# CEREAL RYE (*Secale cereale* L.)

Cereal rye is the workhorse small grain cover crop in the Coastal Plain. It produces the most biomass of the small grains. In no-till systems, it is excellent for summer weed suppression when allowed to mature due to a persistent residue.

## Recommended Varieties

| Variety | Reasons Why | Source |
|---|---|---|
| Wrens Abruzzi | Cheap, easily available, good biomass, few diseases. | |
| Winter Grazer | Forage variety, high biomass. | |
| Elbon, Maton, FL 401 | Elbon is a recommended variety from Georgia Statewide Variety Trials.<br>Maton is an older variety that has good yields in Georgia Statewide Variety Trials.<br>Florida 401 is very early maturing variety. | Jimmy Carter Plant Materials Center data |
| Bates, Bates RS4, Maton II, Oklon | These varieties have similar performance in OK to those listed above. | Noble Research Institute |

## Planting Information

| Information | | Comments | Source |
|---|---|---|---|
| Drilled Seed Depth (inches) | ¾ - 2 | | Managing Cover Crops Profitably |
| Drilled Seeding Rate (lbs/acre) | 60 - 100 | Higher rate may be needed in conservation tillage systems for sufficient biomass to suppress weeds in following cash crop. | Managing Cover Crops Profitably |
| Broadcast Seeding Rate (lbs/acre) | 90 - 120 | Rye has the highest likelihood of broadcast seeding success of any of the small grains. Broadcasting after peanut digging and before peanut harvest works well, but timing is critical to avoid rye germination before peanut harvest. Broadcasting before cotton defoliation has also worked for many farmers. | GA county agent – personal communication, Managing Cover Crops Profitably |
| Aerial Seeding Rate (lbs/acre) | 150 | Rye has the highest likelihood of aerial seeding success of any of the small grains. Very dependent on favorable weather for success. | USDA Cereal Rye Plant Guide |

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## Termination Information

| Information | Source |
|---|---|
| Cereal rye can be terminated by mowing, rolling & crimping, herbicides, tillage, high density grazing and combinations of these practices. Termination timing depends on goals. For weed suppression, cereal rye should be terminated at milk to soft dough stage. To reduce potential nitrogen immobilization, cereal rye should be terminated before flowering (antheses). When planting cash crop into cereal rye residue, wait at least two weeks after termination so that the residue is dry and crispy. Some farmers plant into green cereal rye and spray an herbicide as they plant or shortly afterward. This may increase risk of cut worm damage.<br><br>Consult your local Extension and state Pest Management Handbook for herbicide recommendations. Always follow the herbicide label. | USDA Cereal Rye Plant Guide |

## Cultural Traits

| Traits | | Comments | Source |
|---|---|---|---|
| Typical Dry Matter Range (lbs/acre) | 3,000 - 8,000 | | Managing Cover Crops Profitably (modified by research data from Coastal Plain) |
| Typical Total N Range (lbs/acre) | 25 - 50 | These values are for total N in cereal rye aboveground biomass is due to N scavenging. N in cereal rye residue is not available during following growing season. Early termination may provide a small amount of N to following cash crop. Late termination can cause N immobilization due to high C:N ratio. | Managing Cover Crops Profitably |
| Life Cycle | Cool season annual grain | | Managing Cover Crops Profitably |
| Growth Habit | Upright | | Managing Cover Crops Profitably |
| Preferred Soil pH | 5.0 - 7.0 | Cereal rye is more tolerant of acidic soils than oats or wheat. It is more adapted to sandy soils than other small grains. | Georgia Forages, Managing Cover Crops Profitably |
| Relative Costs ($/acre) | $$$ | | Based on survey of seed costs using maximum price and max seeding rate |
| Min. Germination Temp (F) | 34° | Cereal rye is best choice for late planting as it grows at 5 degrees lower temperatures than other small grains. | Georgia Forages, Managing Cover Crops Profitably, Noble Research Institute |
| Cautions | High biomass can cause temporary nitrogen immobilization. An additional 20 to 30 lbs N/acre at planting will alleviate this. | | |

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**Sources:**

Georgia Forages:
http://www.caes.uga.edu/extension-outreach/commodities/forages/species-and-varieties/cool-season/rye.html

Jimmy Carter Plant Materials Center Annual Reports:
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ga/plantsanimals/?cid=nrcs144p2_022076

Managing Cover Crops Profitably: https://www.sare.org/Learning-Center/Books

USDA Cereal Rye Plant Guide:
https://plants.usda.gov/factsheet/pdf/fs_sece.pdf