

# CEREAL RYE

Winter rye, Common rye, Cultivated rye

*Secale cereale*

Poaceae

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## ECHO® PLANT INFORMATION SHEET

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### Description

*Secale cereale* is an upright, annual, cool season, grain-bearing grass. A tufted grass with hollow stems, *S. cereale* reaches heights of 2 m. The blue-green leaves are borne on tillers, supported by extensive root systems that extend up to 2 m in the soil. Spike flowers give way to heads of pale brown, oblong grain.

### Uses

A multipurpose crop, *S. cereale* can serve as a non-leguminous green manure cover crop, grain crop, forage species, or hay fodder species. The extensive root systems of *S. cereale* scavenge and accumulate nitrogen, storing residual nitrogen from prior plantings. When biomass is terminated at the end of the growing season, this stored nitrogen is released and available for the next crop. This process of storing and releasing nitrogen is valuable for fertilizer use efficiency. As a grain and forage crop, *S. cereale* produces a grain commonly used in various food and beverage preparations for human consumption, as well as for livestock fodder. Since it is a cool season crop, *S. cereale* is one of the few forage species available for fresh consumption in late fall and early spring. As a forage and hay species, *S. cereale* is often intercropped with other species, such as clover, to bolster its nutritional capacity for livestock.

### Common Names

- Spanish
  - zekale

### Cultivation

- **Elevation** - up to 4300 m; consider *S. cereale* for the high-altitude tropics
- **Rainfall** - 400-2000 mm
- **Soil Types** - pH 4.5-8.2; prefers well-drained soils
- **Temperature Range** - 15-35°C; reproductive growth dependent upon cold exposure
- **Day Length Sensitivity** - requires day lengths greater than 12 hours to flower
- **Light** - prefers full sun

Planting time for *S. cereale* ranges from late summer to mid-autumn, depending on region. Seeds should be planted no deeper than 5 cm and in rows 10-25 cm apart, if grown as a rowcrop. Seeds can also be broadcast or overseeded into an existing crop at rates of 55-225 kg/ha. Seed can be interspersed with other forage varieties if grown for pasture or hay use.

### Harvesting and Seed Production

*S. cereale* grown for grain can be harvested once seed heads mature and begin to dry in-field. As a green manure cover crop, plants should be crimped or cut at the point of pollen shed—indicating reproductive maturity.

### Pests and Diseases

*S. cereale* is a robust crop, but can be affected by such pathogens as *Fusarium* spp., rusts, and ergot (*Claviceps purpurea*), which directly affects the grain.

### Cooking and Nutrition

*S. cereale* grain is the second most commonly utilized grain, most common in alcoholic drink production, breads, and flours. Grains can be dried and milled for flour, soaked and fermented, or roasted and brewed as a coffee substitute.

### References

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