Planting and Management Practices for Wheat and Oats

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Successful wheat and oat production requires the use of management practices that contribute to high yields. Planting practices and management decisions made during the planting season are crucial for good stand establishment, winter survival and grain yield.

**Land Selection:** Wheat and oats are most productive when planted on soils that have good surface and internal drainage, a fertility level of at least medium and a neutral or slightly acidic soil. Fields that have poor surface or internal drainage or that are subject to prolonged overflow should not be planted to wheat or oats. Test soils to determine fertilizer and lime needs well before planting time.

**Seedbed preparation:** Seedbed preparation should be thorough enough to incorporate existing vegetation and permit uniform planting. Plowing may be required where excessive vegetation exists as when following corn or grain sorghum with wheat or oats. If little vegetation is present, disking may provide a good seedbed and allow proper drill operation. Planting with a no-till drill may be successful if the surface is smooth and little vegetation is present.

**Planting Methods, Rates and Depths:** Planting with a grain drill is the preferred method because it allows uniform depth of planting and results in a more uniform stand. Broadcast seeding followed by light disking or harrowing to cover the seed can be used where drilling is not convenient. For wheat or oats, plant 60 to 90 lbs/A if planted into a well prepared seedbed. Adjust the seeding rate upward for broadcast planting.

For proper emergence and a vigorous stand, plant seed at a depth of 1 to 2 inches. Coverage should be less in medium to heavy textured soils than in light or sandy soils. Coverage should also be reduced for late planting and for planting into soils with abundant moisture for emergence.

**Planting Dates:** For grain production, plant most varieties from October 15 to November 15 in northern Louisiana or November 1 to November 30 in central and southern Louisiana. Wheat or oats planted earlier are more likely to be damaged by insects and diseases in the fall and may accumulate excessive fall growth, especially if not grazed. Very early maturing varieties can be planted later during the recommended planting period. Planting too late may also result in increased winterkill or uneven maturity for varieties with long vernalization requirements.
**Fall Fertilization and Liming for Grain Only**: Fall fertilization and liming should be carried out to supply any needs indicated by soil testing. Phosphorus and potassium, where recommended, should be incorporated into the seedbed before planting time. If lime is recommended, apply before seedbed preparation if possible. Fall application of nitrogen is usually not needed where no grazing is planned and the wheat or oats follow soybeans. Where wheat or oats follow corn, sorghum or rice, application of 15 to 20 pounds of nitrogen per acre in the fall may be beneficial.

**Spring Topdressing**: Nitrogen is a necessary nutrient for growth of wheat and oats. Although the total quantity needed is quite large, the early seasonal needs are small. If all of the nitrogen needed is applied at planting, several undesirable results can occur. The crop may produce too much vegetative growth during the fall and early winter. This can lead to excessive freezing damage, lodging, and increased insect and/or disease problems. Much of the early applied nitrogen can also be lost to leaching and/or volatilization during rainy winter months. The supply available for spring growth and grain filling is likely to be inadequate if all of the nitrogen is applied in the fall.

Because of the need for nitrogen in both fall and spring, split (fall and spring) applications are commonly made to wheat and oats in Louisiana. Timing of spring applications should consider plant growth stage and crop condition rather than simply going by calendar date. A field that begins stem elongation or jointing in early February needs nitrogen earlier than a field that begins stem elongation in late February. Similarly, a field that has a thin stand, making tiller production and survival very important, will suffer more from early nitrogen shortages than fields with thick stands where tiller contributions are less important.

Research has shown all nitrogen sources to be equal in their ability to produce wheat and oats. Nitrogen source should be selected on the basis of price, availability, and convenience. In recent years, growers have expressed interest in splitting the spring nitrogen into two or more applications. This practice has not had a major effect on wheat yields under the growing conditions experienced in Louisiana research trials. Because of the small differences observed in the results of research comparing single and split spring nitrogen applications, follow these recommendations for spring topdressing of wheat and oats:

**Wheat**: On alluvial soils apply 70-90 lb/A of N in the spring before jointing (usually mid to late February, at Feke’s stage 5 to 6). On poorly drained alluvial soils, split applications with ½ applied just before jointing and the remainder by the early boot stage may be beneficial in some years. On all other soils apply 60-80 lb/A of N in the spring before jointing.

**Oats**: Apply 50-70 lb/A of N in the spring. Research has shown that at higher rates, lodging and crown rust infestations can be major problems.
**Planting for Grazing and Grain:** If you are considering turning cattle into a wheat or oat field from which you expect to harvest grain, be aware of several practices that can influence your success. Failure to use proper management can result in low grain yields or even a lost crop. Planting can be somewhat earlier since fall growth will be grazed off. Planting from September 20 to October 15 will allow more fall growth for grazing. If fall growth is not grazed after early planting, fall and winter stem elongation may occur and thus increase susceptibility to freezes. Planting before September 20 is not recommended. The seeding rate of wheat or oats should be from 90 to 120 lb/A.

**Fall Fertilization for Grazing and Grain:** Incorporate any needed phosphorus and potassium into the seedbed before planting. Base rates on soil testing. If lime is needed, apply it before seedbed preparation where possible. Fall nitrogen should be applied at the rate of 80-100 lb/A where fall and winter grazing are needed. A topdress application of 45-60 lb/A of N in late December or early January can stimulate extra growth if temperature and moisture are suitable.

**Grazing Management:** Grazing before early stem elongation may do little damage to healthy wheat or oats when the soil is firm and the plants are not grazed below 2 to 3 inches. Grazing should not be initiated until the plants are well established and have 6 to 8 inches of topgrowth.

Do not graze fields that have a poor stand. Grazing, even under good conditions, can result in some loss of plants because of trampling. This is of little consequence in a thick stand if trampling is not excessive, but in a thin stand, any loss of plants is harmful. Do not graze fields that are wet enough or soft enough for cattle’s hooves to sink into the ground. Stand losses could quickly become excessive under these conditions.

The dates when grazing should be stopped vary from year to year and are different for each variety. Begin checking for signs of stem growth by late January in southern Louisiana or early February in northern Louisiana. Remove cattle at the first sign of stem elongation. Even then, grazing may result in slightly delayed heading. Grazing should probably be terminated by mid February in northern Louisiana or early February in southern Louisiana, even if no signs of stem elongation are observed. Fields that have been grazed should be topdressed with N after removing cattle unless an adequate supply of N is available from a recent topdressing.