

Grass
Cereal Rye, Winter
Secale cereale



PLANT HARDINESS ZONE 6 DATASET

COVER CROP DESCRIPTION

Most commonly-grown cover crop in the US. Most winter-hardy cover crop. Best winter cover for low-fertility or acid soils. Tolerates wet soil. Winter cereal rye requires vernalization (overwintering) to flower and will likely fail to flower if planted in spring. Best winter cover for many purposes: excellent for biomass, N scavenging, weed control. Good forage, but low quality after heading. Best choice for roller-crimping. Height, biomass, high C:N ratio at maturity may hinder the growth of a following non-legume cash crop. Potential weed if it sets seed, especially in small grain cash crops. Mixes well with legumes. Can plant later than any small grain, but goes to head early in spring – only barley is earlier.



Cereal Rye, Winter - Ackroyd [2020]



Cereal Rye, Winter - Bjorkman [2020]



Cereal Rye, Winter - Ackroyd [2020]

GOALS

Growing Window	Short	Penetrates Plow Pan	<div><div></div><div></div><div></div><div></div><div></div></div>
Nitrogen Scavenging	<div><div></div><div></div><div></div><div></div><div></div></div>	Reduces Surface Compaction	<div><div></div><div></div><div></div><div></div><div></div></div>
Lasting Residue	<div><div></div><div></div><div></div><div></div><div></div></div>	Improve Soil Organic Matter	<div><div></div><div></div><div></div><div></div><div></div></div>
Prevent Fall Soil Erosion	<div><div></div><div></div><div></div><div></div><div></div></div>	Increase Soil Aggregation	<div><div></div><div></div><div></div><div></div><div></div></div>
Prevent Spring Soil Erosion	<div><div></div><div></div><div></div><div></div><div></div></div>	Good Grazing	<div><div></div><div></div><div></div><div></div><div></div></div>
Forage Harvest Value	<div><div></div><div></div><div></div><div></div><div></div></div>	Pollinator Food	<div><div></div><div></div><div></div><div></div><div></div></div>

WEEDS

Residue Suppresses Summer Annual Weeds	<div><div></div><div></div><div></div><div></div><div></div></div>
Outcompetes Summer Annual Weeds	<div><div></div><div></div><div></div><div></div><div></div></div>
Suppresses Winter Annual Weeds	<div><div></div><div></div><div></div><div></div><div></div></div>
Persistence	<div><div></div><div></div><div></div><div></div><div></div></div>
Volunteer Establishment	<div><div></div><div></div><div></div><div></div><div></div></div>

ENVIRONMENTAL TOLERANCES

Low Fertility	<div><div></div><div></div><div></div><div></div><div></div></div>
Drought	<div><div></div><div></div><div></div><div></div><div></div></div>
Heat	<div><div></div><div></div><div></div><div></div><div></div></div>
Shade	<div><div></div><div></div><div></div><div></div><div></div></div>
Flood	<div><div></div><div></div><div></div><div></div><div></div></div>
Salinity	<div><div></div><div></div><div></div><div></div><div></div></div>

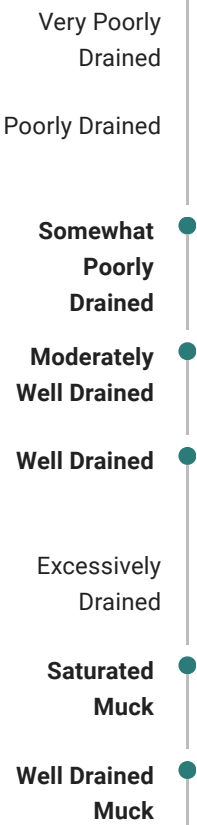


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Growth Traits

Duration	Annual
Zone Use	Common
Shape And Orientation	Erect
Dry Matter (Lbs/A/Yr)	2500 - 6000
Soil Texture	Coarse
	Medium
Soil pH	4.5 - 8.2
Soil Moisture Use	High
Hessian Fly Free Date?	No
Ease Of Establishment	<div><div></div><div></div><div></div><div></div><div></div></div>
Establishes Quickly	<div><div></div><div></div><div></div><div></div><div></div></div>
Early Spring Growth	<div><div></div><div></div><div></div><div></div><div></div></div>
Flowering Trigger	Vernalization
Root Depth	Medium

Soil Drainage



Planting

Seeds Per Lb	18200
Seed Price Per Lb	\$ \$ \$
Base Seeding Rate (Lbs/A)	50 - 120
Drilled Depth	0.75" - 1.5"
Can Aerial Seed?	Yes
Can Frost Seed?	No
Min Germination Temp (°F)	34

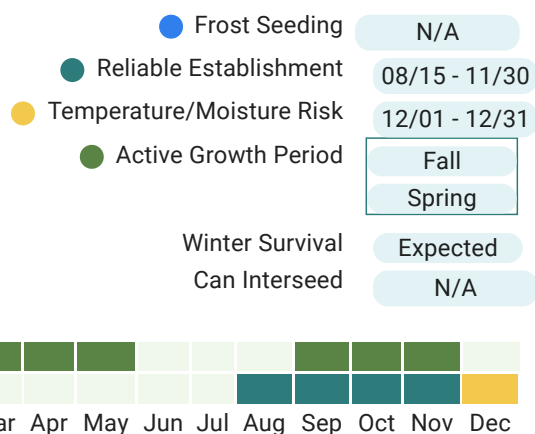
Termination

Tillage At Vegetative	<div><div></div><div></div><div></div><div></div><div></div></div>
Tillage At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Freezing At Vegetative	<div><div></div><div></div><div></div><div></div><div></div></div>
Freezing At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Chemical At Vegetative	<div><div></div><div></div><div></div><div></div><div></div></div>
Chemical At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Mow At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Roller-Crimp At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>



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Planting and Growth Windows



Extended Comments

Planting: If you are planning to use as a killed cover crop mulch for following crop you need to seed at higher rate - up to 150 lbs/acre

Growth, Roots, and Nutrients: Deep rooting to recover nitrogen requires earlier planting than plantings for winter erosion protection

Forage and Grazing: Can be lightly grazed in the fall and again in the spring, or harvested in the spring as ryelage.

Weeds: Can become a weed if tilled at wrong stage; Best if killed early; Not recommended before corn; Mow-kills after heading

Insects: Use as a winter crop and terminated in early or late spring has no impact on arthropods in a subsequent soybean crop

References & Resources

Multiple Purpose Cover Crops, Northeast Organic Farming Association of Connecticut

Fall Cover Crops, University of Delaware Cooperative Extension

Cover Crops and Green Manure Crops – Benefits, Selection, and Use, Rutgers Cooperative Research and Extension

UNH Researchers Find Forage Radish is the Cream of Cover Crops, University of New Hampshire Ag Experiment Station

Early Spring Seasonal Cover Crops, Cornell University Cooperative Extension

Cover Crops for Conservation Tillage Systems, Penn State Extension