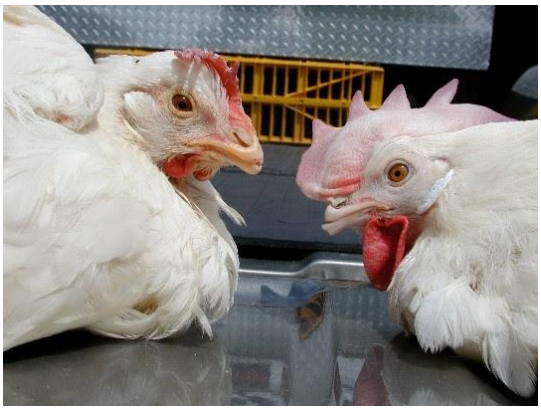
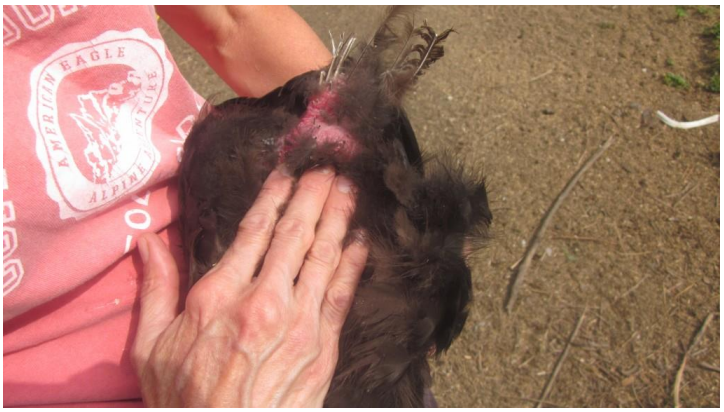


Figure 2. Pelvic spread of a hen in production (four fingers in width). **Figure 2. Pelvic spread of a hen in production (four fingers in width).**



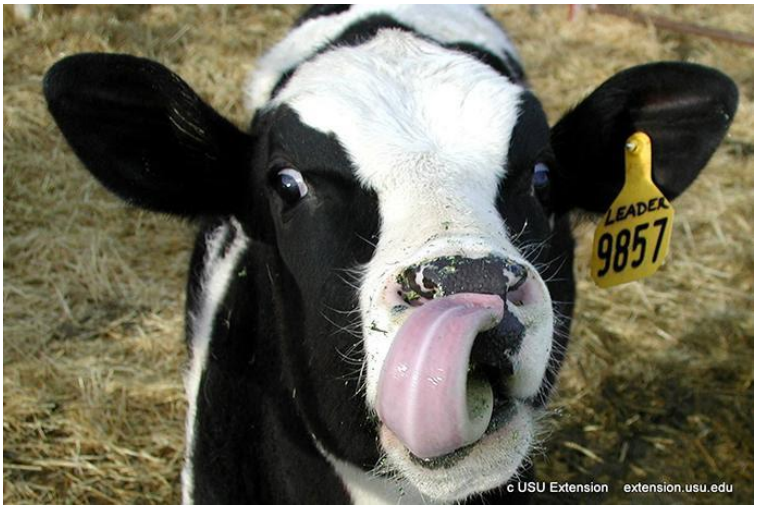
Photos courtesy of Mark C. Bland, DVM

Text Link

Dairy Species

Feed Sorting in Dairy Cattle. Part II.

Dr. Allen Young
allen.young@usu.edu
435-797-3763



In the last issue, feed sorting was discussed from the aspect of the consequences to animal health and production that occur when sorting a ration. In this article, ideas will be discussed for how to minimize or prevent the occurrence of feed sorting.

There are some basic considerations for trouble-shooting this problem. The obvious place to start is with the ration being fed. In general, there are three things to consider. The first relates to how much forage is being fed; particularly dry hay. The second is particle size or size of the pieces in the ration. And the third is the amount of moisture in the ration. In short, the more forage, the larger the particle size, and the drier the ration, the more the ration can be sorted. This is true

for both heifers and lactating cows. In terms of sorting, dry hay that has not been processed is the easiest for a cow to sort in a total mixed ration (TMR). A general rule of thumb is that a piece shouldn't be longer than the width of a cow's mouth. For me, that is approximately the width of my fist. If you aren't already doing so, I suggest that dry hay be processed to reduce its size and add water to the TMR to decrease sorting. The trick is to not over-process the hay and decrease the effective fiber length.

Other considerations are how frequently a ration is fed per day. Research has shown that feeding a ration more than 1X/day resulted in less sorting; however, feeding more than 2X/d doesn't seem to significantly decrease sorting. There may be an advantage toward more intake, but may not be worth more effort as measured by sorting. There is also some evidence that over feeding a group of animals may result in more sorting against long particles and more toward short or fine particles. In essence they get to be pickier in what they eat.

In theory, group dynamics may also be a factor. For example, if ration sorting is occurring, and first lactation cows (subordinate cows) are mixed with older animals, then the younger cows may have to eat after the older cows finish. If the ration has been sorted by the older cows, that means the younger cows have access to a different ration than what was originally fed. This may not only result in a larger particle size TMR, but also a drier ration because it loses moisture during the day.

One quick and easy way to monitor the ration is to use the Penn State Particle Separator. It will give immediate feedback on the particle size of your TMR and allow you to adjust mixing times to meet your goals. It is important that cows eat a balanced ration and no matter how good it is on paper, what you actually feed the cows and the physical form it is in is more important. If you would like to read the paper I used to write these articles, the reference is below.

Miller-Cushon, E.K. and T.J. DeVries. 2017. Feed sorting in dairy cattle: Causes, consequences, and management. J. Dairy Sci. 100: 4172-4183.

Text Link

The Importance of Business Reputation

Dr. Ryan Larsen
ryan.larsen@usu.edu
435-797-0784

The past few months I have visited with many agricultural lenders throughout the country and they have all told a similar story. Low commodity prices, high input costs, and poor weather have dramatically changed the financial condition of many farmers and ranchers. In many scenarios, the farmer has not generated a positive cash flow for multiple years. This places the lender in a difficult situation. On the one side is the bank regulator requiring positive cash flow and on the other side is the farmer just trying to stay in business. After the lender explains the situation, I then ask them what criteria they use to justify the loan. The answer is always the same; lenders justify the loan based on the reputation of the farmer, or in other words based on their business reputation. Harvard Business Review defines business reputation as "a function of its reputation among its various stakeholders". For a farmer or rancher, the stakeholders would be lenders, landlords, government agencies, agronomists, processors or commodity brokers, and suppliers. There are three important pieces to business reputation: it has value, it is transferrable but difficult, and it is fragile.

The value of business reputation is difficult to estimate exactly. A strong business reputation may lead to a lower interest rate whereas a poor business relationship may require a higher interest rate. In the worst-case scenario, business reputation may be the difference between getting a loan or not. Researchers at Kansas State University have begun to show that landlords are willing to charge lower rent to farmers who have a good business reputation. Whereas a landlord may require higher rental payments to someone who they do not trust. The importance of business reputation is also important for producers who want to sale specialized products. For example, processors of food grade commodities require that their producers follow strict production guidelines. Not adhering to these guidelines results in high costs and discounts. Processors must work with producers that they can trust.

A business reputation is transferrable but not easily. Some assets such as land or equipment are easily transferred to a new owner, sibling, or child. Business reputation is not transferred in the same manner. A colleague told me a story of when he was farming with his father. His father unexpectedly passed away and he began running the farm. One of their tractors needed repaired so he ran into town to purchase the needed parts. His father had previously purchased parts using a line of credit at the local dealership. The dealership refused honor the father's line of credit and required that the son purchase the parts with cash. After a year of dealing with the son, the dealership renewed the line of credit. The transfer of business reputation is not immediate and often takes time.

A business reputation can also be fragile. A strong business reputation could take years to develop but seconds to destroy. Benjamin Franklin said it best, "It takes many good deeds to build a good reputation and only one bad one to lose it." A farmer or rancher must be vigilant in making sound decisions and understanding the consequences of those business decisions.

Farmers and ranchers must protect their business reputation as they operate in today's agricultural environment. Business reputations have value both positive and negative, it is transferrable but is difficult, and it is fragile. There is no such thing as a decision without a consequence. During periods of low prices or other production issues, it may be a business reputation that keeps you in business or forces you out of business.

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