

## Seeding Rate & Planting Date

By Dave Wilson, King's AgriSeeds, Inc

As you get ready for fall seedings, there are two important points to consider: **seeding rate** and **planting date** can both mean the difference between success and failure in crop establishment. Timing and amount are both critical.

**Size of the Seed** – a smaller seed means a lower seeding rate (pounds per acre) than a crop with a larger seed to achieve a comparable population; smaller seed size also means shallower seeding depths.

**Balance of Species** – your needs and goals for the crop determines what proportion of each species in the mix is most suitable.

**Conditions** – more challenging weather and soil conditions (including high-residue no-till situations) often dictate a higher seeding rate.

**Intended Use** – a cover crop often means a lower seeding rate than growing the same crop as both a cover and forage.

**Seeding rate and seeding date are mutually influential.** For example, a later seeding date with a grass crop might mean less tillering in the fall, demanding a higher seeding rate to achieve the same ground cover.

One of the highest-yielding winter annual mixes we observe on a consistent basis is **Forage Type Triticale** mixed with **Crimson Clover**. The sweet spot for seeding rate turned out to be about 100 #/acre of Triticale and 25#/acre of Crimson. If you use more triticale or less clover, the clover gets drowned out and plays little role in ultimate yield. This may seem like a high rate for clover, but keep in mind that Crimson has a larger seed than most other clovers.

**An earlier planting date means better growth and establishment in the fall**, so you can reduce the seeding rate slightly. Crimson clover can be planted at 15-20 #/acre if you get it

in the ground in early.

**Forage Oats mixed with Daikon Radish** is a useful cover crop that provides winter-killed ground cover over winter, as well as a grazing crop in the fall. In this combination, we recommend 70-90 lbs. of oats; 70 lbs/acre of oats as a cover crop, and 90 lbs/acre of oats in a grazing scenario. In general, 70 lbs. of oats with 6-8 lbs/acre of radish makes a good mix.

For a grain farmer using it as a winter-killed cover crop, we would recommend slightly less oats and more radish, about 50 lbs. of oats and 6-10 lbs. of radish. The higher radish seeding rate gives you a higher number of thinner radish tap roots that can grow deep into the soil, ideal for breaking up hard pans.

A grazier or forage grower, however, is usually not looking for soil improvement as a primary goal and should plant a higher proportion of oats to get the best dry matter yield for feeding (radishes will provide a nutritious high protein supplemental forage as a component in the mix, but the radish leaves are high in moisture and less dense in dry matter) This means cutting back the radish to 4-6 lbs. and increasing the oats to 90 lbs. to get both digestible fiber from the oats and a nutritious brassica leaf forage from the radish.

**Oats can be combined with other forage brassicas** (hybrids or turnips) for fall grazing.

The best combinations for maximum biomass for grazing in about 60 days are a combination of oats at 3 Bushel per acre (96 lbs.) of oats along with 4 to 6 lbs. of turnips. You can also plant the oats with 2 to 3 lbs. of other forage brassica. The daikon radish could be used as well. Some varieties of brassicas are specifically designed for aggressive top growth and regrowth.

To gain the maximum amount of biomass for grazing, the optimum planting date is about six to eight weeks prior to wheat planting date. As we plant later in the season we can increase the seeding rate of the oats, which will make up to some extent growing more biomass with more plants per square foot compared to having the oats grow more from the increased growing temperatures when planted earlier.

Planting dates that stretch later into the fall produce far less cover crop biomass, heights, and ground cover. The month's difference between mid-September and mid to late October can reduce biomass by 50% or more. Earlier planting means faster seed germination and growth, and allows the crop to become better established prior to fall dormancy. This provides maximum groundcover. An earlier planting also helps buffer against adverse fall weather. Delaying planting by even a few days in the fall really shows up negatively in the spring harvest.

**Seeding rate is sometimes but not consistently a predictor of yield and establishment.** Small grains often make up for low seeding rates with more abundant tillers – which is more cost-effective for the grower. When seeding a cover crop in the fall, grabbing an early planting window is probably more critical than a higher seeding rate, but you may have no choice and be forced to make up for late planting with a higher seeding rate.

We've also found that with some small grains like wheat and barley, increasing the seeding rate from 100 lbs to 130 lbs. doesn't make a whole lot of difference to final tonnage, but adding another species, like crimson clover at 20-25 lbs., can significantly improve yield.

As you head into the late summer/fall season, think about your cropping needs and give consideration to these management practices.