

Inside This Issue

- 1 Important Information
- 2 New General Permits
- 3 To Burn or Not to Burn
- 4 Phenotypic Trait Evaluation for Heifer Selection
- 5 Blocked Wethers
- 6 Storing Your Horse's Feed
- 7 Highly Pathogenic Avian Influenza
- 8 Getting Your Child Into Showing Livestock

Beef Cattle Squeeze Chute and Panels for Rent

Available for any resident of Bladen, Cumberland, Hoke, and Sampson Counties.

Squeeze chute and panels are on trailers and housed at the NC Cooperative Extension, Sampson County Center. The squeeze chute includes a set of scales.

Rental rates are:

- \$50 for the squeeze chute for 2 days and \$20 for each additional day
- \$50 for the trailer with panels for 2 days and \$20 for each additional day

Scheduling may be done in person at the Sampson County NC Cooperative Extension office or by calling 910-592-7161.

Contact Us

NC Cooperative Extension
Cumberland County Center
301 East Mountain Drive
Fayetteville, NC 28306
(910) 321-6860
cumberland.ces.ncsu.edu

Liz Joseph
Extension Agent, Livestock
liz_joseph@ncsu.edu

NC State University and N.C. A&T State University commit themselves to positive action to secure equal opportunity and prohibit discrimination and harassment regardless of age, color, disability, family and marital status, genetic information, national origin, political beliefs, race, religion, sexual identity (including pregnancy) and veteran status. NC State, N.C. A&T, U.S. Department of Agriculture, and local governments cooperating.

NC State Extension works in tandem with N.C. A&T State University, as well as federal, state and local governments, to form a strategic partnership known as N.C. Cooperative Extension.

Soil Sample Fees

\$4 starting December 1 until March 31

For any meeting listed, persons with disabilities may request accommodations to participate by contacting the Extension Office where the meeting will be held by phone, email, or in person at least 7 days prior to the event.

Disclaimer - The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by North Carolina State University nor discrimination against similar products or services not mentioned.

Initial 10-hour Animal Waste Operator Class (OIC)

There will be an initial class on April 30 and May 1 in Wayne County. Participants will be able to take the June exam. To sign up, call 919-731-1525.

New General Permits

By: Becky Spearman, Livestock Extension Agent with N.C. Cooperative Extension in Bladen County

Information provided by Christine B. Lawson, Engineer III with Division of Water Resources and the permit application packet.

Every 5 years, NC State Non-Discharge general permits for animal waste management systems are updated. There is a process to update the permits that involves stakeholder and farmer feedback which happened in 2023. The Animal Feeding Operations section of the Department of Environmental Quality (DEQ) uses feedback to consider development of the new permits. The current permit expires on September 30, 2024. The new general permits will have an effective date of October 1, 2024 and remain effective until September 30, 2029. Each facility will be covered under an animal waste general permit by issuance of a certificate of coverage for the respective permit.

Applications were mailed around February 9th to farms. Applications are due by April 3rd. NC DEQ-DWR must RECEIVE the application by April 3rd, which is 180 days prior to the expiration of the current general permits. This is EXTREMELY important for two reasons:

The current permit requires a farm to apply for renewal at least 180 days prior to expiration.

If permits do not go into effect on October 1, then only those who apply for renewal in a timely manner can continue to be covered under their existing permits until the new one is effective. To be considered to have applied in a timely manner, it must be 180 days prior to expiration.

Submit applications by email to animal.operations@deq.nc.gov or mail to NCDEQ-DWR, Animal Feeding Operations Program, 1636 Mail Service Center, Raleigh, NC 27699-1636.

You can look at your 2019 renewal information on Laserfiche. Go to ncwater.org. On home page you will see a GREEN highlighted link that says Laserfiche Document Search. Search by entering your FACILITY NUMBER. Example: for permit number AWS090999 – the facility number is 090999.

What is needed?

Submit one (1) copy of the Certified Animal Waste Management Plan (CAWMP) with the completed and signed application as required by NC General Statutes 143-215.10C(d), either by mailing to the address or email listed.

The CAWMP must include the following components:

1. The most recent Waste Utilization Plan (WUP), signed by the owner and a certified technical specialist, containing:
 - a. The method by which waste is applied to the disposal fields (e.g. irrigation, injection, etc.)
 - b. A map of every field used for land application (for example: irrigation map)
 - c. The soil series present on every land application field
 - d. The crops grown on every land application field
 - e. The Realistic Yield Expectation (RYE) for every crop shown in the WUP
 - f. The maximum PAN to be applied to every land application field
 - g. The waste application windows for every crop utilized in the WUP
 - h. The required NRCS Standard specifications
2. A site map/schematic
3. Emergency Action Plan
4. Insect Control Checklist with chosen best management practices noted
5. Odor Control Checklist with chosen best management practices noted
6. Mortality Control Checklist with selected method
7. Lagoon/storage pond capacity documentation (design, calculations, etc.) Please be sure the table is accurate and complete. Also provide any site evaluations, wetland determinations, or hazard classifications that may be applicable to your facility.
8. Operation and Maintenance Plan

If your CAWMP includes any components not shown on this list, please include the additional components with your submittal. (e.g. composting, digesters, solids separators, sludge drying system, waste transfers, etc.).

To Burn or Not to Burn This Spring

By: Randy Wood, Livestock Extension Agent with N.C. Cooperative Extension in Scotland County

I can remember growing up on our family farm in the 80's and coming home after school in March to see the water truck sitting out and loaded down with water. This meant we were getting ready to burn hayfields that evening. Back then, everybody burned off hayfields in the Spring. It was a common hay management strategy.

Today, farmers will still burn hayfields occasionally, but this is not nearly as common a practice as it was years ago. Back in the '80s and '90s it was commonly accepted that a burned off field was going to make ready a cutting of hay much earlier than a non-burned field, and you would have way fewer weeds to deal with. So why don't people burn as much as they used to?

The idea of spring burning is to remove the dead grass stems, thatch and debris on the surface of the field that has collected over the winter. With no thatch and all of last year's dead grass stems out of the way the new grass shoots will get more sunlight and emerge from dormancy much quicker. Couple this with the fact that the blackened surface of the field will absorb sunlight and warm the soil faster, there is no doubt that the new growth will face less obstacles and surface more quickly than if it had 2-4 inches of dead grass stems to work its way up through as it wakes up for the summer.

If you have a significant issue with winter weeds and grasses, especially Italian Ryegrass, then achieving a clean Spring burn is difficult to do without the help of a burn-down herbicide spray ahead of time. Trying to burn through a heavy stand of vegetative winter weeds will keep your fire from burning cleanly and will probably not kill any of the existing green weeds. In fact, the fire will result in the weeds being harder to control! Fire damaged weeds will not absorb herbicides nearly as effectively as a healthy weed. So, if you have to spray your fields for additional weed control, do so at least 10-14 days ahead of your burn. This will ensure that you get a good clean burn across the entire field and get a first cutting of hay that is as clean as possible.

Control of Sandspurs

I would like to dispel a myth that always seems to float around Bermuda grass farms -- the idea that burning will kill Sandspurs. Let me say for the record that burning will NOT kill a sandspur infestation in a Bermuda grass field! If your field was wrapped up in spurs last fall, it is going to have spurs again this year whether you burn or not. The roots of the plants that grew and produced spurs from the previous season are still in the ground and will undoubtedly sprout again this season. Even annual sandspurs will regrow year after year in the same spot despite your best efforts to eradicate them.

But what spring burning WILL do, is help contain the spurs from those parent plants that fell off and are lying around the field, waiting to hitch a ride on a tractor tire or

horse hoof to their next infestation destination. Burning dormant spurs will remove the barbs from those seeds casings and reduce their ability to be manually spread by equipment or animals. So, while you will still have to kill the existing parent plants, burning will help slow the spread of a new crop in the meantime.

So back to the original question -- why don't people burn more often than they do?

For one is safety. A safe controlled burn takes proper equipment, adequate help, and most importantly, the right weather conditions. Without these three essentials a controlled burn can turn into an emergency with just a simple switch of the wind. There is no doubt that most farming communities are not as rural as we were 20-30 years ago. Nowadays even a "rural" farm often has houses and even neighborhoods nearby. A fire walking off in the wrong direction headed towards a housing development can make you the headliner on the 6 o'clock news!

The other issue with spring burning is our erratic North Carolina Spring weather patterns. During the last several seasons we have seen a big early warm-up in late February or early March followed by a major freeze/frost a few weeks later. This causes everyone to get excited by the warming temperatures and rush out to burn before everything gets too green. This works beautifully. In a couple weeks there are little green Bermuda grass shoots popping up out of the ground -- until the late season freeze kills them.

The problem with this late freeze-out is that this tender Bermuda grass growth is extra sensitive to frost as it has already used up whatever nutrients it stored over the winter while trying to break dormancy and emerge. When this exposed Bermuda grass is killed by the late frost it hammers the field much harder than an un-burned field that has had the opportunity to slowly emerge and not depleted its residual soil nitrogen reserves. I can tell you from personal experience, the last three times I burned hayfields too early and suffered late season frost the last fields ready to cut were those that were prematurely burned. The fields that I did not burn that spring that were protected from the frost by the existing thatch ended up being the first fields harvested that season.

If we had a crystal ball and knew when this last killing frost was going to occur you could time your burn right ahead of this late freeze and your grass would be ready to emerge at the perfect time. Unfortunately, most weather forecasts can barely predict the weather 7 days out, much less 3-4 weeks.

With proper preparation and precautions, late winter/early spring burning can be an effective management tool for controlling Sandspurs and cleaning up fields that were fallow the previous growing season.

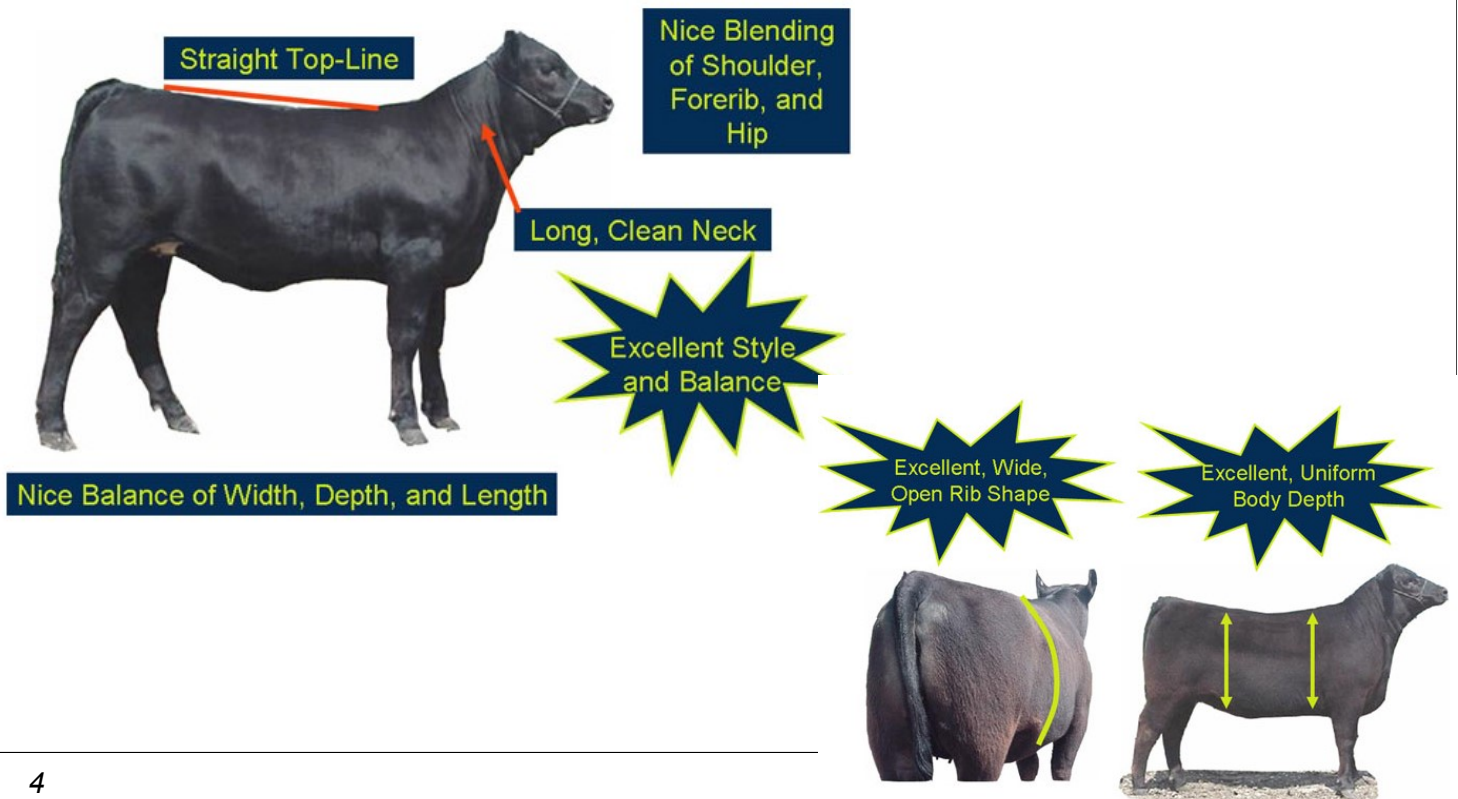
Phenotypic Trait Evaluation for Heifer Selection

By: Brooke Zeleny, Livestock Extension Agent with N.C. Cooperative Extension in Craven, Jones, and Pamlico Counties

The choice to expand a cattle operation can be a weighted one. There are many factors and avenues of characteristics to choose from when deciding on the type of operation to run. When heading to purchase replacement heifers for your herd, showing up with a solid understanding of what to look for phenotypically can make the selection and investment decision easier. In this article we will go through a handful of phenotypic traits to evaluate and begin the process of developing and expanding our knowledge on heifer selection for a cattle operation. Phenotypic traits are characteristics such as: structural soundness, body depth, body width, shoulder angle, and hip angle.

Structural soundness refers to the heifers feet and leg placement, How does that heifer stand? Is she weak in the legs and shallow in her steps, or is she heavily structured with strong large footing? The base of your animals should be strong with forward facing feet and legs. Cattle that lack this characteristic have reduced longevity in a herd. Next you should observe body depth and width, if a heifer has depth throughout her barrel and is wide between her ribs she is likely to have an easier time carrying a calf. She also has space to consume high amounts of forage, which will increase her nutrient intake resulting in a nutrient dense animal. Finally you should review the animal's shoulder and hip angles. A heifer that has the correct angle of the shoulder should look blended into the body, a heifer with an improper angle and coarse shoulder has a higher chance of putting added pressure on the elbows, knees, and pastern joints. Which leads to a decrease in flexibility and alters the movement of that heifer. When examining the hip angle, a heifer with straight hooks (front) to pins (back) is ideal. If there is a slope visible, it is preferred to have a minor slope from hooks to pins. On the other hand, if a heifer has a slope from pins (back) to hooks (front) this type of angle could affect the heifer's calving ease and create difficulty during the calving process.

Taking time to assess a few phenotypic traits can lead to less long term problems when purchasing replacement heifers. With these few phenotypic traits, we initiate a basal understanding for a solid foundation in quality cattle selection. This article is the tip of the iceberg, further study and research will increase the knowledge needed to make informed decisions.



Blocked Wethers

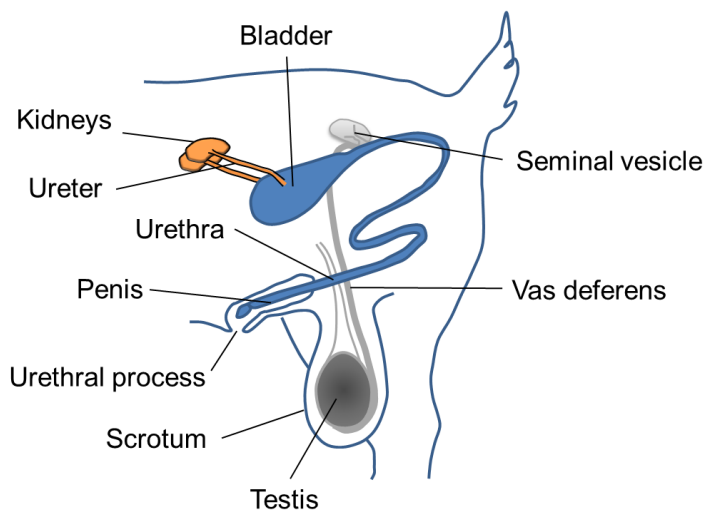
By: Tom Shea, Livestock Extension Agent with N.C. Cooperative Extension in Moore County

Urinary Calculi (UC) is a common metabolic disease seen in homesteading and pet wethered goats. UC is characterized by inflammation and blockage in the urinary tract,¹ and is often referred to as water belly or blocked. This urinary blockage prevents the wether from urinating, causing the bladder to fill and expand, leading to a water belly. This is often mistaken as bloat; however, unlike bloat, which only affects the left side of the wether, the water belly will expand on both sides of the body. As the bladder fills, the wethers will strain to urinate with little or no urine being expelled. Unable to urinate, the bladder will continue to fill and expand, which can lead the bladder to explode fatally.

Two common causes of UC are an imbalance in the feed ratio or simply being prone to UC. Generally, an imbalance is the most common cause of UC to form due to an imbalance of calcium and phosphorus ratio in feed. The ideal ratio of calcium and phosphorus is 2 calcium to 1 phosphorus. UC is likely to form from too much grain or feeding extra concentrates that are too high in phosphorus. This causes particles similar to kidney stones in humans to form in the bladder, but due to the goat's narrowing urinary anatomy, the stones get stuck and cause the blockage. The second cause of UC in goats is being prone to them; this can be genetic or due to early castration. Just like people, some animals are more likely to develop a build-up of stone than others. Unfortunately, there is little to nothing we can do about this. Early castration stops the production of testosterone before the urethra is developed to its full size.² This increases the chance that the stones will get stuck in the urethra due to the smaller diameter from being underdeveloped.

The prevention of UC is much cheaper and more successful than treating the issue. Producers should refrain from feeding feeds with a poor calcium and phosphorus ratio and increase feeding hay over grains and concentrate. If your goats need feed, feed a goat-specific feed; most contain ammonium chloride, which helps lower the pH in the bladder and helps prevent and dissolve stones.³ Avoid trying to feed straight ammonium chloride or adding it on top of feed because it burns and can cause damage to the goat's throat.

If you notice your male goat tail twitching, hunched up the body, straining to urinate, or just not acting right, seek help from your veterinarian, as untreated urinary calculi is life-threatening and cannot resolve independently. This can often be mistaken as constipation, parasites, or bloat. When in doubt, it's best to consult a veterinarian.



1. Urinary Calculi in Wether Lambs/Kids - 1.629. Extension. Accessed February 19, 2024. <https://extension.colostate.edu/topic-areas/agriculture/urinary-calculi-in-wether-lambskids-1-629-2/>

2. Urinary Calculi in sheep and goats. MSU Extension. Published June 6, 2011. Accessed February 19, 2024. https://www.canr.msu.edu/news/urinary_calculi_in_sheep_and_goats

3. Urinary Calculi in Male Goats and Sheep (FS-2021-0581) | University of Maryland Extension. Accessed February 19, 2024. <https://extension.umd.edu/resource/urinary-calculi-male-goats-and-sheep-fs-2021-0581/>

Storing Your Horse's Feed

By: Stefani Sykes, Livestock Extension Agent with N.C. Cooperative Extension in Wayne County

Nutrition is important for all livestock, and our equines are no exception. While you might be confident in purchasing the proper feed and hay, it's equally essential to make sure that you store it properly as well. Storing hay can be tricky, depending on how much you purchase at a time, where you live, and what sort of storage building you have. It is crucial to prevent mold growth and nutrient deterioration. Hay cured to less than 16-20% moisture stores well and minimizes the probability of mold or heating and combustion problems. Too much moisture results in lots of microbial activity which can increase the chances of combustion and mold.

If possible, monitor hay moisture levels for the first two weeks of stacking new hay—ideally keeping them below 14%. After this time has elapsed, the chances of the problems occurring is greatly reduced. For storage, we want to use a separate building when possible; minimizing the risk of horses getting hurt if the hay did start a fire. Ideally you would place the bales on crushed gravel, wooden pallets or even a layer of loose straw. Stacking square bales on edge, with narrow gaps, allows air to circulate in your storage system.

When hay is stored outside, waterproof tarps or coverings can help prevent mold buildup. This also helps reduce the risk of nutrient deterioration because the hay isn't as exposed to the sunlight, air and weather extremes. Canvas tarps are better than plastic, because they are more resistant to punctures and leaks. Storing supplements properly makes sure the nutrients remain intact when feeding your horse. You want to make sure what you pay for and what you're feeding (in terms of nutrition) is the same—buying expensive feed but storing it incorrectly can lead to wasted money. Moisture is of course one of the main causes of concern for grain based feed as well.

Cool, dry environments with properly closed containers are key to maintaining supplement quality. This keeps out air, bugs, rodents, and moisture. There are often various bacteria and fungi that can pop up in improperly stored feed; they are invisible to the eye and you won't know you have a problem until your horse is fed the feed or you test it. If maintained properly, under ideal conditions, feed can remain safe for 4-6 months in storage. Store bags on pallets to allow for air flow and no more than 5 bags high—especially if you're in a humid state like we are!

Of course, the different types of feed—with added molasses or oil, high-fat feeds, often have a shorter shelf life. It is recommended to only keep as much grain on hand, that can be fed within 3-6 weeks or if you purchase a lot at once, air conditioner in your storage room.

Moisture, air and rodents are the enemies of our stored feed—make sure you keep an eye on your hay and grain fed for your horses! While it may look safe, be aware that things can be hiding if not stored and managed properly.



Highly Pathogenic Avian Influenza (HPAI)

By: Margaret Ross, Eastern Area Specialized Poultry Agent with N.C. Cooperative Extension

Highly pathogenic avian influenza (HPAI or “bird flu”) is a real threat to the poultry industry in North Carolina, the United States, and other poultry producing countries around the globe. In December 2023, preliminary testing showed the presence of HPAI in wood ducks in South Carolina, after an apparent die-off of the birds. Additionally, there have been recent outbreaks in the United States in commercial and backyard flocks. Just recently HPAI has been detected in commercial turkeys in NC. You can read the press release here: <https://www.ncagr.gov/news/press-releases/2024/02/09/commercial-turkey-flock-tests-positive-high-path-avian-influenza>

Producers, both big and small, should continue to practice proper biosecurity protocols to keep commercial and domestic flocks away from areas frequented by migratory birds, all waterfowl, and other wild birds. If at all possible, they should not have unprotected access to the outdoors. HPAI could wipe out an entire flock when infected. In addition to routine biosecurity protocols, other things to consider at this time include: relocating flocks away from all natural bodies of water, covering the top of any open or screened runs with metal and/or plastic to prevent wild bird droppings from falling into the bird area, and removing wild bird feeders or distancing them from backyard flocks as much as possible. Also, if your birds are more confined than usual, consider adding forms of enrichment to discourage birds from pecking one another such as tree branches, cabbage, melons, pecking blocks, hanging aluminum pie pans, etc. Also be sure to limit visitors to your farm.

The North Carolina Department of Agriculture and Consumer Services (NCDA&CS) classifies warning signs of HPAI as reduced energy, decreased appetite, and/or decreased activity, lower egg production and/or soft-shelled or misshapen eggs, swelling of the head, eyelids, comb and wattles, purple discoloration of the wattles, comb and legs, difficulty breathing, runny nares (nose), and/or sneezing, twisting of the head and neck, stumbling, falling down, tremors and/or circling, and/or greenish diarrhea.

This type of HPAI virus is considered a low risk to people according to the U.S. Centers for Disease Control, but is highly contagious to other birds, including commercial and backyard flocks of poultry. The virus is also not considered a food safety threat and infected birds do not enter the food supply.

If your birds are sick or dying, report it right away to your local veterinarian, the N.C. Department of Agriculture and Consumer Services Veterinary Division at 919-707-3250, or the N.C. Veterinary Diagnostic Laboratory System at 919-733-3986. - NCDA&CS News Release January 26, 2023 -

Please take a look at our HPAI educational resource page at <https://poultry.ces.ncsu.edu/2022/02/highly-pathogenic-avian-influenza-educational-resources/>. Share this information with other poultry keepers that you know as well. We all need to know the facts and be extra cautious during this time to protect our flocks and our industry. If you have any questions or concerns not addressed in this article, please don't hesitate to reach out to your local area specialized poultry agent by contacting your local Cooperative Extension Office.

Getting Your Child Into Showing Livestock

By: Dan Wells, Livestock Extension Agent with N.C. Cooperative Extension in Johnston County

Perhaps you're the parent of a child who just expressed an interest in showing some sort of livestock. If you did not have that exposure as a child yourself, that statement may have induced a bit of mild panic! For this article, I'd like to discuss some items to consider as you begin venturing into the livestock show world that may help you make some decisions without having to learn them the hard way!

First of all, what species is your child interested in? It's likely your child has a particular species in mind, possibly because they have a friend showing that species. Or if the child doesn't have a particular interest, consider what their friends are showing and how they can be involved together in their projects. Those interactions can make the experience much more enjoyable for your child, and for you! Maybe your 4-H Club has a lot of members who show goats, for instance, but none who show cattle. In that case, you may have much more ready access to assistance and advice about goats than cattle.

Where can you keep an animal? If you have a barn, is it really conducive to the species you're interested in? For example, hogs love to root and dig. If this would be detrimental to the space you have available, then maybe you would need to pour some concrete or select another species. But if you just have an outdoor lot with a simple shelter, then it may be no big deal at all if the hogs root and dig to their hearts' content.

You don't need a fancy setup to get started. I have seen lots of old horse stalls used for projects, as well as enclosed metal carports, pastures with run-in shelters, and other simple arrangements for housing animals. The main thing is that the shelter should be well-drained and well-ventilated, but not drafty. Generally, protecting animals from drafts in cold weather is much better than providing a heat source. Plus, if the barn is very drafty, most heat sources will be fairly ineffective. If you use heat lamps, keep in mind that they must be very well secured to prevent fires. The smaller livestock species need about 10 square feet of pen space per head, while cattle will need 35 to 40 square feet per head. You'll also need space to tie up ruminant animals, as well as area for washing, clipping and grooming.

If you are considering goats, they are generally the lightest weight species and are relatively easy to transport. Since feed intake is largely a function of body weight, goats usually require the least amount of feed over a typical project period. Over 90 days, for example, most goats will consume less than 250 pounds of feed, in addition to hay. Goats are always shown with either a halter or collar, and I think this is why so many very small children get started with goats. Goats don't require a lot of equipment to groom, although it's important to wash, dry and condition their hair regularly, especially on their legs. And if you get more competitive with goats, you'll probably want to learn to use adhesive, combs and powder to fit their leg hair for show. A simple canvas or mesh blanket is a good

idea once market goats have been clipped short for show.

Lambs have greater market weight and size than goats, and therefore they consume relatively more feed. Lots of younger showmen use a halter when showing lambs, but to be competitive in showmanship, it's critical to show that lamb with nothing on it. That requires some skill and strength, or a very well-trained lamb, for smaller showmen. Lambs can be clipped on show day with the same kind of large clippers used to slick market goats, but lambs will need an initial roughing out with a set of sheep shears, at least to get the wool short enough for clippers to work on it. Sheep also need some sort of cover once they're shorn, such as cotton lamb tubes and either canvas or mesh blankets, depending on the season.

Hogs probably require the least equipment to get started, but they possibly require the most patience! Hogs are incredibly smart and can also be incredibly stubborn, so getting a hog to do what you want it to do requires practice and developing trust. With hogs you'll need a whip or cane to drive the hog, and you'll need to devote time to training the pig to respond to your driving cues and developing stamina to be able to walk for the duration of a long class. While show pigs are relatively easy to find in our area and sometimes less expensive to buy than other species, their feed intake as a percentage of body weight is higher than any other species. Hogs can eat up to 6.5% of their body weight when they are small, down to around 4% when they are over 200 pounds. It can require over 750 pounds of feed to get a 40-pound pig to 280 pounds. Still, swine projects are as popular as ever. Hogs are clever and I've seen many kids of the course of my career really take to showing pigs and have a blast with them.

Compared to the other species, cattle require the greatest investment of time, space, feed and equipment. But they are a longer-term project also. For example, if you invest in a young, weaned heifer, your child may be able to show her for 1.5 years, until she is two. A light steer may be able to cross over from a spring county show season and go on to state fair, or you may show a young steer at the state fair as a feeder calf and then grow him out for a spring show market steer. Cattle need consistent, calm handling to be prepared for show day. Spending time tied up every day will help them develop patience and learn to stand with their head held high. Regular washing, rinsing and drying develops a thick, healthy coat. Feed conversion of cattle is about 5 to 1 at best, so it would require at least 3000 pounds of feed to grow a 800 pound feeder calf to a market weight of 1400 pounds.

I hope this article has provided some good food for thought if you have a child interested in showing livestock. These projects are a great way to develop responsibility, sportsmanship and other life skills. Many families cherish the time they spend together enjoying their kids' animals and making memories. If you want that for your family, reach out to your Livestock or 4-H Agent and find out more about the opportunities in your area.