

EAGLE SEED Black Oat/Bob Oat Guide

Oats are grown as a grain crop, as a forage crop (greenchop, ensilage, haying, and grazing), alone or in mixtures with rye and clovers, as a catch-crop for nitrogen, as a crop to control erosion (cover crop), and as a crop to add organic matter to the soil (green manure). The palatability of oats as a forage, as well as its forage quality, is the best of the small grains. As a result, the performance of animals pastured on oats (or, more commonly, oats in combination with other winter annual grasses or legumes) is outstanding. The main factor that limits the use of oats as a winter annual grazing crop is that, in general, oats lack good winter hardiness and require good drainage. Oats are less winter hardy than wheat, barley, or rye and will generally suffer yield losses when the temperature falls below 20 degrees F.

Planting Date: The optimum dates for planting oats will depend on the location, but a good rule of thumb is to plant them 45-60 days before your normal fall frost date. Oat plants that are at a more advanced growth stage (tillering) are less susceptible to winter kill than plants at the seedling growth stage. Planting at the recommended planting date maximizes the chances of producing a good grain or forage crop and minimizes the chances of total crop loss through winter kill.

Oats planted for use as forage should be planted earlier than those to be harvested as grain. Small grains planted too late often suffer winter damage and do not yield well.

Oats that are planted too early may suffer excessive damage from insects and diseases and may accumulate extra autumn growth that often leads to lodging. If stem elongation and head formation begin in autumn, severe winter kill will usually result. Table 1 lists recommended planting dates.

Seedbed Preparation: Preparation of a smooth, firm, vegetation-free seedbed aids in precise planting and obtaining a good stand. Disking is probably the most common method of seedbed preparation for small grain. However, recent studies suggest that some sort of deep tillage before planting may be beneficial, particularly on coastal plain soils.

Chisel-plowing and turn-plowing usually result in 5 to 15 bushels per acre more than disking or no-till and 600 to 1,000 pounds per acre higher forage yields. A para-tiller or subsoiler with a 30- to 36-inch shank opening is as effective as chiseling or turning.

Planting Rate and Depth: The quantity of seed needed per acre varies in different situations. More seed should be used in fields that are to be grazed than in areas where oats are being grown for grain only. The method of planting also influences the quantity of seed needed. The best method for planting oats is with a grain drill or other drill-type planter that allows precise planting. If the seed are to be broadcast and disked in, increase the seeding rate by 20 percent. Seeding rate should also be increased with any of the following conditions: late planting, no-till planting, planting into a dry seedbed, or aerial planting.

The recommended planting rate for oats planted for grain is 60 to 90 pounds per acre. The recommended planting rate for oats planted for forage is 90 to 120 pounds per acre. If seeded with ryegrass or clovers, the seeding rate for oats is 60 to 90 pounds per acre.

Planting Depth: Oat seed should be placed in firm contact with enough soil to prevent rapid drying. Seed should be placed at $\frac{1}{2}$ inch depth in moist soil. Deeper coverage may result in loss of vigor and failure of the seed to produce emerged seedlings.

For uniform depth of coverage, the seedbed should be smooth and the grain drill should be adjusted so that all openers are planting at the same depth. If some openers are planting too deep or shallow, poor seed emergence and poor stands may result in those rows.

Liming and Fertilizing: There is no substitute for soil testing in determining how much lime and fertilizer to apply for oat production. When taking soil samples, avoid atypical areas such as depressions or eroded sites. A good fertilizer recommendation depends on a good soil test. Soil acidity (low pH) often reduces the yield of oats. This can be easily corrected by liming. The recommended range for oats is 5.8 to 6.5. Any needed lime should be incorporated into the topsoil before planting time.

Nitrogen: For grain production apply 20 pounds of nitrogen (N) per acre at planting or soon after seedling emergence. Apply an additional 60 pounds N per acre in February for oats behind a summer legume and 75 pounds N per acre after a non-legume crop.

When oats are planted behind soybeans or peanuts, the autumn nitrogen application can be omitted. Delaying the February nitrogen application until March may severely reduce yields, especially when oats follow non-legume crops.

Oats to be grazed should receive 100 pounds N per acre, followed by an additional 60 pounds N in late winter. If planted with a winter annual legume, or if sod-seeded in late autumn, 60 pounds N per acre should be applied near planting. With grass and legume mixtures, 60 pounds N may be applied in late winter, depending on whether additional forage is needed.

Comparisons of different nitrogen sources have generally shown little or no difference in effectiveness, provided the application requirements of the source used are met. However, gaseous losses from urea or liquids containing urea can be important under conditions of high temperatures, dry soils, high soil pH (7.0 or higher), and where large quantities of plant material cover the soil surface. Under these conditions, ammonium nitrate would be the preferred nitrogen source. To minimize losses, dribble urea nitrogen instead of applying broadcast.

Phosphorus and Potassium: Phosphorus (P) and potassium (K) are important in oat production. Needs vary from field to field, and fertilization with these elements should be based on a soil test.

Magnesium and Sulfur: Available magnesium (Mg) is routinely determined on soil samples received by University Soil Testing Laboratory. Where Mg is low and liming is needed, dolomitic lime is recommended. However, on fields that are low in P and high in K and N, problems with grazing cows and sheep are likely, because these circumstances favor Mg-deficiencies in animals. Calcium (Ca) is also supplied by lime and is generally not deficient in areas where there is a suitable soil.

Sulfur (S) may be deficient on sandy soils where little or no S has been applied recently. The application of 10 pounds S per acre in the form of ammonium sulfate, ammonium thiosulfate, or other sulfate is recommended each year to prevent S deficiencies. Up to 20 pounds S per acre may be needed on deep sands to prevent sulfur deficiencies. The best time to apply sulfate sulfur is at topdressing in February.

Micronutrients: Micronutrients are generally available soils in adequate amounts for oats production. Therefore, routine applications of micronutrients to oats is not recommended.

Weed Control

Weed control for oats is similar to that for wheat. However, **do not** use the herbicide Hoelon for oats. For specific information on weed control, obtain Circular ANR-458, "IPM For Small Grains."

This planting guide data is courtesy of the Alabama Cooperative Extension System (Alabama A&M University and Auburn University).