



Spring Management of Wheat

Josh Bushong, Area Extension Agronomy Specialist

For supposedly being in a La Nina weather pattern, late fall has been a blessing for most wheat producers in northern Oklahoma in terms of receiving moisture and even accumulating some good growing days. Time will tell in the rest of winter will turn cold and dry as predicted. Wheat grain producers are starting to initiate or at least plan out some spring management practices. Topdressing season has already started and potential weed, insect, and disease issues are on the horizon.

As far as how late can wheat be topdressed with nitrogen, field research conducted by OSU the past four seasons has shown it might be later than your think. These grain only trials have proven that topdress applications made 80-100 growing degree days after planting, typically early to mid-March, overwhelmingly yielded the same as early and late winter applications. Wheat quality, particularly grain protein, seemed to increase with later nitrogen applications as well.

This doesn't mean to wait till the last minute to topdress, but this supports extending the window to apply nitrogen. Applying later in the season can increase nitrogen use efficiency. As the crop progresses, a better estimation of grain yield can be more accurately determined and topdress rates can be altered accordingly. If covering large acreage, wheat producers should initiate topdress applications sooner to allow enough time to get the job done especially if weather delays application.

Topdressing tank-mixed with an herbicide can be an economical option. Since the sprayer will be using a broadcast nozzle, such as a flat fan, Urea Ammonium Nitrate (UAN) rates should be limited to 10 to 20 gallons per acre depending on conditions. Applications should be avoided when air temperatures rise above 70° and relative humidity is low. Applications should be made prior to jointing stage, which will limit yield loss by allowing more recovery time if crop injury occurs.

Disease management has shown to have good yield savings over the years. If applied timely, most commercially available fungicides have had good yield protection in OSU field trials. If only one application is budgeted, it is best to apply late and protect the flag leaf. Long-term OSU data typically average about 10 to 20 percent higher yield compared to no fungicide.

The OSU variety trial near Lahoma has evaluated more than 45 wheat varieties with and without a fungicide applied around the boot to flagleaf growth stage. There was only an

average of seven percent yield advantage this year, but specific varieties varied from zero to 17 percent difference. Including all varieties at Lahoma over the past seven years, there has been an average of a 19.2 percent higher grain yield over when a fungicide was applied.

Timely field scouting is the only way to determine if a pest is present and if an application of an herbicide, insecticide, or fungicide is warranted. The only way for one of these pesticides to protect yield and have a positive return on investment would be knowing what pests are present and knowing how much yield potential can be saved if applied correctly.

Winter Feed Management for Beef Cows

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

Reducing winter feed costs for beef cows is important to cow-calf producers since Standardized Performance Analysis records have shown that feed costs account for more than 60% of beef producers' annual cow cost with over one-half of these costs attributed to winter feeding. Forage intake is dramatically influenced by forage quality as well as forage availability, and both of these factors can vary dramatically from year to year and month to month. Thus, determining forage quality is an important step in designing an economical winter feeding strategy. Regularly analyzing all available forage (range and/or hay) is recommended. At a minimum, forages should be tested for crude protein and total digestible nutrients (TDN) which allows a producer to compare the cow's nutritional needs with the base forage and choose the appropriate supplement. This allows one to match forage resources to cow requirements and avoid nutrition gaps or wasting costly nutrients.

When comparing supplement alternatives, it is recommended that options be compared on a cost of per unit of nutrient basis. For example, if crude protein is the primary nutrient needed compare prices based on the cost per pound of protein. We will assume that one is evaluating a 20% supplement that cost \$300 per ton and a 38% supplement that cost \$380 per ton. The cost per pound of protein in the 20% supplement would be \$0.75 (\$300 per ton divided by 400 lb of protein per ton). Whereas the cost per pound of protein in the 38% supplement would be \$0.50 (\$380 per ton divided by 760 lb of protein per ton).

For cattle grazing low quality forage, correcting a protein deficiency is usually the first supplementation priority. Research has shown that forage intake declines rapidly as forage crude protein falls below about 7 to 8%, a relationship attributed to a deficiency of protein in the rumen. In forages containing less than this amount of crude protein, feeding a protein supplement will improve energy and protein status of cattle by

improving forage digestibility and forage intake. In fact, energy supplementation will not be effective if dietary protein is deficient.

In general, if ample low quality forage is available, it is recommended that one supplement with a supplement containing a high protein content (greater than 30% crude protein) to stimulate forage intake and digestibility. Whereas, if forage supply is limiting, feeding an intermediate protein supplement (~20 to 25% crude protein) would be recommended. Since one would basically feed double the amount of such a supplement to provide equal amounts of supplement protein, the program would provide additional energy to meet forage deficits.

Another important factor to consider when evaluating supplement alternatives is the labor and transportation expenses associated with supplement feeding (frequency of supplementation). Numerous research studies have shown that supplementing cattle with high protein supplements (cottonseed meal) three times or once weekly usually gives similar performance compared to daily feeding. In contrast, low-protein grain-based supplements should be fed daily to reduce the disruption of ruminal function (due to starch) which results in decreased forage intake and digestibility. Research also suggest that grain-based supplements with intermediate protein levels (i.e. 20%) can be fed infrequently (3 times weekly) with little or only slight reductions in performance. Therefore, feeding supplements on alternate days or three times weekly (eliminate Sunday feeding) instead of daily is a common strategy to decrease cost of production.

In addition, the negative associative effects associated with feeding energy-based supplements should be minimized if the supplements are formulated with high-fiber ("digestible fiber") by-product feeds (wheat middlings, corn gluten feed, distiller's grains and soybean hulls) as compared to grains. Research has generally shown that supplementation with digestible fiber energy sources might still reduce forage intake. However, forage digestibility is generally not reduced with these type supplements due to their low starch content. In general, the data suggests that energy supplements (grain- or digestible fiber-based) with intermediate protein levels (~20%) should be fed daily if the supplementation rate is 1% of body weight or greater per feeding.

The winter supplementation program can be evaluated over the winter feeding period by monitoring cow body condition scores (BCS). Simply put, BCS estimates the energy status (fat cover) of cows. The scoring system used is a 1 to 9 point scale where a BCS 1 cow is extremely thin while a BCS 9 cow is extremely fat and obese. A BCS 5 cow is in average flesh or body condition. A change of 1 BCS is equivalent to about 90 lb of body weight. Research has shown that the BCS of beef cows at the time of calving has a huge impact on subsequent rebreeding performance. Mature cows should calve in a BCS of at least 5. Since 1st-calf-heifers have only reached about 85% of their mature weight after calving and require additional nutrients to support growth, it is recommended that they be fed so they are a BCS of 6 at calving.

Preparing for Breeding Season: Act 1

Dana Zook, Extension Area Livestock Specialist

Happy New Year! Since breeding season will be upon Oklahoma producers across the state, I thought it fitting to get a jump on what can be done to prepare cattle for this crucial time period. I will lapse back to my high school musical theater days and showcase the "Preparing for Beef Breeding Season Saga". The headliner this month will be Bulls. A future article will complete the saga with Act 2 focused on cows.

How do you prepare for breeding season? For some producers with a defined breeding season, it can happen almost simultaneously to calving season preparations. Each operation is different but there are many things that are constant. Proper bull management and preparation are a risk management tool for the cow calf producer.

Evaluate your bull battery. Do you have the correct number of bulls to service your herd? If not, take time to seek out one of the many seedstock breeders in Oklahoma. Look through the OCA Magazine for breeders or look at some of the breed association offerings. The number of bulls you need is directly related to the cow to bull ratio. The age of bulls will determine how many cows they can service. A good rule of thumb is to place about the same number of cows or heifers with a young bull as his age is in months. For example, a young bull, 15 months of age, should be able to handle 15 cows in his first breeding season. This applies until two years of age. Mature bulls that have passed a breeding soundness exam can be placed with 25-30 cows.

Bring home bulls in advance of breeding. Purchase new bulls at least 60 days prior to breeding. This allows bulls to adapt to their surroundings, establish social structure with other herd bulls, and adjust to new plane of nutrition. Nutritionally, bulls may need this time for a few extra groceries, or they may need to be slowly scaled back. Bulls sold at sales are often conditioned beyond what is needed during the season. Fat sells in this market but this isn't a bad thing. Once they are brought home, these bulls should be slowly adapted back to a more reasonable diet. Remember that during the breeding season, bulls will (hopefully) be doing their job and won't be receiving any more nutrition that the cows. Research has shown that bulls that are scaled back on nutrition gradually have no impact on fertility. Also note that along with proper nutrition continued exercise will help the bull get into shape before breeding.

Schedule Breeding Soundness Exams with a licensed veterinarian. A breeding soundness exam will check the reproductive capacity and physical soundness of each bull. This a risk management step that helps alert producers of any issues that may hinder a bull from performing his best. One of the more costly mistakes in the beef industry is going through breeding and then realizing your bull didn't get the cows bred.

Keep and eye on your bulls during breeding. Upon the start of breeding, beef producers expect bulls to get the job done. But issues can arise during breeding that can affect

the number of cows that get bred. Bulls that are overworked or obtain an injury may be less likely to get cows bred efficiently. Keep an eye on your bulls and observe bulls while they are working. If any issues are observed, a replacement bull can be substituted to maintain breeding rates.

For more insight on preparing bulls for breeding season, check out the latest “Extension Experience” podcast. You can find our podcast on your smart phone on the Spotify, Apple Podcast, or Google Podcast Apps. Or access our podcast on our Spotlight website by visiting <http://spotlight.okstate.edu/experience/podcast/>.

The Game Has Changed

Trent Milacek, Extension Area Ag Econ Specialist

Was 2020 bad for agriculture? Farmers have struggled against low prices for half a decade waiting for ample or record supplies to dry up. Farmers have become experts at patiently waiting in order to survive until relief arrived. Finally, it has come.

The soybean price on 12/31/19 was \$9.56/bu. but now is \$14.22/bu. The price of hard red winter wheat was \$4.86/bu. but now is \$6.23/bu. The price of corn was \$3.88/bu. but now is \$5.17/bu. These are not trivial changes; the magnitude of commodity price increases in the past year is profound.

If percentages can paint a better picture, soybeans prices have increased 49%, hard red wheat increased 28% and corn increased 33%. Basis bids have also increased substantially on a local level bringing cash prices for grain sorghum, corn and wheat closer to the futures price increase of soybeans.

What does this mean for profitability? Time and again producers see inputs increase with increasing crop prices. However, the recent price increase has been fast and that gives opportunities. Consider prepurchasing inputs in order to take advantage before input prices can react.

If it is assumed that input costs are similar to past years, then farmers have much more leverage in the 2021 growing season. A soybean crop that may have broken even at 20 bu. now only requires 10.2 bu. to generate the same desired revenue. A 30 bu. wheat crop drops to 21.6 bu. or a 60 bu. grain sorghum crop now falls to 40 bu. to generate the same revenue on changes in futures prices alone. Farming is not simple but higher prices simplify things.

Never consider that prices or input costs or weather predictions are set in stone. If 2020 has taught producers anything it's that volatility in production and prices continues to grow. Soybean prices are on the precipice of trading into a new trading channel. As

mentioned earlier, it has been over 5 years since that has occurred. Excitement after years of suppression is not terrible but be cautious in planning.

There are many decisions to make with this new price structure. Should cropping systems be changed? Higher prices assist lower yields to breakeven but is it worth the risk of adopting a more difficult crop like soybeans? With high risk comes high reward but some producers are tired of the risk. Higher prices will shift acres in Oklahoma back to wheat but those decisions won't be made for another year. The current wheat crop has already been determined.

Flexibility and attention to price risk management is more paramount now than in the past. As prices increase price volatility invariably increases. If volatility is measured as a percent change then it follows that higher prices will see larger daily price moves. This causes a great deal of stress when marketing grains, so have a plan to deal with those marketing decisions. Selling 5,000 bushels of soybeans and seeing the price increase by \$0.50/bu. the next day can be damaging to marketing self-esteem.

Knowing break evens and having a goal in place before the growing season can help offset some, but not all, of that stress. Making a profit is a good start but knowing the potential home-run price allows for some understanding of realistic marketing goals.

The important first step is to plan to sell into this bull market. That is the simple part. If you will change cropping systems drastically, consider the additional risk and strain that will put on your operation. Will forward contracts alleviate that stress? Will revenue crop insurance cover those forward contracts if weather is poor?

It is good to have options and the opportunities in 2021 will be embraced by the agricultural community. Now more than ever the OSU Extension service is here and ready to help you with your farm business planning. Stop by to chat and formulate a plan to be successful in the coming year.

Oklahoma State University, U.S. Department of Agriculture, State and local governments cooperating. Oklahoma Cooperative Extension Services offers its programs to all eligible persons regardless of race, color, national origin, gender, age, religion, disability, or status as a veteran and is an equal opportunity employer.

How Long Should You Keep Income Tax Records and Related Documents?

J C. Hobbs, OSU Associate Extension Specialist

The length of time you should keep a tax related document is not clear cut. In general, the IRS states that you must keep the items that support your income, expenses, deductions, and credits claimed on your income tax return until the period of limitations

for that return runs out. In most situations, the period of limitations is 3 years from the date the tax return was due. During this 3 year period of time, you may amend your tax return to claim a credit or refund or the IRS can assess additional tax.

The following information contains the periods of limitations that the IRS applies to income tax returns. Unless otherwise noted, the years refer to the period of time after the due date of the tax return. It is important to keep a copy of the supporting documents as this information will be helpful for preparing future tax returns and making computations if you need to file an amended return.

- You owe tax and you have accurately reported your income, deductions, and credits; then keep the records for 3 years.
- You do not report income that you should have reported, and it is more than 25% of the gross income shown on your return; then keep records for 6 years.
- You file a fraudulent return; keep your records indefinitely.
- You do not file a return; keep your records indefinitely.
- You file a claim for a credit or a refund after you file your original tax return; then keep these records for 3 years from the date you filed your original return or 2 years from the date you paid the tax, whichever is later.
- You file a claim for a loss from a worthless security or a bad debt deduction; keep these records for 7 years.
- Keep all employment tax records for at least 4 years after the date that the tax becomes due or is paid, whichever is later.

In addition, there is a need to keep other types of records and information. You should keep records relating to property that you purchase or inherit until the period of limitations expires for the year in which you dispose of the property in a taxable disposition. You must keep these records to figure any depreciation, amortization, or depletion deduction allowed and to figure the gain or loss when you sell or otherwise dispose of the property.

When your records are no longer needed for tax purposes, do not discard them until you check to see if you need to keep them longer for other reasons. For example, your insurance company or creditors may require you to keep this information longer.

It is always important to consult with your tax advisor about this and any other tax related questions you may have. Go to www.irs.gov and search for record keeping for more detailed information about what records to keep, why they are necessary, safekeeping recommendations for your tax records, plus other useful information.

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.

