When do I Plant Wheat?

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Small grains, including wheat, have been utilized in agriculture for centuries. Most commonly, wheat is grown for grain or forage. However, producers are now utilizing wheat and other small grains for multiple purposes, including as cover crops for erosion control and in wildlife plantings. With multi-use options in mind, it is sometimes difficult to determine which set of planting guidelines are best to follow, and what may occur if the guidelines are not followed. ACES recommendations are determined by intended use. As a producer, the decision should be made as to whether the planting is for grain, forage for grazing, or wildlife cover. Otherwise, planting recommendations can often be confusing, as dates, rates, and methods vary greatly.

*Planting date recommendations in ACES publications are for reference purposes only. Occurrence of suitable planting conditions is highly affected by environment. Plantings should take place when soil conditions and moisture level are favorable for stand success, which sometimes may be near, but not within recommended dates.

Below we have briefly outlined the extension planting recommendations by use as well as potential pest implications.

Wheat as Forage:

The use of small grains as forage has increased throughout the years. Producers are seeing the opportunity to provide high quality forage for a short period of time in the late fall and spring when perennial forages are not available for use.

Wheat can be successfully grown for forage. It should be noted that wheat has low tolerance to acidic soils therefore planting is not advisable in areas in which the soil pH is less than 5.8 (unless lime is applied to correct/address the problem). As with all small grains grown for forage, wheat can be grown in combination with other small grains, annual legumes, and annual ryegrass to provide a good

International Image
mixture for hay or pasture production. Although wheat yields less than annual ryegrass, its autumn growth and medium-to-late maturity complement it well. Hay or silage mixtures tend to be more grass/legume based and the growth and maturity of annual legumes, such as common vetch and hairy vetch, are quite complimentary to wheat. The addition of legumes to small grain plantings for hay or pasture provides numerous benefits including improved forage quality, increased animal performance and a natural source of time-released nitrogen.

As with any forage, when harvested as hay or silage, wheat should be utilized at or near the optimum stage of maturity to ensure ingestion of a high quality forage product. Allowing wheat to produce full grain before use will result in harvesting or grazing of low quality, high fiber forage that is undesirable to grazing livestock. High fiber forage results in low intake by livestock. Small grains provide a high quality forage option to livestock. Harvesting at optimum stage of maturity is the key to achieving this goal. This is ideally the boot to early head stage of growth.

Typically, wheat grown as “forage for grazing only” should be planted before wheat that serves dual purpose (i.e. “grazing and grain for harvest”). Dual purpose small grains are grown with the intention of short term grazing early in the season, followed by grain harvest later in the season. Small grains have the potential of producing some grazeable forage in late fall, especially if planted early and growing conditions are favorable. In dual purpose use, livestock are allowed to graze early growth and are removed when plants begin to joint (put up seedheads) to allow the forage to regrow and develop seedheads that are later harvested for grain. Wheat grown for harvest as hay or silage, or dual purpose, should be planted earlier than wheat grown for grain production alone.

The planting recommendations for Wheat in ANR-0149 “Alabama Planting Guide for Forage Grasses” are outlined below:

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Seeding rate</th>
<th>Planting Depth</th>
<th>Planting Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat (Silage/Baleage/Hay and/or Dual purpose)</td>
<td>Medium - heavy soils; pH 5.8-6.5</td>
<td>Alone: B: 90-120 Mix: B: 60-90 Lbs/acre PLS</td>
<td>1 – 2 Inches in Depth</td>
</tr>
</tbody>
</table>

*The above information is for recommendation purposes only, planting dates, rates, etc. may be adjusted according to specific situation and are for information purposes only.*

For more information refer to the ANR-0149 “Alabama Planting Guide for Forage Grasses” (http://www.aces.edu/pubs/docs/A/ANR-0149/ANR-0149.pdf)
Wheat as Grain:

Highest grain yields are obtained when wheat is planted for grain only, instead of for dual purpose for forage and grain. Planting outside the recommended planting dates not only will decrease yield potential, but will also increase potential of pest and disease pressure. The wheat plant develops tillers in the fall, which will contribute between 60 to 80 percent of the number of harvestable heads. As compared to later-developing tillers, fall tillers tend to have stronger root systems and usually have larger heads with kernels of greater weight, resulting in higher yield. Spring tillers produced as a consequence of late planting contribute less to yield potential than fall tillers.

While planting too early will cause an increase in development rate (excessive tillering during fall and spring) the wheat plant can reach the jointing and heading phase too quickly, which increases the risk for winter kill or freeze damage. In contrast, late planting, can result in production of fewer tillers and/or a reduction of seed weight associated with heat stress during grain filling period.

Choosing the right variety and planting it at the right time can positively affect wheat development and final yield. Early maturing varieties are good options for planting late in the season. Delayed planting of early maturity varieties in the southernmost areas is especially likely to be problematic. In cases where planting is delayed a month with respect to the standard planting date, yield losses tend to run higher than they run in northern areas. Later maturing varieties, which are more likely to avoid freeze damage, are generally better suited to the northernmost regions. Yield losses and low test weight might be expected if late-maturing varieties are used in late plantings because of lack of proper vernalization or late grain filling occurring in hotter weather. Therefore, late-maturing varieties should be planted before the early-maturing varieties.

Recommended planting dates for winter wheat planted for grain in Alabama as follows:

<table>
<thead>
<tr>
<th>Region</th>
<th>Planting Period</th>
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</thead>
<tbody>
<tr>
<td>Northern</td>
<td>October 15 to November 10</td>
</tr>
<tr>
<td>Central</td>
<td>October 15 to November 15</td>
</tr>
<tr>
<td>Southern</td>
<td>November 15 to December 1*</td>
</tr>
</tbody>
</table>

* If short vernalization/early maturity varieties are planted, the recommended planting period is December 1 to December 15.

The Alabama Winter Wheat Production Guide provides detailed information on producing winter wheat for grain. For more information refer to the ANR- 0992 “Alabama Winter Wheat Production Guide” (http://www.aces.edu/pubs/docs/A/ANR-0992/ANR-0992.pdf) and ANR- 1442 “Planting Date and Variety Effects on Wheat yield” (http://www.aces.edu/pubs/docs/A/ANR-1442/ANR-1442.pdf)
**Wheat for Wildlife:**

Fall or winter plantings of wheat for agricultural purposes (grain or forage), wildlife food plots, or as a cover crop, are commonplace in Alabama. Wildlife recommendations provide the widest variance in planting recommendations of wheat for Alabama. This variance is due to a few key factors that must be considered.

Planting guidelines for wheat as grain and forage are based on the assumption that producers follow fertility and establishment recommendations to get well established high yielding stands. Therefore, wildlife food plot planting recommendations in ANR-0485 “Plantings for Wildlife” are based on the same assumption. Realistically though, when planting wildlife food plots, it is understood that there is sometimes less concern with precise seed placement and fertility, and more concern with crop establishment and obtaining cover with relatively low input.

Seed can be “top-sown” to establish a cover crop. This planting practice requires a well prepared seedbed. A well prepared seedbed involves adequate tilling of the soil so that there will be good seed to soil contact and the soil will not be excessively hard. ANR-1467 “Mourning Dove Biology and Management in Alabama” recommends seeding rates up to but no more than 200 pounds per acre. The higher rate is recommended to increase the probability of seed-to-soil contact, and increase the likelihood of stand establishment of wheat as a cover crop. Wheat for use as a cover crop should be planted no earlier than August 1.

Planting date recommendations in ACES publications are for reference purposes only and implementation near or around these dates is highly affected by environment. Plantings should take place when soil conditions and moisture level are not limiting to stand success. In low-input planting situations, as just described, stand success is highly dependent on soil conditions and moisture availability as added inputs of fertility or cultivation are not generally used. Therefore more general date ranges have been provided for wildlife plantings.

<table>
<thead>
<tr>
<th>Wheat (wildlife)</th>
<th>Planting Date</th>
<th>Seeding Rate</th>
<th>Planting Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aug. 15 - Nov. 1</td>
<td>B: 90 - 120 M: 60-90</td>
<td>1 to 2</td>
</tr>
</tbody>
</table>

Potential Problems:

Another consideration when deciding on planting date for wheat is potential pest issues that have been linked to planting date. Barley yellow dwarf, Hessian fly, and fall armyworms are explained briefly below.

*The earlier the wheat planting date, the greater the risk of yield loss from Barley Yellow Dwarf.*

Barley yellow dwarf (BYD) is a viral disease that can severely impact small grains worldwide. Plant leaves become yellow or chlorotic and can potentially stunt or “dwarf” plants. BYD is spread by aphids from grasses and crops to wheat fields. Aphid control with an approved insecticide may be necessary, particularly for wheat planted before November 1.


*The earlier the wheat planting date, the greater the risk of infestation by Hessian fly.*

Hessian fly is a serious pest of winter wheat. Early planting of susceptible varieties of wheat for forage and wildlife allows for buildup of Hessian fly populations in the fall. This increases the area-wide risk from this pest not only in forage and wildlife plantings but in wheat planted for grain only. For this reason growers planting early for forage or wildlife should choose a Hessian fly resistant variety, avoid consecutive plantings of wheat, and avoid planting near known wheat fields grown for grain. If possible, choosing a different small grain for forage and wildlife will help reduce the area-wide risk from this pest.


*Early planted wheat, especially when no-tilled into perennial grass sod, is at high risk of attack by Fall Armyworm.*

The fall armyworm is a chronic pest in the Southeast that adversely affects forage crops. There are more than 60 forage species that have reported susceptibility to fall armyworm infestation, including small grains. Fall armyworm populations and reports are greatest in late summer and early fall. Early planting of wheat can create a greater potential for fall armyworm infestation and damage. Fall armyworms prefer hot, dry locations and drought conditions. Take into account current weather...
conditions when considering early planting of wheat. Fields should be scouted for this pest as wheat from the time it emerges until the first frost.

Refer to ANR-1019: Management of fall armyworm in pastures and hayfields (http://www.aces.edu/pubs/docs/A/ANR-1019/ANR-1019.pdf) for more information.

Specific recommendations for insecticides can be found in IPM-0458 Small Grains Insect, Disease, and Weed Control Recommendations, http://www.aces.edu/pubs/docs/I/IPM-0458/IPM-0458.pdf.