



# Ag Insights

## EXTENSION

### **Ag Pesticide Applicator Updates**

**Josh Bushong, Area Extension Agronomy Specialist**

A major part of producing crops is protecting the crop when needed with use of pesticides, namely herbicides, insecticides, and fungicides. Pesticides are either classified as “restricted use” or “general use” (non-restricted use). To be able to purchase or apply restricted use pesticides a person first must become a certified pesticide applicator. Certified applicators include private applicators, commercial applicators, non-commercial applicators, and service technicians.

There are about a couple dozen pesticide applicator categories offered from the Oklahoma Department of Agriculture, Food, and Forestry (ODAFF). Some of note include Ag Plant, Ag Animal, Seed Treatment, Right-of-Way, Fumigation, Aerial, and Private. Farmers who use pesticides on their own or rented farm should pursue a Private Applicator’s License.

To become a certified applicator a person must pass the appropriate ODAFF exams and apply for a license. Other than Private Applicators, applicators must take and pass the core exam prior to taking any of the other category exams. All pesticide applicator exams are now exclusively offered through PSI Services LLC. Historically Private Applicators could complete a take-home exam. Due to the pandemic, private applicators once again have this option but only temporarily.

All pesticide applicator categories will expire on a five-year cycle, but not all categories expire on the same year. All Private and Ag Plant applicator’s licenses will expire December 31<sup>st</sup> 2023, regardless of when the applicator became certified. The Seed Treatment and Fumigation categories just expired in 2020. For recertification applicators have two options, either pay to retest or acquire the appropriate number of Continuing Education Units (CEUs). Private applicators are now capable of acquiring CEUs.

Total CEUs required is specific for each category and are prorated based on when the applicator became certified. For Ag Plant and Private, applicators will need four CEUs per year certified. Applicators cannot acquire CEUs the year they became certified. No more than one-half of the total amount of CEUs needed can be obtained in any one year. If certified for the whole five-year cycle, applicators will need to get CEUs in at least three of the five years.

If an applicator passed the Private or Ag Plant exam the fall of 2018 when last cycle expired, they will need a total of 20 CEUs by December 31<sup>st</sup>, 2023. The total is calculated by multiplying the number of years certified by four. That does not mean they have to get four every year. CEUs obtained in 2018 or earlier will not apply to the current cycle. They can get a maximum of 10 in any one year. Since they can't get 10 in any one year again, they will need to spread the remaining 10 over two or more years. Hence why it takes a minimum of three years to properly acquire the 20 total CEUs needed.

As another example if an applicator passed the Private or Ag Plant exam in 2020, they would only need 12 total CEUs by December 31<sup>st</sup>, 2023. Total calculated by multiplying the three years (2021, 2022, 2023) by four. CEU's cannot be obtained in 2020 when certified. They can get a maximum of 10 in any one year. So, they would have to get CEUs in at least two of the three years available.

Pesticide applicators will need to take action this year if they want to avoid retesting. OSU Extension is currently developing some CEU opportunities for later this year. Check with your county Extension office to find out more. There are some other online trainings available. You can check out the OSU Pesticide Education webpage [PestEd.okstate.edu](http://PestEd.okstate.edu) to find out more about the new testing procedures, how to order applicator study manuals, online trainings available, how to check your CEU status, and many other ODAFF pesticide related links.

Last fall, the dicamba products Engenia by BASF and XtendiMax by Bayer were given five-year registrations from the Environmental Protection Agency (EPA). The EPA also extended the registration of Tavium by Syngenta, a premix dicamba and S-metolachlor. Certified Applicators will once again need to attend an annual training to be able to use these products in dicamba-tolerant soybeans and cotton. Because of COVID-19 concerns, training is being offered online this year. Applicators can visit the BASF, Bayer, or Syngenta webpages to access the training pertaining to which product the applicator plans to use. OSU Extension is in the progress of scheduling trainings. Keep in contact with your local Extension office to be informed when these trainings become available.

## **Preparing for Breeding Season: Act 2**

**Dana Zook, Extension Area Livestock Specialist**

By the time this article goes out, we will be experiencing a reprieve from the bitter winter cold. In December, I wrote on a breeding season article focused on bulls. While some people are already calving, I still feel it's important to take stock of cows now before breeding season begins especially after dealing with the extreme cold.

How do you prepare cows for breeding season? As we roll into calving season, evaluate the condition of your cows. Body condition scoring is the best way to measure cows for breeding readiness. This cold snap will have taken a toll on most animals and even those in good condition will have some ground to recover.

**What is a Body Condition Score (BCS)?** Body condition scoring is a visual appraisal of body energy stores which are reflected primarily in fat composition on the animals body. Most fluctuations of weight are due to the addition or loss of fat. Muscling will also be affected but to a lesser degree. A scale of 1-9 are used in the body condition scoring system. A BCS 1 is extremely thin and a BCS 9 is very fat. Based on years of research, the BCS target should be 5-6 for mature cows and a BCS 6 for heifers.

**Why is body condition important?** Body condition is important because it's closely related to reproductive efficiency. Cows in an appropriate body condition will have a shorter post-partum interval meaning they are more likely to breed back sooner. As one would expect, cows bred earlier in the breeding season have calves earlier which often equates to heavier calf weaning weights. Calf health is also affected by the body condition of the cow. Cows in better body condition are more likely to raise a healthy robust calf by providing things like high quality colostrum and more milk.

**BCS is more important than ever.** Taking stock of cow's body condition is more crucial than ever. The cold weather we experienced was well below most animals' lower critical temperature (LCT) and in turn nutritional needs increased exponentially. When temperatures fall below an animals LCT, they must increase heat production to maintain constant body temperature. To do this, a cow must either consume more energy or pull from existing body stores. The cold alone may have increased energy requirements up to 30%. In addition, the increased nutritional requirement during late gestation and early lactation should also be considered. The summation of these realities likely led to some reduction in body condition for many cows across the state.

**Can I improve BCS in the short term?** To have a good idea of what is being fed, know your hay quality. If one body condition needs to be recovered, assume cows will need to gain 80-100 lbs. Know that standing grass in February and early March has little value other than for fill. The addition of protein and energy is crucial to gain weight. There are a variety of supplements that offer options with higher levels of fat (6-10%) which is a good energy source for cows. Some situations may warrant a blended ration with higher levels of energy. Keep in mind, feeding too much grain and other energy feeds to cows on a forage-based diet can reduce forage digestibility (starch impacts the rumen microbial population). For example, cows on high forage diets should not eat more than 3-4 pounds of corn daily. In summary, a supplementation plan that worked in November and December will not be sufficient now and will result in further weight loss. Cows that need to gain weight need to be FED and not supplemented. For assistance evaluating

late season supplementation and body condition scores for cows, contact your local county extension office – we would be happy to assist you.

For more insight on preparing cows for breeding season, check out the latest “Extension Experience” podcast called “Are your Cows Prima Ballerinas?” where we dive into body condition and preparing cows for the breeding season. You can find our podcast on your smart phone via Spotify, Apple Podcast, or Google Podcast Apps. Or access our podcast on our Spotlight website by visiting <http://spotlight.okstate.edu/experience/podcast/>.

## **Paycheck Protection Program (PPP)**

### **Trent Milacek, Extension Area Ag Econ Specialist**

On December 27, 2020, President Trump signed into law a \$908 billion relief package. The legislation includes a very favorable update to the Paycheck Protection Program (PPP) for farmers and ranchers and also provides the U.S. Small Business Administration (SBA) with an additional \$284 billion for PPP loans.

The following outlines general calculations for a first draw (meaning you did not receive a PPP loan in the first round) farmer. Please note that you need to work with your lender to insure you have the appropriate documents, and that there are slight variations for partnerships and other types of legal organization.

Previously, under SBA rules, farmers’ participation in the PPP was based on 2019 net farm profits (or losses), reported on IRS form Schedule F, Profit or Loss from Farming. If a farmer showed a negative farm profit, they would not have been eligible for a PPP loan. The new legislation would help farmers and ranchers by allowing them to use 2019 OR 2020 as their base period. If the farmer does NOT have employees they can use their schedule F gross income (up to \$100,000) when calculating their PPP loan, rather than their 2019 net income. Therefore, any farmer with positive sales on the 2019 or 2020 schedule F is eligible for the Paycheck Protection Program. Farmers with employees need to use their 2019 or 2020 payroll to calculate the maximum loan amount.

The PPP is a loan that can be used for salaries, wages, insurance premiums, mortgage interest (not mortgage principle), rent and utilities. The interest rate for a PPP loan is 1% with a payback period of 5 years. A PPP loan can be forgiven (not have to be paid back) if the following criteria is met:

- Employee and compensation levels are maintained
- The loan proceeds are spent on payroll costs and other eligible expenses; and
- At least 60% of the PPP amount are spent on payroll costs

To determine the amount of PPP funds are available to a producer WITHOUT EMPLOYEES just take line 9 of the schedule F and reducing that number to \$100,000 if it is over \$100,000. Then divide it by 12 and then multiply it by 2.5. For example, if a producer shows a gross farm income of \$25,000 on their schedule F, the maximum loan amount would be \$5,208. ( $\$25,000/12 \times 2.5$ ). If the producer has an EIDL loan made between January 31, 2020 and ending on April 3, 2020 you can add the outstanding amount that you seek to refinance. Do not include the amount of any advance under an EIDL COVID-19 loan. PPP funds should be used in 8 weeks after receiving them.

For farmers with employees you need to compute your 2019 or 2020 payroll by adding the difference between your 2019 or 2020 Schedule F line 9 gross income amount, and the sum of Schedule F lines 15, 23, and 37 up to \$100,000 on an annualized basis. If the amount is over \$100,000 reduce to \$100,000 if the amount is less than zero then set the number to zero. Next add 2019 or 2020 gross wages and tips paid to your employees from each quarter plus any pre-tax employee contributions for health insurance or other fringe benefits excluded from Taxable Medicare wage and tips. Next subtract any amounts paid to an employee over \$100,000 on an annualized basis. Finally, add 2019 or 2020 employer contributions for employee group health, life, disability, vision and dental insurance, employer contributions for employee retirement, and state and local taxes assessed on employers for employee compensation. Then calculate the average monthly amount (divide the amount summed above by 12). Multiply that number by 2.5. Finally, if the producer has an EIDL loan made between January 31, 2020 and ending on April 3, 2020 you can add the outstanding amount that you seek to refinance. Do not include the amount of any advance under an EIDL COVID-19 loan.

Producers wanting more information or to apply for a PPP loan should contact their lending institution for application details.

If you use PPP funds for unauthorized purposes, SBA will direct you to repay those amounts. If you knowingly use the funds for unauthorized purposes, you will be subject to additional liability such as charges for fraud. If one of your shareholders, members, or partners uses PPP funds for unauthorized purposes, SBA will have recourse against the shareholder, member, or partner for the unauthorized use.

## **Effect of Pre-Calving Nutrition on Birth Weight and Calving Difficulty**

**Britt Hicks, Ph.D., Area Extension Livestock Specialist**

Beef producers have asked me if reducing the supplemental feeding of energy and/or protein will decrease calf birth weight and improve calving ease. Some cattle producers believe reducing dietary energy during late pregnancy will decrease fetal size and result in improved calving ease, while increasing energy may increase fetal size and lead to a

higher incidence of dystocia. Research does not support this concept. In one research trial, 2-year old Hereford and Angus 2-year-old cows were fed three levels of energy: 10.8, 13.7, or 17.0 pounds total digestible nutrients (TDN) per head per day for 90 days before calving. The results showed that increasing the level of dietary energy resulted in increased birth weights but not increased dystocia. In fact, the incidence of calving difficulty was lower in the medium- and high-energy groups than in the low-energy group (Table 1).

Table 1. Effect of pre-calving ration on birth weight and dystocia in 2-year-old cows.

Energy Level of Ration (lb TDN/day)	Birth Weight, lb	Dystocia, %
Low (10.8 lb)	58.0	26
Medium (13.7 lb)	61.5	17
High (17 lb)	63.9	18

Source: University of Missouri Extension, Calving Difficulty in Beef Cattle: BIF Fact Sheet

A summary of seven research trials conducted in Montana indicates that plane of nutrition during gestation plays a role in dystocia (calving difficulty) and calf survival (Table 2). As might be expected, cows on a low plane of nutrition lost weight, whereas, cows on a high plane of nutrition gained weight.

In this summary, even though cows fed on a high plane of nutrition had calves with higher birth weights; dystocia, scours incidence, and mortality were lower. In addition, calf survival at weaning was higher in cows fed on a higher plain of nutrition and these cows had higher pregnancy rates the following breeding season.

Table 2. Effect of low or high gestation feeding level on calving and subsequent reproduction.\*

Item	Low	High
<b>Calf Traits</b>		
Calf birth weight, lb	63	69
Dystocia, %	35	28
Calf survival at birth, %	93	91
Calf survival at weaning, %	58	85
Scours Incidence, %	52	33
Mortality due to scours, %	19	0
<b>Dam Traits</b>		
Estrus at the beginning of the breeding season, %	48	69
Pregnancy, %	65	75

\*Summary of seven research trials by Bob Bellows, USDA-ARS, Miles City, MT. Range Beef Cow Symposium XIII, 1993, pp. 175-189.

Research conducted in Australia investigated the effects of the pre-calving nutrition level on calf and dam behavior immediately following calving (Table 3). Calves born to dams on a low plane of nutrition took significantly longer to nurse than calves born to dams on a maintenance or high plane of nutrition (~5.1, 2.2, and 1.4 hours,

respectively). The longer the calf takes to nurse, the higher the likelihood that colostrum absorption will not be adequate to protect the calf from disease.

Table 3. Effect of pre-calving nutrition on calf and dam behavior.

Item	Plane of Nutrition		
	High	Maintenance	Low
No. dams observed	19	20	20
No. calves observed	16	18	20
Duration of parturition, min.	109.0	89.4	142.7
Time taken by dam to rise after calving, min.	11.6	14.4	30.7
Time taken by calves to stand after birth, min.	23.5 <sup>a</sup>	160.0 <sup>b</sup>	221.3 <sup>b</sup>
Time elapsing from birth to 1 <sup>st</sup> suckling, min	86.5 <sup>a</sup>	134.8 <sup>a</sup>	305.7 <sup>a</sup>

<sup>a,b</sup>Values with different superscripts differ significantly ( $P < 0.05$ ).

Source: Krokev and Cummins, 1979, Australian Vet. Jour. 55:467.

In summary, these data illustrate that a low plane of nutrition during gestation will have no effect or only slightly decrease birth weight. Conversely, calving difficulty typically increases with reduced nutrient intake because the cow tends to be weaker. In addition, this practice results in weak calves that are less active immediately after birth.

Furthermore, low plains of nutrition may reduce the percentage of cows cycling at the beginning of the following breeding season and reduce pregnancy rates.

## **Extension Experience – Insights into Oklahoma Agriculture**

The Northwest Area Extension Staff would like to announce the creation of our new podcast *Extension Experience*. The *Extension Experience* podcast is brought to you by Josh Bushong, Trent Milacek, and Dana Zook. Each week they provide perspective on Agriculture topics and offer insight from our experience working with Extension Educators and Producers across Oklahoma.

The *Extension Experience* podcast is available on Spotify, Google Podcasts, and Apple Podcast platforms. You can also access the episodes on spotlight, <http://spotlight.okstate.edu/experience/>.

We hope you consider listening to Extension Experience.

