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Wheat News

for Hertford County Wheat Growers

Preparation for Wheat Planting

Keys to Successful Planting in October

Soil Testing & Liming

Soil testing before planting is an essential component of a small grain fertility management program and remains key to the proper liming of wheat. A pH level of 6.0 is preferred, but wheat is very forgiving down to a pH level of 5.5. If the pH is too low, soluble aluminum and acidity can limit root growth and nutrient uptake. If the pH is too high, micronutrients such as manganese, iron, copper, and zinc can become unavailable.

Nutrient Management

Nitrogen: When planting on time, 15 to 30 pounds of preplant N per acre is generally sufficient for promoting maximum growth and tillering. This application is vital for producing high yields because N stress early in the season will prevent adequate tillering.

Phosphorous: Phosphorous plays a key role in germination and early plant growth, promotes winter hardiness, stimulates growth of the wheat kernel, and has a role in determining when the plant reaches maturity. 70% of all NC soil tests show high phosphorous levels. Phosphorous should be added if the P index level is less than 50. If no soil test is available, a 60-bushel wheat crop will remove about 30 pounds of phosphorous per acre.

Potassium: Potassium influences grain quality, which includes test weight and oil content. It also prevents lodging and plays an important role in drought and disease tolerance. K2O problems should be addressed prior to wheat planting. It is recommended that K2O be split-applied in sandy soils, with one-half of the total amount being applied at preplant and one-half being applied at top dressing. A 60-bushel wheat crop removes about 80 pounds of K2O per acre.

Sulfur: Sulfur increases kernel weight, kernel size, grain protein, yield, and test-weight. Sulfur is also required for the production of chlorophyll and many enzymes involved in the utilization of N. A 60-bushel wheat crop can remove about 15 pounds of sulfur if the straw is not removed from the field. On sandy soils, apply 15-20 pounds of sulfur pre-plant to the acre. Remember that if sulfur is deficient, nitrogen take-up will not occur.

Planting Date

In order to find the right compromise between planting early enough to encourage tillering, but late enough to avoid insect and disease problems, it is recommended that wheat be planted within one week of the first frost. For Hertford County, it is recommended that wheat not be planted before October 25th due to the threat of Hessian fly damage.

Variety Selection

Always try to select at least three varieties to plant. In doing so, the risk of selecting a variety that may lack resistance to a particular pest or may flower at a time when weather conditions are not optimal is minimized. Varieties that are "above average" with regards to yield are usually good first choices, but even the "average" yielding varieties are likely to produce acceptable yields. It is important to make sound decisions with regards to variety selection based off the needs of each individual field. By documenting which varieties you plant in which fields, you are better able to develop a disease management strategy.

Yield is not the only factor to consider when choosing a variety. In the Northeast region of North Carolina, varietal selection should consider resistance to powdery mildew. The risk of powdery mildew increases on sandy soils. Variety selection should also be based upon performance data from multiple locations, preferably over multiple years. For yield data, growers can utilize the North Carolina OVT trials which can be found at ncovt.com.

Seeding Rates

Seeding rates between 1.1 and 1.5 million seeds per acre produced the highest average yields. Optimum yields are frequently reached for most growers at around 1.1 million seeds per acre. For growers interested in intensive management, it is recommended that 1.5 million seeds per acre be planted. Most growers think about small grain seeding rates in terms of pounds of seed per acre. A large seeded variety may only have 10,000 seeds per pound, whereas, a small seeded variety could have up to 15,000 seeds in a pound. Therefore, it is important that growers consider seed size when selecting seeding rates based on pounds per acre. The website www.smallgrains.ncsu.edu is a good resource for grain drill calibration.

Through careful consideration and a strong decision making process, above average wheat yields can be achieved for growers in Hertford County. Pre-plant focus should rely heavily on soil testing, nutrient management, timely planting, and variety selection to ensure success.

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Sincerely,

Joshua Holland
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