

# New Strategies for Dealing with Annual Ryegrass as a Cover Crop

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**Planting:** There is no one perfect planting strategy and flexibility will improve success. However, early planting is a key to success.

## **Timing:**

1. Ideal planting time is before the end of September or the middle of October in the Southern part of the Corn Belt.
2. Very early seeding can occur in mid August after wheat or corn silage. Planting this early offers potential of grazing or cutting haylage in the fall.
3. Late planting should be drilled.
4. Planting in October may not provide enough time for sufficient fall growth. 60 days of growth are recommended before cold temperatures arrive.
5. Dormant seeding is another option in December through February on frozen ground. However in order to obtain benefits, at least 4 additional weeks beyond normal burndown in the spring is recommended.

## **Seeding Method**

1. **Aerial Seeding** - Seeding in early September into standing corn or soybeans (at leaf drop time) can be accomplished with an airplane or a sprayer (using tram lines) modified with electric motor spinners to broadcast seed. Adequate soil moisture and rain following seeding is needed to ensure success.
  - a. Annual ryegrass is very light (27 lbs/bu) and pilot will need to adjust swath distance to avoid skips.
  - b. Extreme caution is needed to keep seed from neighboring fields (especially if wheat is in the crop rotation)
2. **Drilling** offers the best seed to soil contact and best stand (if it can be done timely), especially in dryer than desired conditions. Annual ryegrass can be seeded from drill's main box.
3. **Airflow** provides uniform distribution. However, this leaves very small seed on the soil's surface. Rain is needed shortly after seeding to obtain an adequate stand. A heavy dew can cause seed germination and if there is inadequate soil moisture, the stand may be less than desired.
4. **Broadcasting seed mixed with fertilizer with a truck spinner** is another option. The light annual ryegrass seed travels half the distance as fertilizer. So a one half rate should be applied and the middles split in order to obtain uniform seed distribution.
5. **An incorporating tool**, such as some type of fluffing harrow, will mix some soil with the seed and cover some seed with crop residue. This helps but lack of seed to soil contact in dry conditions may not achieve desired results. Adding or running a cultipacker will improve seed to soil contact and desired stand.

**Seeding rate:** Seeding rate varies depending on seeding method, seeding timing, soil moisture level and if it will be used as a forage, in addition to a cover crop.

**1. Cover crop –**

- a. Seeding with a drill early (in September) can be seeded at 12-15 lb/ac. Drilling in October or in dry conditions, then increase seeding rate to 15-20 lbs/ac.
- b. Broadcast or aerial seeding early – 20-25 lbs/ac; under dryer conditions or seeding later increase seeding rate to 25-30 lbs/ac
- c. Dormant seeding – 25-35 lbs/ac

**Varieties:** Annual ryegrass has over 48 different varieties or blends marketed today.

1. Select varieties that are adapted to your area.
2. Be aware that Named blends of varieties may change each year by content or percentage of each variety.
3. Varieties in blends that have different seed size, may result in different stand populations.
4. There is a large variation in emergence and establishment by variety.
5. Blends may cause uneven emergence and establishment.

**Fall Management:**

1. High soil fertility greatly increases annual ryegrass establishment and growth
2. Nitrogen fall applied as N or DAP will increase growth and rooting
3. Control winter annuals; they will cause competition and reduce stands, growth
4. Check spring herbicide labels for planting restrictions; annual ryegrass stands may be stunted or killed by carryover
5. Any fertility fall applied will help increase stand and growth

**Spring Management:**

1. Annual ryegrass is easiest to kill before it joints
2. Jointing occurs at a height of 7-10"
3. Date of jointing will be mid-March in the south to third week of April in the north
4. Kill early to get most nitrogen release and plant decomposition
5. Early kill makes planting easy, conserves moisture, enhances plant decomposition

**Herbicides activity:**

1. Systemic herbicides are very temperature sensitive
2. Plants must be actively growing, translocating nutrients
3. Below 40 degrees translocation is stopped, herbicide is tied up
4. Must have sunshine day of spraying and day after if temperatures are cold
5. With cool temperatures spraying must be done in morning or at least 4 hours before sunset

6. If temperatures are above 70 degrees daytime and not below 50 degrees at night control is greatly improved
7. Glyphosate products work best with ammonium sulfate or like product added
8. Glyphosate products should be mixed and sprayed at 10 gallon/acre, higher water rates decrease control
9. Utilize Roundup Ready crops to allow for easy control of escapes
10. Different varieties will have different susceptibility to herbicides and therefore may require higher rates
11. Annual ryegrass becomes easy to kill at flowering, but may set some viable seed
12. Annual ryegrass at flowering provides good mulch but little or no nitrogen release
13. At maturity ryegrass decomposes very slowly due to high carbon/nitrogen ratio