TIMELY TOPICS

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Cystic Ovarian Disease

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As the calving season comes to an end, cattle producers need to turn their attention on getting their cows bred back. JJ Jones, Area Agricultural Economics Specialist with Oklahoma State University (OSU) Cooperative Extension, emphasizes the importance of cows producing a calf every 365 days for a cow/calf enterprise to be economically successful. Unfortunately, several factors can interfere with cows becoming pregnant in a timely manner to accomplish this task. One problem that can prevent cows from breeding is Cystic Ovarian Disease.

Cystic Ovarian Disease (COD) is a condition that occurs on one or both ovaries that interrupts the normal reproductive cycle of cattle. The incidence of COD is a lot higher in dairy cattle compared to beef cattle. Reproductive experts do not agree on a single definition for the disease, but a simple definition is a follicle that is larger than a normal follicle that fails to ovulate. Ovarian cysts come in two types, follicular and luteal.

Several risk factors such as stress, high milk production, calving difficulty, uterine infections, retained fetal membranes, nutritional imbalances, moldy feed, and genetics have been associated with COD. Dr. Lionel Dawson, Theriogenologist with OSU College of Veterinary Medicine (CVM), indicated that he has seen several embryo donor cows with the condition. It is highly likely repeated hormonal use for super-ovulation may predispose them to COD.

Because of the variety of characteristics of COD as well as different hormonal patterns and the response to therapy, the primary cause for COD in cows is not fully understood. Experts hypothesize that it may be a disorder of Gonadotropin-releasing hormone (GnRH) released from the brain, receptors on the ovary, or increase of steroids production at the time of cyclicity due to dystocia, uterine infection, mastitis, etc.

Most cows with COD are anestrus which means that they fail to display any signs of estrus or “heat”. Some cows will be in constant estrus and some will actually develop “bull-like” behaviors. The condition is more common in the first few months following calving. As the cow ages, the chance of finding a cystic ovary increases.

Accurate diagnosis of COD is based on clinical signs, size of the follicle, and hormonal analysis. In the past, the majority of the cysts were diagnosed by rectal palpation. Accuracy of this method is limited. With more veterinarians employing the use of ultrasound, accurate diagnosis of the disease as well as the type of cyst has improved. Even with ultrasound, distinguishing the type of cyst is not 100%. Distinguishing the level of progesterone greatly aids in differentiating between follicular and luteal cysts.

Approximately 50% of cyst spontaneously resolve within 45 days after calving. For those cysts that persist, several different treatment options have been tried. One method is to manually rupture the cyst on the ovary. Aggressive handling of the ovary and the rectal tissue may have negative consequences, and thereby causing infertility due to damage to the ovarian bursa and oviducts which are very important to fertilization of the egg and sperm. Some veterinarians have aspirated the contents within the cyst with some success. The most common treatment method is the use of hormones.

GnRH (Cystorelin®, Factrel®, Fertagyl®) has been used successfully to treat luteal and follicular type cyst. Prostaglandin F-2-alpha (PGF2α) (Lutalyse®, Estrumate®) has been used to treat luteal cyst. A common treatment regimen is to give GnRH followed in 7 to 10 days with PGF2α. Since both of these compounds are commonly used in artificial synchronization protocols, some experts recommend using protocols like OvSynch. Dr. Dawson suggest a protocol that starts with GnRH and a progesterone implant (EAZI-BREED CIDR®) which is followed in 7 days by the removal of the CIDR and another injection of GnRH which has been helpful. No matter which treatment protocol is used, the cow needs to be bred on the first heat after treatment since some of these cows may not ovulate in the subsequent estrus cycles. Unfortunately, some cows will never respond to treatment.

Fortunately, the percentage of cows that get COD is very low. The unfortunate problem is that most beef producers will not realize that a cow has COD until pregnancy testing their cows in fall or spring. Even if the producer elects to treat the cow and treatment is successful, she will be months behind the rest of the herd when she calves. An alternative to treatment is to cull since the disease has been shown to have a genetic component.

If a producer would like more information about COD, they should contact their local veterinarian or visit with their Oklahoma State University Cooperative County Extension Agriculture Educator.

References

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Fuel Prices in Hay Production

Scott Clawson, Area Ag Economics Specialist

The anticipation for hay season in eastern Oklahoma seems bittersweet this year. Eastern Oklahoma has largely worked its way off the drought map as we approach hay season and some concerns about forage production will be partially soothed by good growing conditions. Still, the operational costs for producing and getting hay in the barn is costly. We can easily observe the price of herbicides, pasture fertility and net wrap, but what specific impact will fuel price have?

In traveling across eastern Oklahoma this spring, I have been asked quite a few questions about how to price hay or the cost of custom baling services. To answer either of these, addressing our machinery and equipment cost is essential. The Mississippi State University Publication 3543 and the accompanying spreadsheet are a great tool to use to estimate machinery costs in the field. This publication discusses far more than just fuel cost which is the focal point here. With the recent trend of rising fuel prices, our diesel expenditures will be significant this spring and summer.

Figure 1			Baling Fuel Cost Estimate
	2021	2022	
	120	120	Tractor HP
(x)	0.044	0.044	Fuel use per hour per max PTO power
(x)	$ 3.00	$ 5.00	Fuel price ($/gal)
(=)	**$ 15.84**	**$ 26.40**	**Cost of fuel per hour**
(/)	25	25	Bales produced per hour
(=)	**$ 0.63**	**$ 1.06**	**Est. Baling fuel cost per bale**

We can take a small bite out of this spreadsheet to look at fuel cost itself. Specifically, how can we establish a conservative estimate on tractor fuel usage per hour or per bale? Of course, this is not exact. It is likely to be less than this number, but it does provide a conservative reference point. Figure 1 illustrates a fuel cost estimate on a per bale basis between 2021 and projected 2022. This is an easy calculation for producers to enter their metrics and budget from there. We also need to add in cutting and raking for a more complete fuel estimate. Figure 2 shows the differences in horsepower and fuel prices at different levels on a per hour basis. Field operations that can be accomplished with lighter horsepower equipment will be incentivized this summer.

Figure 2

Estimated Tractor Fuel Cost per Hour

$/gal	$ 2.00	$ 2.50	$ 3.00	$ 3.50	$ 4.00	$ 4.50	$ 5.00	$ 5.50	$ 6.00
80 hp	**$ 7.04**	**$ 8.80**	**$10.56**	**$12.32**	**$14.08**	**$15.84**	**$17.60**	**$19.36**	**$21.12**
120 hp	**$10.56**	**$13.20**	**$15.84**	**$18.48**	**$21.12**	**$23.76**	**$26.40**	**$29.04**	**$31.68**
150 hp	**$13.20**	**$16.50**	**$19.80**	**$23.10**	**$26.40**	**$29.70**	**$33.00**	**$36.30**	**$39.60**

Seasonality in the diesel markets

Is there a better time to bulk purchase diesel? Seasonality occurs when there are price trends that occur through the year. We are very familiar with this on the livestock side of the fence. For example, we commonly discuss the fall low in the calf market in Oklahoma. In January, Kansas State University released a report on fuel prices for 2022 (https://www.agmanager.info/production-economics/energy/fuel-price-outlook-2022). In this report, a graphic for seasonality in diesel prices shows us that the fall is the seasonal high price period. Another way to look at this is that our spring and summer period when we are in the hayfield are generally on the lower end of our annual average diesel price.

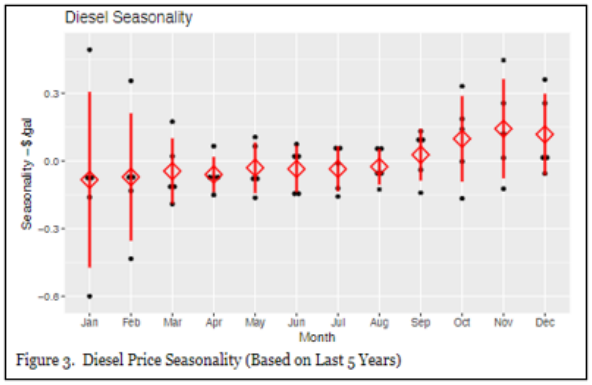

Figure 3. Diesel Price Seasonality (Based on Last 5 Years)

https://www.agmanager.info/production-economics/energy/fuel-price-outlook-2022

Altogether, the recalculation of farm and ranch cost estimates continue. 2022 is certainly going to enter the books as a year where operational costs are high. Being as deliberate and specific with these estimates will benefit our operations in numerous ways. Cash flow management and pricing of farm products may be two of the biggest benefits. Contact your local OSU Extension office more tools and information.

Reference Links

https://extension.msstate.edu/publications/farm-machinery-cost-calculations

https://www.agmanager.info/production-economics/energy/fuel-price-outlook-2022

Access Farm Management Resources Online

Brent Ladd, Extension Assistant

The e-Farm Management website provides information for producers seeking to strengthen their farm financial management skills. This site includes videos, publications, and software tools for farmers and ranchers. Producers will find resources covering a variety of financial, production, marketing, and risk management topics.

One available resource is the Marketing Puzzle, Part 2 video. In this video, viewers learn about commodity contracts and how to use them to market their grain production. It provides definitions of key terms used as well as explaining how futures contracts work. Lastly, the video shows how prices for commodity contracts are related to the grain cash price.

To find this video and additional resources on grain marketing, go to: https://extension.okstate.edu/programs/farm-management-and-finance/e-farm-management-training/grain-marketing/index.html.

More information on this and other farm management topics may be found three ways: 1) contact your nearest Extension Educator 2) visit the e-farm management website (https://extension.okstate.edu/programs/farm-management-and-finance/e-farm-management-training/index.html) or 3) visit the OSU Ag Econ YouTube Channel (https://www.youtube.com/user/OkStateAgEcon).

EXTENSION

Value of Gain Calculation

OK Weighted Average Report 5/6/22

Weight	$/lb	Value/hd	Added lb.	Added $	$/lb Added
329	$ 2.1417	$ 704.62			
379	$ 2.1029	$ 797.00	50	$ 92.38	$ 1.85
422	$ 2.0567	$ 867.93	43	$ 70.93	$ 1.65
475	$ 1.9986	$ 949.34	53	$ 81.41	$ 1.54
520	$ 1.9279	$ 1,002.51	45	$ 53.17	$ 1.18
573	$ 1.8333	$ 1,050.48	53	$ 47.97	$ 0.91
626	$ 1.7531	$ 1,097.44	53	$ 46.96	$ 0.89
669	$ 1.6708	$ 1,117.77	43	$ 20.32	$ 0.47
722	$ 1.6304	$ 1,177.15	53	$ 59.38	$ 1.12
828	$ 1.5168	$ 1,255.91	106	$ 78.76	$ 0.74
928	$ 1.4210	$ 1,318.69	100	$ 62.78	$ 0.63
967	$ 1.4090	$ 1,362.50	39	$ 43.81	$ 1.12

Long Stocker Run		**Short Stocker Run**		**Heavy Stocker Run**	
Starting		*Starting*		*Starting*	
329	$ 704.62	329	$ 704.62	626	$ 1,097.44
Ending		*Ending*		*Ending*	
967	$ 1,362.50	520	$1,002.51	967	$ 1,362.50
Total Gain	*Δ Value*	*Total Gain*	*Δ Value*	*Total Gain*	*Δ Value*
638	$ 657.88	191	$ 297.89	341	$ 265.06
VOG		*VOG*		*VOG*	
$ 1.03		$ 1.56		$ 0.78	

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