October 8, 2013

With the cooler weather the last few days and rain that much of the state has received over the last few weeks, wheat planting can’t be far behind. Below are some general comments/recommendations on getting your wheat crop off to a good start this fall.

**Variety Selection**

There are lots of varieties out on the market that will yield well, but choosing more than one variety with different genetics and varying maturity is critical to spread your risks out. Yes sometimes this proves to be a more difficult task than it should be. Varieties should have resistance to stripe and leaf rust as well as good resistance to lodging and have good test weight and of course have high yields.

The 2013 Wheat Update publication, which is a summary of the Arkansas Wheat Variety Testing Program, contains a summary of current variety disease ratings, agronomic data including test weight, lodging, and relative maturity, and multi-year yield data. The 2013 Wheat Update can be found at the following link:


The full report of the 2013 Arkansas Wheat Variety Testing program can be found at:


One key production practice to consider is to plant late maturing varieties first and early maturing varieties later in the planting season. Yes sometimes we get all of our wheat planted within one week and this might not make that much difference. However the early maturing varieties tend to have less of a vernalization requirement and can begin to joint very early in the spring which greatly increases risk of freeze damage, so planting the early maturing varieties last makes sense. In past years we have seen some of the early maturing varieties that were planted too early, get tall and rank in the fall that led to freeze damage problems later on. This is especially true following corn where there was some residual nitrogen, which caused even more rank growth.

**Planting Date**

Proper planting date for wheat is very important for optimal yields. Planting too early can lead to multiple problems including increased potential for freeze damage because wheat gets too big and rank during the fall and increased risks from insects including; fall armyworms, Hessian fly, and Barley Yellow Dwarf Virus, which is transmitted by aphids. Recommended planting dates for Arkansas are listed below:
These dates represent the ideal planting dates for Arkansas, planting earlier or later can still produce good yields, but there may be greater risks outside of these “ideal” dates. Last year in Arkansas we had record yields and the highest yields tended to come from wheat that was planted “later” in the planting window, which was likely a reflection of the warm November we experienced that allowed later planted wheat to fully tiller before winter.

**Seeding Rates**

Seeding rates can vary considerably, depending on planting date, quality of the seedbed, and whether wheat is drilled or broadcast seeded. Using a grain drill allows for more precise seed placement and generally allows for a lower seeding rate. Broadcasting wheat allows you to cover many acres quickly. I prefer to drill wheat, but concede that weather sometimes pushes us to get things done quickly to beat an incoming rain.

Recommended seeding rates for drilled wheat planted within recommended planting dates is 26 seeds/ft². The lbs/acre of seed can vary considerably with seed size, but with a normal seed size, this would be approximately 90 lbs of seed/acre (assuming you had good quality seed). Figure 1 below shows a summary of 12 trials conducted in Arkansas over the last few years evaluating seeding rate response of drilled wheat when planted in October. Planting more than 26 seeds/ft² on sands or silt loams did not increase or decrease yields, while on clay soils, a slightly higher seeding rate was needed to achieve maximum yield. A higher seeding rate on the clay soil was likely needed to compensate for a rougher seedbed and/or potentially a lack of tillering.

**Figure 1.** Impact of Seeding Rate of Drilled Wheat on Yield in Arkansas

<table>
<thead>
<tr>
<th>Region</th>
<th>Planting Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Arkansas</td>
<td>October 1-November 1</td>
</tr>
<tr>
<td>Central Arkansas</td>
<td>October 10-November 10</td>
</tr>
<tr>
<td>South Arkansas</td>
<td>October 15-November 20</td>
</tr>
</tbody>
</table>
Increasing seeding rates above recommended rates will increase the cost of production and increases the potential for lodging prior to harvest, especially if nitrogen rates are high.

If we are planting later in the planting window (November), planting into a rough seedbed, or planting no-till, increasing seeding rates 10-20% or more would be justified. Broadcast seeding generally takes higher rates of seed to obtain stands, since the seed is placed at varying depths with incorporation (some too deep, some on top of the soil). Having a good firm seedbed prior to spreading seed is important. Many producers are having good results broadcasting seed and then shallowly incorporating using a harrow, roller, or field cultivator with rolling baskets. Using a disk to incorporate often buries much of the seed too deep and can result in poor stands. To me, how the seed is incorporated makes all the difference on how successful broadcast planting is.

**Land and Seedbed Preparation**

Having adequate surface water drainage is critical for maximizing wheat yields. Adding drain furrows after planting to allow excess water to drain is very important. In recent years there has been an increasing amount of wheat planted on raised beds. This helps facilitate water drainage and also allows for quicker plant back of double crop soybeans after wheat harvest. Bedded wheat will likely work best on precision leveled fields that have a uniform grade so water can drain off adequately. In large block trials that we have been conducted over the last few years comparing bedded vs flat planted wheat, yields were similar. There are many ways of planting wheat on beds, but the wider the bed the better the wheat will likely be. However beds wider than 60 inches may be too wide for maximum soybean yields since furrow irrigation water may not fully soak into a 60 inch or wider bed. Below are examples of production systems currently being utilized by Arkansas wheat producers and with proper management, all are producing good wheat yields.
On bedded wheat, one of the issues we have seen is that we still have to get the water off the field. A drain furrow across the beds at the bottom of the field will allow water to leave the field.

Whichever system we use to plant wheat (drilled, broadcast, flat or bedded) taking the time to get things right is the most important item to consider. Once the wheat is planted, you don’t have a chance to do it again.

**Fall Fertilization**

Fall nitrogen is typically not recommended unless we are following rice or if we are planting later than the recommended. We used to recommend a small amount of nitrogen at planting following corn or grain sorghum, but the data did not show a consistent yield benefit. If soil sample analysis shows a need for phosphorus and DAP (18-46-0) is used, the nitrogen with that application would be sufficient for any fall needs.

Having adequate phosphorus is critical for maximizing wheat yields. Dr. Trent Roberts wrote an excellent article on P and K fertilization for wheat and/or wheat-double crop soybean that is posted on Arkansas Crops blog; [http://www.arkansas-crops.com/2013/09/30/preplant-p-and-k-considerations-for-winter-wheat/](http://www.arkansas-crops.com/2013/09/30/preplant-p-and-k-considerations-for-winter-wheat/)

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