

Wheat Management Quick Reference

Varieties – Refer to Variety Performance Book. Use a fungicide seed treatment.

Planting Date – October 1st – 31st

There is a Hessian fly free date. In southeast MO that date is highly dependent on weather. The average date is October 15th. With wheat there is no yield advantage to planting early, but there can be a yield penalty. In an ideal world planting past this date is beneficial due to less risk of yield loss from Hessian fly and aphid feeding and vectoring Barley Yellow Dwarf Virus.

Planting Rate – 1.3 to 1.5 million pure live seed per acre

Total weight or bushels will depend on seed size. Final plant stand should be 30 to 35 plants per square foot. Actual seeding rate will depend on germination and planting conditions, methods, and if planting past ideal dates.

Planting Depth – ¾ inch to 1.5 inch

Too shallow or too deep will result in poor emergence. Too deep will negatively influence tillering.

Planting Method – Drilled wheat into a clean (weed free) seed bed is ideal. Buggy applied wheat is an option.

Fertility – Soil Test

Nitrogen – 90 to 120 lbs actual/A; Phosphorus - removal rate is 0.6 lb P₂O₅/bu; Potassium – removal rate is 0.3 lb K₂O/bu

Fall – Nitrogen needs for wheat in fall is around 20 lbs actual/A. Phosphorus according to soil test. You can also apply 15 lbs/A of elemental Sulfur in the fall. Potassium is required and most of that demand is in the spring. Applying potash for maximum utilization depends on soil type and spring nitrogen management. Potassium is mobile in the soil much like nitrogen. Sandy soil and heavy rains can move K and N below root zone

Spring – Fields with less than 60-70 tillers per square foot in early spring between Feekes 2 and 3 is where split applications can increase tiller numbers. However, if plants are healthy and tiller numbers are 80 tillers per square foot or higher then holding off N application until Feekes 5 may be more economical and provide the biggest results. MO research indicates split applications rarely improve potential yield. This is because the time of greatest nitrogen uptake is between jointing (Feekes 6) and head emergence (Feekes 10.5). Therefore pre-jointing applications would supply this upcoming demand and reduce plant damage from ground applications. Consider using urease inhibitors containing the active ingredient NBPT when applying urea based fertilizer. Tissue tests just before jointing can help determine nitrogen needs at jointing. 10 to 15 lbs/A of sulfate sulfur if elemental was NOT applied in fall.

Pest Management – Weeds, Insects, Disease

Refer to Missouri Manual 171 “Pest Management Guide” for specific product recommendations.

Read and follow all label directions.

Weeds – fall - ryegrass and cheat; spring - wild garlic, henbit, chickweed and vetch

Herbicides – Early POST – Ryegrass – Osprey; Ryegrass and Cheat – Olympus Flex; Wild Garlic (2 inches of new spring growth) – Harmony Extra; Broadleaves – 2, 4-D Ester + Harmony Extra

Rates – Osprey at 4.75 oz/A; Olympus Flex at 3.5 oz/A; Harmony Extra TotalSol at 0.6 oz/A + 2, 4-D LV Ester at 16 oz/A.

***Check label for additional surfactant needs specific to products used.*

Insects – fall – Aphids; spring – Aphids and Armyworm. Threshold: Aphids - 5 per foot of row; Armyworm – 4 per square foot.

Insecticides – insecticide seed treatment consider for fall aphid;

POST applications of pyrethroids in February for aphids. Armyworm from flag leaf to heading

***Check label for specific instructions.*

Disease – Fall - Seedling disease. Spring – Foliar disease at flag leaf emergence (Feekes 8-9) and head scab (Feekes 10.51).

Fungicides – Seedling disease – Recommended to use a seed treatment, numerous available; Foliar disease – Strobolurin chemistry – numerous; Stripe, Leaf and Stem Rusts – triazole chemistry – numerous; Consider package mixes or tank mixes;

Head scab – (Suppression only) - products containing prothioconazole, metconazole, tebuconazole or a package mix of two triazoles. Avoid application of products containing a strobolurin for head scab due to risk of increasing DON levels.

***Check label for specific instructions.*

University of MO does not endorse any one product. Product Trade names are used for ease of reference.

Harvest Losses - 20 seeds per square foot = 1 bushel per acre

Measure in front, behind header and behind separator to get an estimate of where losses are occurring and combine for total harvest loss. Harvest losses of 5% or less are ideal.