Management Considerations for Wheat Production in Florida¹

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Higher wheat prices created the impetus for growing wheat in the Southeast US. Ever increasing amounts of US corn are being diverted to ethanol production which leaves a shortage of grain for the livestock industry, resulting in higher wheat prices. In turn, soybean prices are also spurring the increase. Wheat and soybean have been grown together as a double crop in the SE for many years. Managing wheat for high yields in the Southeast Coastal Plain is well established. Continuous development of adapted wheat varieties assures growers that they have the best available germplasm. Production practices for small grains in Florida are listed below:

Field Selection

Small grains grow best on fertile, well drained soils. If corn or other grass crops do well, wheat should also produce good yields.

Crop Rotation

Wheat should not be grown on fields that had wheat the previous year because of the buildup of

disease (Septoria glume blotch, etc) and Hessian fly problems. Wheat may be rotated with oats or rye because neither is susceptible to Hessian fly infestation.

Tillage

Several years of research has shown that either chisel plowing or other forms of deep tillage may result in yield increases from 5-10 bu/A over disking alone in preparing a seedbed. Deep tillage seems to be especially important in years when drought occurs during the grain fill period. Likewise, wet springs tend to leach nitrogen below the compaction layer and shallow roots are not able to pick up the deep nitrogen.

Variety Selection

Choose recommended varieties that are high yielding, disease resistant, have strong stems and are adapted to the area. Florida and Georgia variety information can be found at www.swvt.uga.edu. Always use high quality seed.

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Planting Period

Plant in the first half of the recommended period (Nov. 15 – Dec. 1). Even though the Hessian fly may be more of a problem with early plantings, wheat planted earlier is able to develop a better root system and may survive winter temperature extremes better. Full season varieties should be planted in early November and shorter season varieties when planting in December.

Seeding Rates and Depth

Use 2 bu/A of seed. Consider slightly less for the earliest plantings and a little higher at the end of the planting season. Higher seeding rates (3 bu/A) have not resulted in higher yields but have been associated with increased lodging. A seeding depth of 1- 1 1/2 inches is ideal under optimum conditions. Use about 25% more seed if the fields are to be grazed prior to grain production.

Rows

Narrow rows spaced 4 to 5 inches apart have provided higher yields but this may not be a big factor if wheat is planted in early November and it tillers well. Only a few drills offer the option of 4 inch rows.

Weed Control

If weeds are present, control measures should be taken early in the season while weeds are still small in order to eliminate competition. Wild radish and ryegrass should be treated soon after they are observed for effective control. Weed control information can be found at <http://edis.ifas.ufl.edu/WG009>

Fertility at Planting

Use 20 - 30 lbs/A of N at planting in addition to IFAS recommended P_2O_5 , K_2O and micronutrients as determined by a soil test. Many growers will apply all of the fertilizer needed for both the wheat and subsequent soybean crop to the wheat.

Nitrogen Application

Florida research has shown that one timely nitrogen application near growth stage 3 (Feekes-Large), which usually occurs during the last week of January or the first 10 days of February, is adequate for optimum yields. However, on very sandy soils applications can be split between GS 3 (Main shoot and 7 tillers) and about 3-5 weeks later. The growing season for wheat is very short in Florida (Nov. – May) and therefore wheat may not show responses to split nitrogen applications beyond the one in early February if rainfall amounts are low. Generally top yields can be made with a total of 120 lbs/A of N applied between the planting and top-dress applications. Further information can be found on fertility recommendation at <http://edis.ifas.ufl.edu/pdf/files/ss/ss16300.pdf>

Sulfur Application

Yield responses have been noted to sulfur on sandier soils. From 15 to 20 lbs/A of sulfur top dressed with nitrogen should be adequate to meet plant needs. Sulfur needs may also be met with sulfate of potash magnesia or other sulfur containing fertilizers.

Fungicides

Fungicides often give economic yield increases. Inputs into producing wheat are becoming more expensive. Higher seeding rates and denser tillering may result in a better environment for disease formation. Also, wet weather in the spring during the reproductive stages of growth may lead to more disease. Information on wheat diseases and control can be found at <http://pubs.caes.uga.edu/caespubs/pubcd/B1135.htm>

Irrigation

Although wheat is a dryland crop and is grown in arid regions of the country, irrigation may increase yields and test weight during very dry springs.

Harvest

Harvest as soon as the wheat is dried down adequately (about 12 % moisture) to prevent lodging

and weathering losses (yield and lower test weight). Harvest period depends upon the variety. Most adapted varieties will be ready for harvest by May 20 in Florida.

Economics

Where intensive crop management practices are followed including deep tillage, higher seeding rates, split or increased nitrogen applications, and fungicides, higher yields are necessary to pay for the added cost. Budgets for wheat production can be found at <http://nfrec.ifas.ufl.edu/Hewitt/budgets.htm>