Fine-Tune Oat Seeding Rate This Spring

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Abstract
It's time to plant small grains. When planting oats, spring wheat, and barley, farmers typically plant two to three bushels of small grains per acre, but there is a better way to optimize plant populations and grain yields. Farmers calculate corn and soybean rates by seed count and should do the same for small grains.

Keywords
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Disciplines
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It’s time to plant small grains. When planting oats, spring wheat, and barley, farmers typically plant two to three bushels of small grains per acre, but there is a better way to optimize plant populations and grain yields. Farmers calculate corn and soybean rates by seed count and should do the same for small grains.

**Plant stands**
When planting oats, barley, or wheat, work to achieve harvest plant populations of 1.0 to 1.3 million plants per acre or approximately 22 to 29 plants per square foot. Several factors affect final plant stands at oat harvest, including: desired final plant stand, number of oat seeds per pound, germination rate in the seed lot, and expected stand loss from irregular seeding depth or early plant death.

**Calculating seeding rates**
Calculating seeding rates in terms of seeds per acre rather than bushels will improve your
planting accuracy and help to optimize yields. Oat bushels are standardized at 32 pounds per bushel, though there is a range of actual test weights. In addition, seed number varies per pound depending on oat cultivar and the growing conditions under which the seed was produced. Seed counts for oats can range from 12,000 to 17,000 seeds per pound and are not commonly listed on seed bags. Seed dealers can provide that information if they have an automated seed counter in house. If seed counts are not readily available, weigh an ounce of seed on a digital kitchen scale, count the seeds per ounce, and multiply that by 16 to calculate seeds per pound.

Calculating seed drop rate

When calculating the seed drop rate, account for the less than 100 percent germination rate of your seed lot and for stand establishment losses, typically 10 to 20 percent. This will increase the amount of seed you need to drop at planting. Use the following formula to calculate oat seed drop rate:

1. Determine desired final stand per acre and divide by: (1-expected stand loss).
2. Calculate seeds per pound and multiply by the germination rate of the seed lot.
3. Divide #1 by #2 for the final seeding rate.

The Department of Agriculture in Alberta, Canada has developed an online calculator (link: https://www.agric.gov.ab.ca/app19/calc/crop/otherseedcalculator.jsp) to determine seeding rates for oats and other small grains. Note that the rates are calculated using grams not ounces. This can be converted by using 28.35 grams per ounce.

If oat or other small grain planting is delayed, less tillering, fewer seed heads per acre, and reduced grain yield will result. The University of Minnesota advises increasing seeding rates by one percent for each day after the optimum spring small grain seeding date to compensate for less tillering.

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Photo by: Margaret Smith

Category: Crop Production

Crop:
Biomass and Forage

Tags:
- oats
- spring wheat
- barley
- forage
- seeding rate
- oat planting rate
- Small Grains
- oat seeding rates
- calculating seeding rate

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