

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES**December 22 (Edition #126)**

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Hello, Coshocton County! It is Christmas week and yesterday we slept through the longest night of the year marking the winter solstice. Gradually, we will trudge through winter and before we know it, it will be springtime!

At OSU Extension, we are busy taking registrations for pesticide re-certification and planning our winter Extension programs. Next week's edition will share information on the virtual and in-person programs which we have planned for you to kick-off 2022.

Discussions continue about supply-chain shortages and the sticker shock of many inputs for next year's crops especially fertilizer. I encourage you to use the next few weeks to push the pencil and develop sound budgets which can help drive your decision making.

On behalf of OSU Extension, I would like to wish each of you a very Merry Christmas. Enjoy time with your friends and family!

Sincerely,

David L. Marrison

Coshocton County OSU Extension ANR Educator

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THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL,
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Weather Update: Winter Off to a Warm, Damp Start

By: Aaron Wilson

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2021-41/weather-update-winter-warm-damp-start>

Summary

Temperatures across Ohio have been running 2-6°F above average (1991-2010; Figure 1) during the month of December, almost guaranteeing another top 10 warmest year on record for the Buckeye State (1895-present). Daily average soil temperatures remain above freezing, with upper 30s to low 40s across the north and low to mid 40s across central and southern counties.

Precipitation, mainly in the form of rain, has been plentiful as well with a large portion of the state picking up 2-4 inches of precipitation since December 1. Pockets of heavier precipitation can be found across portions of southwest, north central, and southern Ohio. Snowfall has been very light, even across the snowbelt areas of the northeast, with less than 1 inch statewide.

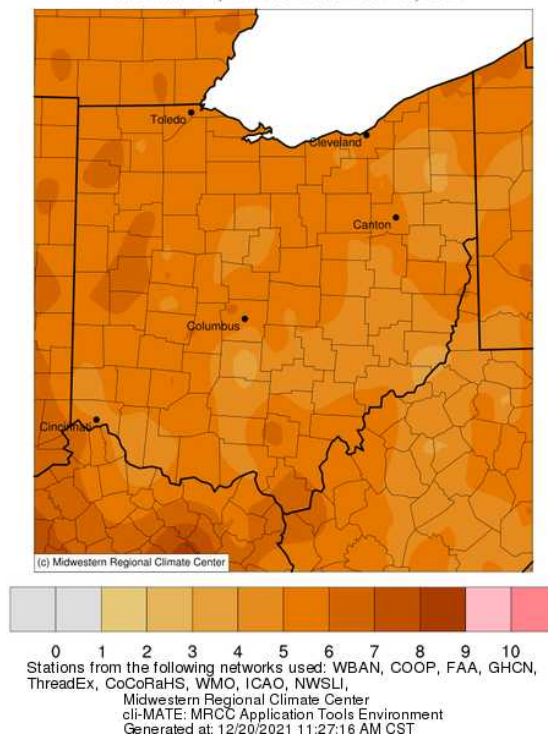
Forecast

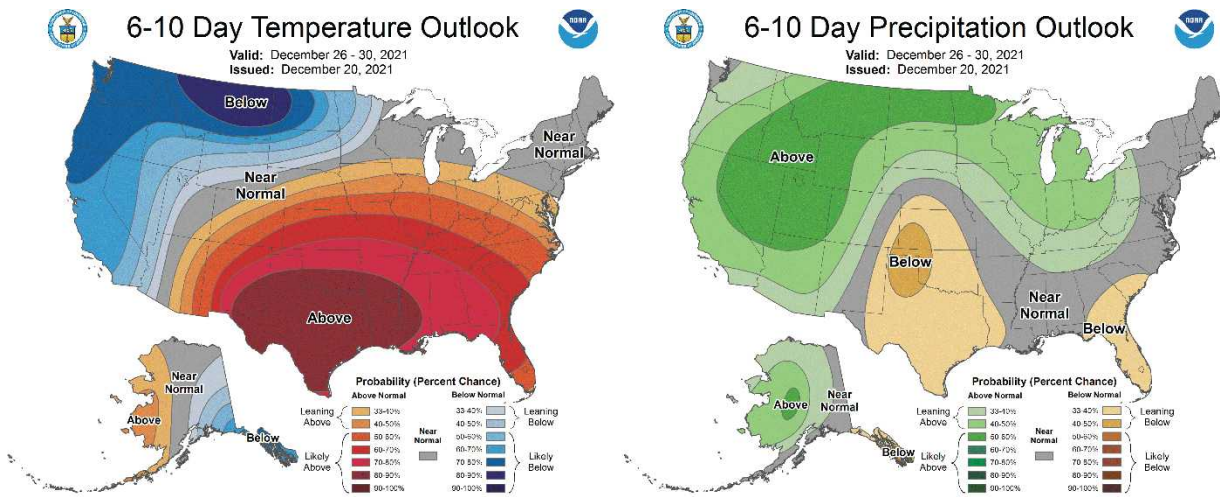
High pressure will remain anchored across the Ohio Valley for the next couple of days, with cool daytime highs in the upper 30s to mid 40s. A weak cold front could bring a few snow showers in its wake to northeastern counties on Wednesday along with colder temperatures statewide. A stronger low-pressure system will push toward the Great Lakes on Friday, bringing a surge of warmer air and rain showers to the region through Friday night into Christmas morning. Conditions will slowly dry out on Christmas Day with mild temperatures in upper 40s to low 50s. Seasonally average temperatures should follow for the beginning of next week.

The [Weather Prediction Center](#) is currently predicting up to 0.50 inches of precipitation over the next 7 days.

The [Climate Prediction Center's](#) 6–10-day outlook for the period of December 26 - 30, 2021 and the [16-Day Rainfall Outlook from NOAA/NWS/Ohio River Forecast Center](#) indicate that temperatures are likely to be above average with above average precipitation. Climate averages for this period include a high temperature range of 37-41°F, a low temperature range of 23-26°F, and average rainfall of 0.55-0.85 inches.

Average Temperature (°F): Departure from 1991-2020 Normals
December 01, 2021 to December 20, 2021





Know Your Options Before You Raise Hay Next Season

by: Ed Brown, OSU Extension Educator ANR, Athens County

Source: <https://u.osu.edu/sheep/2021/12/14/know-your-options-before-you-raise-hay-next-season/>

Over the last few months, we have been seeing food costs rise. At the same time, the cost of feeding your hay field has risen. Nitrogen prices are now at an all-time high.

While shopping for groceries, we can make choices as to what we will buy and what we will leave on the shelf. Maybe we put the prime rib back and get the ground round. These choices can be made quickly while standing in the grocery store aisle, but can we do this with our hayfields? The short answer is, yes.

Now that we are at the start of winter, you may have a few minutes to consider a plan for the next hay season. You may have more options than you think. The first step is to take a soil sample and see where things stand. This is a great time of year because the testing labs are less busy, and you have time to make a plan before everything gets going in the spring.



No hay

The first option is not to raise hay at all. Turn that field into a pasture and put the cows, sheep, or goats on it. Cattle, sheep, and goats are great at nutrient recycling. They eat, grow, and then leave nutrient deposits all over the place. You may ask "what about feeding them through the winter? I need hay to feed my animals." I would say, "Let someone else do the work and take on the added expense." Most people undervalue their hay. We've done the research. We know the numbers. Fescue hay, for example, has approximately 36 pounds of nitrogen, 14 pounds of phosphorus, and 48 pounds of potassium per ton of dry matter. If you calculate cost per pound of each of those nutrients, you can calculate the value of a ton of hay just in nutrients. This is before you even add in the cost of equipment and labor. The added benefit is that the animals spread someone else's nutrients on your pasture.

Other sources

The second option is to look for alternative sources of nutrients. This may include poultry litter, pen-pack manure, dairy cleanout, or other manure-based waste. You can have the nutrient value tested or use the averages for that type of manure. Many of these are inexpensive or free, with most of the cost in hauling and spreading. With this option, you will have to determine how much manure per acre you are spreading. Fortunately, we can teach you how to do this. Just contact your local extension office and ask for the directions. Just remember, we don't recommend spreading on frozen fields, as there is a potential for nutrient runoff.

No fertilization

A third option is to not fertilize at all. Depending on the current nutrient levels of your fields, this could draw them down and cut the quantity or quality of hay that you will make. It could also completely deplete the nutrients and cause grass dieback. It could also lead to more weeds becoming established. Some weed species thrive in less-than-ideal conditions. If you choose this option, at the minimum, take a soil test and know where you stand going into next season.

Buying fertilizer

The final option is to go ahead and fertilize the fields. Before going out and buying some fertilizer, you're going to have to do a little math. Since we know the amount of nutrients that each bale of hay should contain, you can calculate the value of those nutrients. Add in the cost of labor and production and then set your hay price accordingly. You are ready for hay production. With this option, make sure to get a soil test, book your fertilizer, and get ready when spring comes. Whatever option you choose, be sure to take some time this winter to evaluate your fields and your goals. Planning now and preparing for the next growing season will help you make the best decision as you feed your fields.

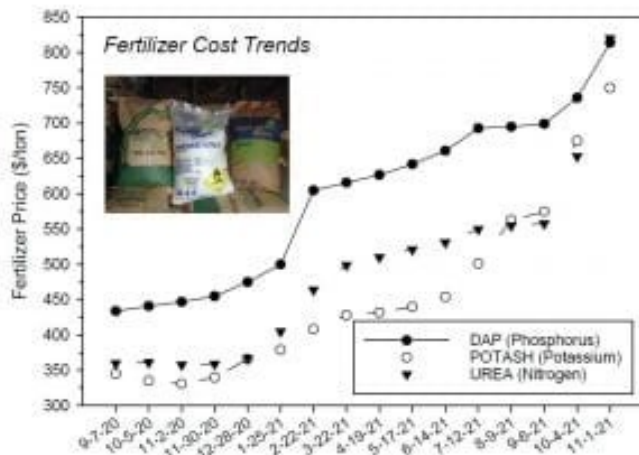
Tips for Weathering High Fertilizer Prices

By: Chris Teutsch and John Grove, UK Research and Education Center at Princeton

Source: <https://u.osu.edu/beef/2021/12/22/tips-for-weathering-high-fertilizer-prices/>

In the last year, the cost of fertilizer had increased more than 125%, 85%, and 115%, for urea (nitrogen), diammonium phosphate (phosphorus), and muriate of potash (potassium), respectively (Figure 1). The price of nitrogen could continue to increase due to the idling of N manufacturing capacity caused by weather issues and increased natural gas and shipping costs. Nitrogen prices could conceivably reach \$1.00/lb N early next year. So, the question becomes what management strategies ruminant livestock producers could use to manage soil fertility as fertilizer markets continue to experience volatility.

Management Strategies: No “Silver Bullets”



Nutrient Cycling in Cow-Calf Systems

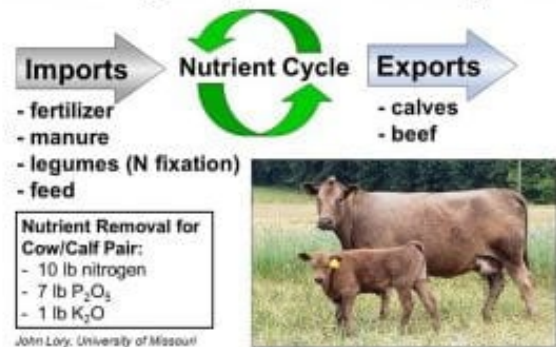


Figure 1. Fertilizer price trends for nitrogen (urea), phosphorus (DAP) and potassium (muriate of potash). the last 12 months fertilizer prices have increased more than 50% (Data from Russ Quinn at DTN).

Figure 2. Few nutrients are removed from grazing systems. Nutrients enter grazing systems via feed, fertilizer, and nitrogen fixation in legumes and are recycled by grazing and deposition of dung and urine and decomposition of plant residue and senesced roots (Illustration by Chris Teutsch, UKY).

We wish we had a miracle cure for high fertilizer prices, but we don't. And we would caution you to closely scrutinize claims from retailers of products that are offering you something that sounds too good to be true. One competitive advantage that well managed grazing systems have is that nutrient removal is very low and with good grazing management strong nutrient cycles can be developed (Figure 2). Below you will find some

strategies that can be implemented to help you get through the current period of high fertilizer prices.

Soil test pastures and hay fields. You are probably saying to yourself why in the world would I even bother soil testing when fertilizer prices are so high. It is impossible to manage something without data. A soil test allows you to target fertilizer applications to fields that have the potential to respond. If the P or K soil test level for a given nutrient is in the low range, then the probability of a yield response is high (Table 1). If the P or K soil test level is in the medium or high range, the probability of a yield response diminishes. So, our best advice at this time is that if your soil test value is a SOLID MEDIUM, do NOT apply that P or K fertilizer until prices moderate.

Table 1. Probability of forage yield response for soil test levels ranging from very low to very high (Edwin Ritchey and John Grove, personal communication, April 19, 2021).

UKY Soil Test Level	Probability of Yield Response†
Very High	0%
High	<25%
Medium +	25 to 50%
Medium	50%
Medium -	50 to 70%
Low	70-90%
Very Low	>90%

†These are estimates and will vary with soil type and environmental conditions.

Monitor soil test levels in hayfields closely. Since hay removes much higher quantities of nutrients than grazing, it is important to closely track nutrient levels and apply P or K fertilizer when soil test values drop below the MEDIUM range. This will prevent nutrient mining and yield decline.

Apply lime according to soil test. Soil acidity or alkalinity can have a profound impact on soil nutrient availability to forage plants (Figure 3). Maintaining soil pH between 6.0 and 7.0 results in the greatest availability of macro- and secondary-nutrients such as nitrogen, phosphorus, potassium, magnesium, and sulfur. In contrast to fertilizer prices, lime costs have remained about the same. If your soil test indicates that you need lime, it will likely be the best buy you can make at the current time.

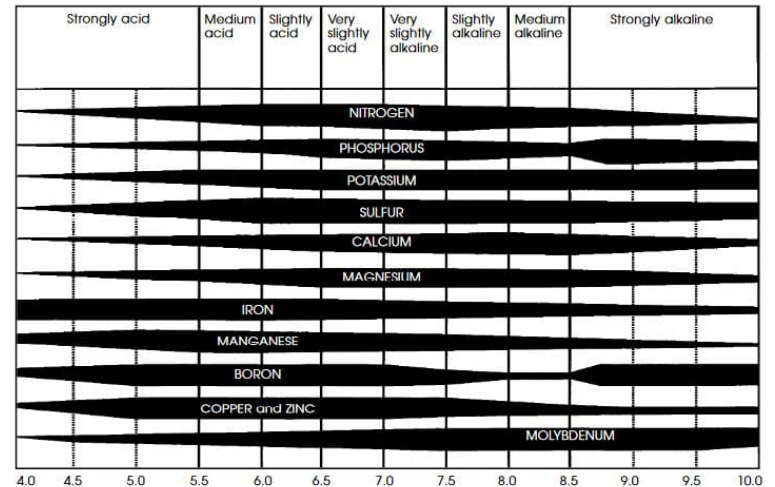
Capitalize on nutrients in hay. Every ton of hay contains approximately 50 lb N, 15 lb P₂O₅, and 50 lb K₂O. The current value of the nutrients in one ton of hay is approximately \$50. How we manage hay feeding will determine the actual value of these nutrients. If we feed hay in one paddock near the barn, then the value of these nutrients will be low because they will be concentrated in one small area. In contrast, if we move feeding points and feed the hay on pastures with lower soil test values, then the value of the nutrients in hay will be higher.

Implement rotational stocking. This doesn't sound like much of a nutrient management strategy, does it? In large continuously stocked pastures, animals will consume nutrients in the form of forage and concentrate them around shade and water sources in the form of dung and urine. One way to improve nutrient distribution in pastures is to subdivide and implement rotational grazing. Confining livestock to smaller areas for short periods of time significantly improves dung and urine distribution.

Replace commercial nitrogen by overseeding clover into pastures. Legumes fix nitrogen from the air to a plant available form via symbiotic nitrogen fixation, improve forage quality and animal performance, and dilute the toxic effects of the endophyte found in tall fescue. Red and white clover are estimated to fix between 50 and 120 lb N per acre per year. This fixed nitrogen is indirectly shared with legumes through grazing and the associated deposition of dung and urine, through death and decomposition of above and below ground plant parts, and the senescence of root nodules.

Frost seed clover in February. The simplest and most cost-effective way to introduce clover into pastures is by broadcasting 6-8 lb of red clover/A and 1-2 lb of ladino clover/A onto closely grazed pastures in February and allowing the freezing and thawing cycles to incorporate the seed. Allow animals to remain on these pastures until the new clover seedlings have become tall enough to be grazed off. At this point, remove animals and allow the seedling to reach a height of 8-10". At this point, these pastures can be incorporated back into the rotation.

Determining nitrogen fertilizer needs. There are no good soil tests for N, so use university rate recommendations. Most rate recommendations are a 'range', so consider an application rate at the lower end of the range when fertilizer N prices are high. Consider your personal experience with N response in your pastures and hayfields. Well managed pastures that have a strong legume component and are rotational stocked can have strong nitrogen cycle. This will tend to make them less responsive to nitrogen fertilizer. Remember, more N drives more grass growth, BUT it is only a good investment if the additional forage will be utilized!



Take Home Points

Although there is no "silver bullet" for high fertilizer prices, some key management strategies will help you weather these high prices in the short-term and develop grazing systems that are less dependent on commercial fertilizer inputs in the long-term.

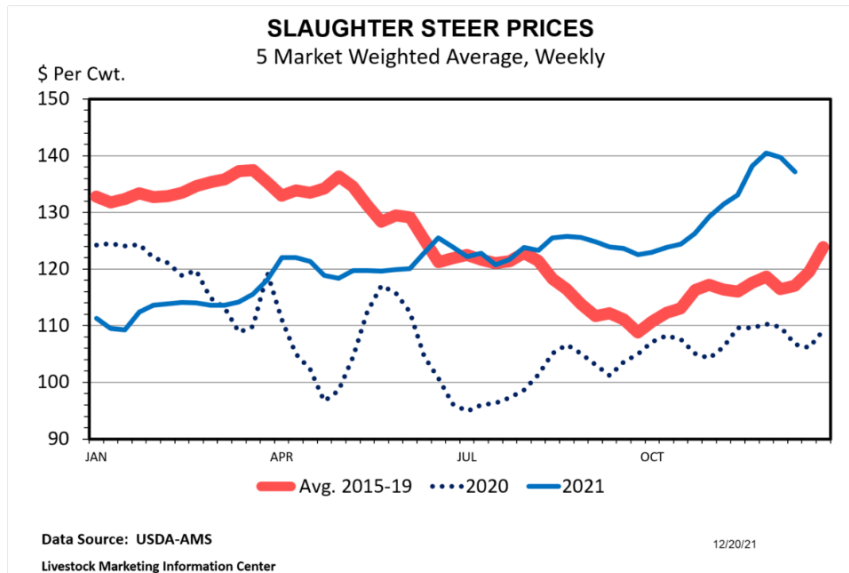
1. Soil test pastures to provide baseline data for short- and long-term fertilizer management.
2. Do NOT apply P and K fertilizer to pastures testing MEDIUM until fertilizer prices moderate.
3. Apply needed lime to pastures according to soil test to make nutrients in the soil more available to forage plants.
4. Closely monitor soil test levels in hayfields to prevent nutrient mining and yield decline.
5. Feed hay on pastures with low soil test values.
6. Move hay feeding points around the pasture to improve nutrient distribution.
7. Implement rotational stocking to improve dung and urine distribution in pastures.
8. Frost seed clover into pastures to improve forage quality, help with tall fescue toxicosis, and fix atmospheric nitrogen into a plant available form.
9. Apply fertilizer nitrogen at the lower end of the recommended rate range, knowing that you will use resulting grass growth.

Turning the Page on a Year of Transition

By: Kenny Burdine, Livestock Marketing Specialist, University of Kentucky

Source: <https://u.osu.edu/beef/2021/12/22/turning-the-page-on-a-year-of-transition/>

In a lot of ways, 2021 was another frustrating year for cattle producers. Prices did improve this year for fed cattle, feeder cattle, and calf markets, but by relatively moderate amounts on an annual basis. When compared to price improvement for other commodities, cattle markets seem to have been a bit late to the party. Not to mention that CFAP payments offset some of the price regression in 2020 and similar payments were not available for 2021. While forage was relatively abundant in my area this year, some regions of the US are dealing with significant drought. And, it's hard to grasp the damage done by the massive tornados of last weekend in much of the South, including my home state. Finally, changes in feed prices (and other inputs) have driven up production costs and impacted the value of feeder cattle and calves. Still, as I think about the future direction of cattle prices, I think that 2021 is likely going to be remembered as a year of transition.



It appears that we turned the corner on fed cattle supply and beef production this year. While beef cow inventory peaked in 2018, 2021 will actually end up being the peak in beef production due to the normal time lag of beef production and the supply impacts of COVID in 2020. Feedlots appeared to get much more current with marketings by fall and fed cattle prices rose sharply in the 4th quarter. Since beef cow inventory has continued to decline and calf crops have continued to get smaller, tighter supplies should continue to support fed cattle prices going forward.

These dynamics began impacting feeder cattle markets in the second half of this year as well. As is often the case, heavy feeder cattle markets saw improvement first and prices rose sharply through the summer. Seasonal tendencies are very difficult for calf markets to overcome and calf prices did decline from the end of summer into the fall. However, strong spring and summer CME® feeder cattle futures are supporting calf prices and the first three weeks of December have been encouraging as calf markets have made an early winter rally. Calf prices tend to increase as we move towards grass, so seasonality should work in our favor between now and spring.

I think a lot of the frustration amongst cattle producers has been because we seem to have been stuck in this rut for three years. The year 2021 will mark the fourth year of beef cow herd liquidation, but price improvement has been very limited. Whether it was COVID-19, rising grain prices, or any other factor, cattle producers have been waiting a long time to see significant improvement in feeder cattle markets. But, I think the transition that we observed in the second half of 2021 was a necessary step towards seeing that happen. Without a doubt, the cattle markets will face challenges in the coming year, but it does appear that we have turned a corner and should see a more bullish market in 2022.

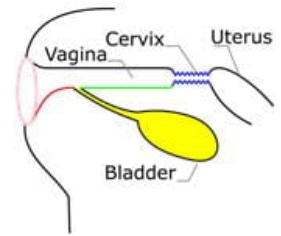
Prolapses in Sheep

By: Isabel Richards, Veterinary Science – South Africa and owner/operator of Gibraltar Farm
(Previously published with the [Eastern Alliance for Production Katahdins \(EAPK\): December 12, 2021](#))
Source: <https://u.osu.edu/sheep/2021/12/14/prolapses-in-sheep/#more-4820>

There are three structures that can prolapse and be visible under a ewe's tail: vagina, uterus, and rectum. Vaginal and uterine prolapses can negatively affect ewes around lambing and will be discussed here.

Vaginal Prolapse

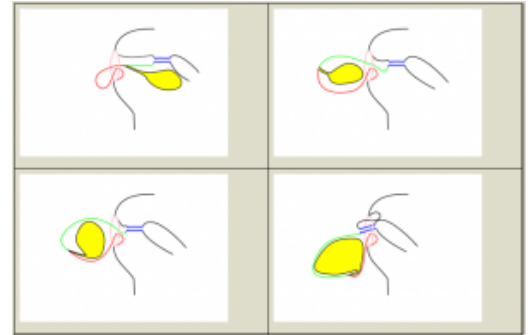
A vaginal prolapse occurs when a ewe's vagina protrudes out of her vulva. Most prolapses occur in the last few days or weeks of pregnancy. It usually starts with the ewe laying down and you just see a small little ball of red tissue protruding from the vulva that retracts when she stands up. This is the ideal time to start treatment and prevent it from progressing to a much more serious situation.



If left untreated, more of the vagina will start protruding. This tissue is not supposed to be exposed to the elements and with time it becomes dried out, contaminated with bedding and fecal matter and infection can set in. This is uncomfortable for the ewe and she will start straining, pushing more and more tissue out and making the situation worse. Often the bladder will get caught up in the prolapse and, as it starts filling up, the urethra gets kinked closed, leading to her not being able to urinate. This leads to even more straining, as she is uncomfortable and trying to urinate without success. With continued straining more tissue is pushed out and the cervix can be seen as part of the prolapse.

Untreated vaginal prolapse can lead to:

- Abortion or stillborn lambs due to infection entering the normally protected uterus. In the worst case you can lose the ewe too, if the lambs die without her going into labor.
- Ruptured bladder if she is unable to urinate. This will lead to the ewe dying unless it is repaired surgically.
- Damage to the vaginal wall leading to complications during lambing.
- Full tear of the vaginal wall with intestines or uterus being pushed out.
- Improper dilatation of the cervix when she goes into labor, leading to the lambs and ewe dying if you do not intervene.



There are retainers or spoons as well as commercial and homemade versions of harnesses available to keep a prolapse from reoccurring. If you catch it at the stage where the tissue looks normal and the prolapse pulls back in when she stands up, you can just apply a harness and monitor her for recurrence until she lambs. More severe prolapses that do not retract by themselves should be cleaned and lubricated well before gently replacing them and then applying a spoon or harness. If the tissue appears dried out or damaged you should treat her with antibiotics and anti-inflammatories to prevent/treat vaginitis. Otherwise, she will continue straining and make it very hard to get her through to lambing. If the prolapse is very large the bladder is likely caught up in it. Lifting up the whole prolapse towards her tail will often straighten out the kink in her urethra enabling her to urinate and making the prolapse much smaller so you are able to replace it. If you have never experienced a vaginal prolapse in your flock, contact your veterinarian so they can show you the proper way to replace a prolapse and advise you on treatment.

Keep the spoon or harness in place until she lambs. The commercial products claim that ewes can lamb around them but if you see the ewe in full labor, you can remove them to make things easier for her and the lambs. Monitor her after lambing as some ewes will progress to uterine prolapse, especially if there are lambing complications. Other ewes might have a recurrence of their vaginal prolapse after lambing and require a spoon or harness for a few more days.

Ewes that prolapse vaginally are likely to prolapse again in future pregnancies so culling the ewe after her lambs are weaned is recommended. There might be a genetic component to this so many shepherds will cull her offspring too.

There are a lot of hypotheses about what causes or contributes to vaginal prolapse. Researchers have been studying the causes of vaginal prolapse but have not been able to consistently induce vaginal prolapse in ewes by employing the factors that they identify. The right combination of predisposing factors appears to be necessary to express this condition in ewes, pointing to a complex combination of probable causes. A survey done in Scotland in the 1980's found that some flocks had no prolapses, some had between 0.1 and 1% of their flock with prolapses and 6% of farms had over 5% incidence of prolapses. If you are seeing a lot of prolapses in your flock you might want to consider some of these possible causes.

Ewes that are too fat – Excess fat in the abdomen decreases the amount of room available for the rumen and pregnant uterus to expand, leading to increased pressure. One study overfed a group of ewes (50% of which had a vaginal prolapse during their last pregnancy) during late pregnancy. 20% of the previous prolapse group re-prolapsed while none of non-prolapse group did. So, being fat by itself does not appear to be enough to cause vaginal prolapse. Another study found that ewes that gained weight between mating and pregnancy scanning did have an increased rate of prolapse but fat ewes that were already fat at mating did not have an increased risk of prolapse.

Ewes carrying multiple lambs – More lambs take up more room in the abdomen. They also need more nutrients so the ewe needs to eat more. Together these factors lead to increased pressure in the abdomen. The risk for prolapse does increase with more lambs, but lots of ewes carry triplets and quads to term without prolapse. Carrying more lambs increases the risk for developing a vaginal prolapse but just by itself does not cause prolapse.

Feeding a bulky diet in late pregnancy – One study found no difference in feeding sheep grain or hay in late pregnancy. Another study also did not find increased risk based on what was fed but did find increased risk if ewes are overfed. Other studies have found increased prolapse risk with low quality feeds. One study did find a protective effect feeding grain divided into two meals rather than one big meal per day. Studies looking at intraabdominal pressure did not find that high fiber diets increase intraabdominal pressure in most animals

Inadequate calcium – smaller studies have found lower calcium levels in ewes that prolapsed vs those who did not. A study comparing flocks with a high incidence of prolapse with those who have low incidence did not find significant differences in calcium between the groups. Another study did find that injecting Vitamin D (which has an effect on calcium metabolism) had a protective effect in adult ewes but did not make a difference in 2-year-old ewes. Another study found that ewes with high phosphate levels were more likely to prolapse.

Genetics – Different breeds of sheep have different rates of prolapse which would suggest a genetic component. It is also seen in certain families within sheep breeds. Studies looking at the overall incidence of prolapse in large studies, however, did not find a reduction in incidence when culling affected ewes and their offspring, which shows that there is an environmental component, too.

Lack of exercise – Grazing animals spend more time walking around vs ewes in a barn that eat at the hay feeder and then lay down, leading to longer times of increased intraabdominal pressure in housed animals. Exercise also helps to increase general muscle tone that can be protective

Feeding high estrogen content diet – Studies have found higher blood estrogen levels in sheep with vaginal prolapse so added phytoestrogens in feed can contribute to prolapse. A lot of sheep are fed alfalfa or clover in late pregnancy with most of them not prolapsing, so this also appears to be a contributing factor but not a cause of prolapse in and of itself. Mycotoxins in feed can also have estrogen-like activity.

Grazing on steep terrain – Studies in New Zealand and Great Britain have found higher incidence of prolapse on farms in hilly areas. When pregnant ewes lay down they prefer laying with their heads up-hill so their full bellies do not put pressure on their lungs, however this puts a lot of pressure on their genital tract and can lead to prolapse. A survey in Scotland in the 1980's however found a higher incidence in flat land flocks compared to hill flocks.

Age – Some experience more vaginal prolapses in adult ewes, while others see more in ewe lambs and first

time lambers.

Uterine Prolapse

A uterine prolapse occurs when a ewe continues pushing after lambing and pushes her uterus out through her vagina. Where a vaginal prolapse is smooth, a uterine prolapse is covered in multiple round, raised caruncles that look like little meatballs. The placenta is sometimes still attached to these structures. A ewe cannot prolapse her uterus and still be pregnant, so there should be a lamb or an aborted fetus somewhere.

Treating a uterine prolapse is an emergency. The uterus will easily get dried out, contaminated by feces and bedding and can easily be torn if it gets caught on something or stepped on by a lamb or another ewe. It is much harder to replace a prolapsed uterus, so ideally you will have your veterinarian do it. While waiting for them, separate the ewe (and her lamb if alive) from the other ewes. Let the lamb suckle if they are able to. Oxytocin is produced when lambs suckle and that will help the uterine muscles contract and shrink down. If the ewe is amenable to it, you can wash the uterus and cover it with a moist towel while you wait. This tissue is very friable so be sure to handle the prolapse gently so you do not damage or tear the uterus. If you are unable to get a veterinarian to replace the uterus for you and are forced to attempt it yourself, you can try the following.

Pour sugar on the tissue and then re-cover it with a towel and let it sit for a few minutes. This will draw some of the fluid out and shrink the tissue some more. Thoroughly wash off the sugar, lubricate the tissue well and gently start pushing the tissue back in. It will take time and she will strain. Stop pushing while she strains and continue when she stops. The uterus is turned inside out like a sock, so you will have to push in at the top, then the sides, then bottom and keep working your way around rather than just trying to push it all in at one spot. Keep working at it and work gently; remember this is friable tissue and a uterine tear can be deadly. When you get to the point where all the tissue is replaced into the vagina, be sure to reach in and make sure that the individual horns are turned back into their normal position, as she will re-prolapse if you do not. Your veterinarian will likely infuse some sterile fluid into the uterus after replacement to make sure that the horns are turned out back into their proper position. A prolapse harness can be applied to prevent recurrence. The ewe should be treated with antibiotics and anti-inflammatories to prevent metritis (uterine infection).

Uterine prolapse is a mechanical problem caused by excess straining after a hard lambing. There does not appear to be a genetic component. Most ewes should breed back and lamb without problems in the future. If there is a lot of damage to the uterus the ewe might not breed back.

Editor's Note: For a full list of Resources and References that support this article and its accompanied images, please visit the original posting [Eastern Alliance for Production Katahdins \(EAPK\) webpage](#).

Judicious Use of Antibiotics-What's Next for a Beef Producer?

By: Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

Source: <https://u.osu.edu/beef/2021/12/15/judicious-use-of-antibiotics-whats-next-for-a-beef-producer/>

The Food and Drug Administration (FDA) is continuing to implement strategies to promote the *judicious or appropriate use of antibiotics considered important in human medicine when they are used in food-producing animals. FDA's goal is to curb the development of antibiotic-resistant bacteria and in turn reduce the risk of human infections that are difficult to treat due to ineffective antibiotics. On June 11th of 2021, FDA finalized a Guidance for Industry (GFI) #263, which outlines the process for animal drug manufacturers to change all remaining antibiotic formulations used in animal health care from over-the-counter (OTC) to prescription status. Manufacturers will have two years from the date of issue to make this label change to their products. Basically, this means products commonly used by beef producers such as injectable penicillin and oxytetracycline (for example, LA-300) will no longer be available without a prescription as of June 2023.

The new GFI #263 is an extension of an earlier guidance published in 2013 designated GFI #213. As of January 2017, GFI #213 effectively moved all OTC antibiotics used in feed to Veterinary Feed Directive (VFD) status and those used in drinking water to prescription (Rx) status as well as eliminated production uses such

as growth promotion. Of the 292 drugs affected by this government directive #213, 93 products used in drinking water were converted to prescription status; 115 products used in feed were converted from OTC to veterinary feed directive status; and 84 were removed from the market. Production indications were withdrawn from 31 product labels. With full implementation of GFI #213, approximately 96% of medically important antimicrobials used in animals are now under veterinary oversight. Once the recommendations in the new GFI #263 are fully implemented, all dosage forms of medically important antimicrobials approved for use in animals will only be available from, or under the supervision of, a licensed veterinarian, and only when necessary for the treatment, control or prevention of specific diseases. Producers will have to consult their veterinarian to obtain all antibiotics in any form (injectable, bolus, topical, intramammary) or for a prescription to purchase them from a distributor.

FDA's new strategy with GFI #263 is primarily focused on "medically important antimicrobial drugs" that are available without a prescription and can be given without a veterinarian's involvement. This includes, but is not limited to, beta-lactams (Penicillin G, Cephapirin), aminoglycosides (Gentamicin), lincosamides (Lincomycin), macrolides (Tylosin, Erythromycin), sulfonamides (Sulfadimethoxine, Sulfamethazine, Sulfachlorpyridazine) and tetracyclines (Oxytetracycline, Chlortetracycline). FDA first developed its list of antimicrobial drugs (antibiotics) considered "medically important" in Guidance #152, Evaluating the Safety of Antimicrobial New Animal Drugs with Regard to Their Microbiological Effects on Bacteria of Human Health Concern, published in October 2003. This list is available in Appendix A of GFI #152 and can be accessed at the following link: <https://www.fda.gov/media/69949/download>. Medical "importance" of a drug is based on its efficacy in human medicine and other factors including the usefulness of the drug in food-borne infections, the types of infections treated, the availability of alternative therapies, the uniqueness of the mechanism of action, and the ease with which resistance develops and is transferred between organisms. There are several growth promotion products in the cattle industry that are not listed in Appendix A. Bacitracin, bambarmycins (Gainpro®), laidlomycin (Cattlyst®), and ionophores (such as monensin and lasalocid) are not affected by this GFI.

The FDA has made available a webpage entitled "GFI #263: Frequently Asked Questions (FAQs) for Farmers and Ranchers" available at <https://www.fda.gov/animal-veterinary/judicious-use-antimicrobials/gfi-263-frequently-asked-questions-farmers-and-ranchers>. One specific question of interest addressed on this website is "Will a veterinarian be required to physically examine each animal before writing a prescription?" The following answer is provided by FDA:

"Although specific requirements vary by state, veterinarians are generally not required to examine each individual animal for which a prescription is issued, as long as the veterinarian has established a valid veterinarian-client-patient relationship (VCPR) with the farmer or rancher that owns or cares for the animal(s) in need of treatment."

Establishing a VCPR generally requires, among other things, that the veterinarian has become familiar with the management of the animals on a given farm or ranch by examining the animals and/or visiting the facility where the animals are managed. [See Box 1 for KY VCPR Requirements] Farmers and ranchers may want to consult with their veterinarian to have a plan in place prior to the transition period, including a plan for getting access to appropriate antimicrobial products to address animal health issues when a not veterinary visit is not feasible or not considered necessary by the veterinarian."

During the two-year timeframe for implementation that began on June 11, 2021, FDA plans to work with affected stakeholders and state partners to answer questions about the voluntary transition process and provide assistance, hear feedback and answer questions about the guidance where possible. There are legitimate concerns regarding the increased cost of this legislation to beef producers and the lack of food animal veterinarians in many parts of the country. Similarly, veterinarians are concerned about the increased regulatory burden this move to prescription status will impose. The guidance document and a link for submission of comments can be found at <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/cvm-qfi-263-recommendations-sponsors-medically-important-antimicrobial-drugs-approved-use-animals>. **The FDA is reaching out to stakeholders for input and public comments. Comments on the proposal are due online via www.regulations.gov by December 24, 2021.**

Box 1

321.185 Veterinarian-client-patient relationship (VCPR)

(1) In order for a veterinarian to practice veterinary medicine, a relationship among the veterinarian, the client, and the patient shall be established and maintained.

"Veterinarian-client-patient relationship" means that:

- (a) The veterinarian has assumed the responsibility for making judgments regarding the health of the animal and the need for veterinary treatment, and the client, whether owner or other caretaker, has agreed to follow the instructions of the veterinarian;
- (b) There is sufficient knowledge of the animal by the veterinarian to initiate at least a general or preliminary diagnosis of the medical condition of the animal. This means that the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal by virtue of an examination of the animal or by medically appropriate and timely visits to the premises where the animal is kept; and
- (c) The practicing veterinarian is readily available or shall provide medical service for follow-up in case of adverse reactions or failure of the regimen of therapy. A new regimen of therapy shall be contingent only upon cooperation of the client and availability of the subject animal.

Comments may also be submitted by mail to:

Dockets Management Staff

HFA-305

Food and Drug Administration

5630 Fishers Lane, Room 1061

Rockville, MD 20852

Comments should reference docket number FDA-2019-D-3614.

*What is "Judicious Use"? "Judicious use", according to FDA, is using a drug appropriately and only when necessary. The development of resistance to medically important drugs, and the resulting loss of their effectiveness, poses a serious public health threat. Misuse and overuse of antimicrobial drugs creates selective pressure that allows resistant bacteria (the "bad bugs") to increase in number faster than susceptible bacteria and is hypothesized to transfer through the food chain to humans, potentially increasing the opportunity for individuals to become infected by resistant bacteria. This scenario may result in treatment failure or a prolonged course of disease in a human patient because the antibiotics routinely used for that condition were not effective (for example: methicillin-resistant Staph. aureus or MRSA). Because antibiotic overuse contributes to the formation of drug resistant organisms, these important drugs must be used carefully in both animal and human medicine to slow the development of resistance.

No Christmas Gifts for Agriculture-But Some for Ohio

By: Peggy Kirk Hall, Associate Professor, Agricultural & Resource Law Monday, December 20th, 2021

By: Peggy

Source: <https://farmoffice.osu.edu/blog/mon-12202021-346pm/no-christmas-gifts-agriculture-some-ohio-legislation-moving>

The weeks since Thanksgiving have been busy ones at Ohio's Statehouse, but not a creature is stirring now as the legislature enjoys its Christmas recess. While agriculture didn't receive any final Christmas gifts from the General Assembly, a few bills advanced and may pass early next year. Here's a rundown of agricultural

legislation in Ohio.

Newly introduced Ohio legislation

S.C.R. 13 – Repeal Individual Income Tax. Sen. George Lang (R-West Chester) introduced a concurrent resolution on December 9, 2021 expressing an intention for the legislature to repeal the state personal income tax within ten years. The resolution cites disincentives to reside in Ohio, repeals by other states, and business climate impacts as justification for the intent to repeal the income tax. The Senate referred the measure to its Ways and Means Committee on December 15.

H.B. 484 -- Walleye as Official State Fish. Representatives Michael Sheehy (D-Oregon) and Lisa Sobecki (D-Toledo) introduced a bill that would designate the walleye as Ohio's official state fish. The bill was referred to the House Agricultural & Conservation Committee on November 16, 2021.

H.B. 507 -- Poultry Chicks. This bill to reduce the minimum number for poultry chicks sold in lots from six to three was introduced by Rep. Koehler (R-Springfield) on December 8, 2021.

Ohio legislation on the move

H.B. 440/S.B. 241– Agricultural Linked Deposit Program. Part of the “Ohio Gains Initiative,” these companion bills would make revisions to Ohio’s Agricultural Linked Deposit Program, which provides interest rate reductions of up to 3% on operating loans and lines of credit for farm operators and agribusinesses. The legislation would extend the program to agricultural cooperatives and replace the \$150,000 loan maximum to amounts as determined by the State Treasurer. The House passed the bill on December 9, 2021. The Senate Financial Institutions and Technology Committee reported out its bill on December 15, 2021, so the bill should head to the Senate floor soon.

H.B. 397– Agricultural Leases. For agricultural crop leases that don’t address how and when to terminate the lease, H.B. 397 would require a landlord who wants to terminate the lease to provide a written notice of termination to the tenant by September 1. The termination would be effective December 31 of the year notice is provided or on the date harvest is complete, whichever comes first. The House passed the bill on December 8, 2021 and the Senate referred it to the Senate Agriculture & Natural Resources Committee on December 15, 2021.

H.B. 321– Auctioneers. The proposal makes several revisions to auctioneers licensing, including eliminating the apprentice requirement and replacing it with a course of study in auctioneering at an approved institution; removing the oral exam requirement; increasing the number of written exams offered; removing the special auctioneer license; allowing auction firms to provide online or live auction services; and granting the Ohio Department of Agriculture authority over internet auctions, which are currently exempt from ODA oversight. The bill passed the House on December 9, 2021 and was referred to the Senate Agriculture & Natural Resources Committee December 15, 2021.

H.B. 95 -- Beginning Farmers. This legislation passed the House back on June 28, 2021 and finally received its second hearing before the Senate Ways and Means Committee on December 7, 2021. It proposes to allow individuals to be certified as beginning farmers and would establish income tax credits for certified beginning farmers who attend approved financial management programs and for owners who sell land and agricultural assets to certified beginning farmers.

S.B. 210 – Postnuptial Agreements. Spouses could agree to terminate or modify pre-nuptial agreements after marriage under this proposal, which would bring Ohio in line with many other states. The bill passed the Senate on November 16, 2021 and was assigned to the House Civil Justice Committee on December 7, 2021.

S.B. 246 – Income Tax. The goal of this bill is to avoid the federal State and Local Tax (SALT) \$10,000 deduction cap for federal income tax by allowing an electable individual income tax on a pass-through entity’s

income apportioned to Ohio and a refundable income tax credit for tax paid. It received its third hearing with the Senate Ways and Means Committee on December 14, 2021.

S.B. 247 – Income Tax. The sale of an ownership interest in a business would be considered business income for Ohio income tax purposes if federal income tax law treats the sale as a sale of assets or the seller materially participates in the business activities during the taxable year in which interest was sold or any of preceding five taxable years. If passed, the legislation would apply to any audits, refund applications, petition for reassessments, and appeals pending on or after the bill's 90-day effective date. The proposal had a third hearing with the Senate Ways and Means Committee on December 14, 2021.

Ohio legislation at a standstill

H.B. 175 – Water Pollution. This controversial legislation would exclude “ephemeral features”—those that result from surface water flowing or pooling in direct response to precipitation—from water pollution control programs. The bill passed the House in late September and received a second hearing in the Senate Agriculture & Natural Resources Committee on November 30 but has not received attention since that date.

S.B. 47– Overtime Pay. The proposal would exempt an employer from paying overtime for employer travel to and from a worksite, preliminary and postliminary activities, and minor tasks performed beyond scheduled work hours without authorization, such as checking email or phone messages. It passed the Senate in September and received a first hearing before the House Commerce and Labor Committee but no further action has occurred since October 26, 2021.

S.B. 257– Income Tax Credit for Donations to Townships. Qualifying donations of cash, property or services accepted by a township would receive a refundable state income tax credit of up to \$5,000 under this proposal. The bill has not received a hearing since its referral to the Senate Ways and Means Committee on November 10, 2021.

S.J.R. 3 – Constitutional right to hunt and fish. If passed, the joint resolution would place a constitutional amendment before Ohio voters that would guarantee the right to hunt, fish, and harvest wildlife, subject only to laws and rules that promote wildlife conservation and management or preserve the future of hunting and fishing. No action has been taken on the resolution since it received a second hearing before the Senate Agriculture and Natural Resources Committee on November 16, 2021.

Ohio Wraps Up 2021 Deer Gun Season

Source: Farm and Dairy Newspaper

<https://www.farmanddairy.com/news/ohio-wraps-up-the-2021-deer-gun-hunting-week/>

Ohio hunters harvested 70,413 deer during the 2021 deer gun week that concluded December 5, according to the Ohio Department of Natural Resources Division of Wildlife. Over the past three years, hunters checked an average of 65,280 deer during the same weeklong period, which marks an 8% increase in 2021.

During the deer gun week, hunters harvested 25,263 bucks (36% of deer taken), 36,096 does (51%) and 8,021 button bucks (11%). Bucks with shed antlers and bucks with antlers less than 3 inches long accounted for 1,033 deer, or 1% of the harvest. The top 10 counties for deer taken during the gun week include the following: Coshocton (2,403), Tuscarawas (2,204), Muskingum (2,107), Ashtabula (2,039), Knox (2,023), Guernsey (1,968), Carroll (1,767), Licking (1,712), Holmes (1,645) and Washington (1,483). Coshocton County also led the state in 2020 with 2,281 deer checked. Statewide in 2020, hunters took 71,651 deer.

Straight-walled cartridge rifles have become more popular each year since becoming legal for deer hunting in 2014. During deer gun hunting week, straight-walled cartridge rifles were used for 49% of checked deer. Shotguns accounted for 43% of the total. In addition, 6% were taken with a muzzleloader, 1% by archery equipment and less than 1% with a handgun.

Through Dec. 5, 2021, 80,178 deer have been taken by Ohio archery hunters. Plus, Ohio's youth hunters checked 7,634 deer during the two-day youth gun season, Nov. 20-21. While gun hunting remains a favorite season, the number of hunters pursuing deer with archery equipment is growing rapidly. For the eighth year in a row, more deer were harvested during the 2020-21 archery season than during the gun season. The number of hunters who hunt using multiple implements is also increasing. In 2020, nearly 75% of gun hunters also participated in the archery season.

A Christmas Look at Sheep and Shepherds

By: David Marrison

Written for The Beacon Newspaper, Publish Date of December 23, 2021

Hello, Coshocton County! This week, families all over the world will gather together to celebrate Christmas. My perception is that for many, Christmas is not the celebration of the greatest gift, but rather a pile of presents, gift cards, and over-indulgence. Today, as I look at our nativity scene, I would like to pause and share some thoughts about sheep and shepherds.

As a child I was intrigued by the importance of the animals such as the donkey, oxen, and sheep in the story of Jesus's birth. I often wonder why the shepherds were the first people to find out about the birth of Jesus. After all, in biblical times shepherds were held in very low regard. Shouldn't the birth of the King of Kings be announced to important dignitaries, esteemed high priests or royalty first?

So, let's look at sheep and shepherds. It has been said the oldest organized sector of agriculture is raising sheep. In fact, sheep are perhaps the most important animal in the Holy Bible as they are mentioned over 500 hundred times.

There are over 40 breeds of sheep in the United States. The Agricultural Census reports there are 127,000 sheep in Ohio and here in Coshocton County, 110 farms raise over 3,500 sheep and lambs.

Sheep belong to the ruminant family, and like cows, they have four compartments in their stomach to digest their food. The female sheep are called ewes, males are called rams and young sheep are called lambs. Sheep have poor eyesight but to compensate, they have been blessed with an excellent sense of smell and hearing. Sheep prefer to walk into the wind and uphill, rather than downhill and with the wind.



Sheep are used for the production of wool, meat and in some places, for milk. Many will argue that sheep's milk makes some of the finest gourmet cheese. A whole host of other products are produced from sheep including tennis racket strings, sausage casings, instrument strings, upholstery, footwear, luggage, artist brushes, yarn, and drumheads. The fat extracted from sheep, known as tallow, is used to make soap and candles.

Apart from being multi-utilitarian animals, they are also considered an important animal in many cultures and religions for use as a sacrifice. A lamb is considered innocent and pure. In biblical times, their meat was eaten at sacrificial meals, sheepskin was used for clothing, and the ram's horns were used for musical instruments and oil containers.

Now let's us look at shepherds. In biblical times, being a shepherd was a dirty and lonely job. Unlike cattle, sheep will not move to find food and water. So, it was the shepherd's job to find green pastures and water for his flock. The shepherd's responsibilities also included seeking out the lost, guarding the sheep from the attacks of predators and wild animals, and often placing their own lives in danger to protect their flocks.

A few years ago, I found an article from H.G. Bishop Youssef who wrote the following about shepherds: "The welfare of the flock was entirely dependent upon the management afforded them by their shepherd. The social behavior of sheep is such that they will not lie down until they are free of all fear, are at peace with each other, are free from pestilence, and are free of hunger. The shepherd must provide these things for his flock to enable them to lie down in green pastures. The shepherd realizes that anxiety ridden flocks will not do well and will exhibit agitation, discontent, and restlessness."

So, as we celebrate the 2021 Christmas season, may the Shepherd of Shepherd's birth renew His contentment in each of us. I hope each of you think about the gift which you are most grateful. I know which one I am eternally grateful. I would like to end today's column with a thought from John 10:11 which reads, "I am the Good Shepherd. The Good Shepherd lays down His life for the sheep." Have a good and safe Christmas!

2021 Farmer's Tax Guide

The 2021 version of the Farmer's Tax Guide (Publication 225) has been released by the Internal Revenue Service and can be found at: <https://www.irs.gov/pub/irs-pdf/p225.pdf>. Copies are also available at the Coshocton County Extension office.

2022 Coshocton County Pesticide & Fertilizer Re-Certification Sessions Planned

The Coshocton County Extension office will be hosting two pesticide and three fertilizer re-certification sessions this upcoming winter for producers who need to re-new their certifications by March 31, 2022. These sessions will be held on:

Wednesday, January 12, 2022

Roscoe Village Visitor's Center
600 N Whitewoman Street, Coshocton

Fertilizer: 8:30 a.m. – 9:30 a.m.

Pesticide: 9:30 – 12:30 p.m.

Thursday, January 20, 2022

Coshocton County Services Building
724 South 7th Street, Coshocton, OH (Room 145)

Fertilizer: 9:00 - 10:00 a.m.

Thursday, February 10, 2022

Coshocton County Services Building

724 South 7th Street, Coshocton

Fertilizer: 5:30 - 6:30 p.m.

Pesticide: 6:30 – 9:30 p.m.

The pesticide re-certification cost will be \$10 for Coshocton County residents (\$35 for out of county residents) and the fertilizer re-certification cost will be \$5 (\$10 for out of county residents). Pre-registration is required no later than one week prior to each meeting as space is limited. There are no guarantees that walk-in registrations can be accepted.

If you cannot attend one of these sessions, additional sessions are being offered by our neighboring counties. Additional times and locations around the region can be found at: <https://pested.osu.edu/privaterecertification>
Please contact the Coshocton County Extension Office at 740-622-2265 for more Information.

“The welfare of the flock was entirely dependent upon the management afforded them by their shepherd. The social behavior of sheep is such that they will not lie down until they are free of all fear, are at peace with each other, are free from pestilence, and are free of hunger. The shepherd must provide these things for his flock to enable them to lie down in green pastures. The shepherd realizes that anxiety ridden flocks will not do well and will exhibit agitation, discontent, and restlessness.”

H.G. Bishop Youssef

