SOIL TEST INFORMATION SHEET NO. C-100

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Cereal grains: Oats, Wheat or other Cereals

1.Agricultural limestone should be applied when the soil pH value is below 5.5. Required lime should be applied pre-plant because it takes time for the lime to begin to neutralize the acidity of most soils. Limestone effectiveness is determined by the size of the particles and the Calcium Carbonate Equivalent (C.C.E). The lime recommendation is based on a C.C.E. of 100. If the magnesium content of the soil is medium or lower, dolomitic limestone should be used. Do not overlime. Overliming can cause micronutrient deficiencies. Lime should be incorporated in the soil prior to planting.

2.Nitrogen (N) fertilization of wheat can be a challenging aspect of production. Total N application normally ranges from 90 to 120 pounds per acre **(60 to 90 pounds per acre for oats)**. The exact rate will vary depending on the previous crop, soil type and rainfall after application(s). Timing N application depends on several factors. The wheat crop needs adequate N in the fall and early winter to establish ground cover and properly tiller; however, excessive levels of fall N can result in rank growth which increases lodging potential and the risk of spring freeze damage due to early jointing or heading. If the wheat crop is following soybeans, soil residual or mineralizable N should be adequate for fall growth, and no pre-plant N is needed. However, if the wheat crop follows corn, sorghum, rice or cotton, the application of 15 to 30 pounds of N per acre would typically be beneficial. Where the wheat crop is planted later than the optimum date, additional N may be necessary to ensure adequate fall growth prior to winter conditions. If the wheat crop did not receive a fall application and appears to be suffering from N deficiency in January, the initial topdress N application can be made early to promote additional tillering. The majority of N for the wheat crop should be applied in early spring. There is no universal rule on how early spring N should be applied. Each field should be evaluated based on tillering, stage of development, environmental conditions, and crop color. A crop that has good growth and dark green color should not need N fertilization prior to erect leaf sheath (Feekes 5), usually sometime in early to mid-February. However, first spring fertilizer application should be applied prior to first node (Feekes 6) to ensure optimum head development, tiller retention and head size. If the plants are light green (chlorotic) in January it may be necessary to apply the first N in mid-January. If sulfur was not applied in the fall it maybe necessary to include S with the first N application. **Crop N stress around jointing (Feekes6) will result in yield loss.** Any additional N applied following flag leaf typically contributes very little to crop yield. Splitting topdress N into two or three applications is common in Louisiana production systems due to the increased risk of N losses often associated with heavy rainfall and our long growing season. Splitting N typically occurs by applying fertilizer N at or just prior to jointing with a second application occurring 14 to 28 days later when the first application has visibly greened up the crop. About 50 percent of the topdress N is normally applied with the first split, but this may be decreased if the first split is put out early and plants are not well enough developed to take up that much N.

3.Early spring sulfur (S) deficiency is sometimes mistaken for N deficiency and additional S is not applied. Because sulfur is mobile, similar to N, the application solely in the fall will not be adequate. Supplemental applications of S with the first spring N applications are often warranted.

4.Phosphorus, K, and micronutrients should be applied in the fall based on soil test reports. All fertilizers applied as well as lime should be incorporated into the soil prior to planting. The application of sulfur is a growing concern in Louisiana production systems, with increasing deficiencies appearing every year.

5.Contact your county agent for additional information and help in your fertilization program. The agent also receives a copy of this report for the parish office files.
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