

Secale cereale



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

	Low	Medium	High
Growing Window		Medium	
Nitrogen Scavenging			
Lasting Residue			
Prevent Fall Soil Erosion			
Prevent Spring Soil Erosion			
Forage Harvest Value			

Benefit	Percentage
Penetrates Plow Pan	33%
Reduces Surface Compaction	50%
Improve Soil Organic Matter	33%
Increase Soil Aggregation	50%
Good Grazing	50%
Pollinator Food	17%

WEEDS

Characteristic	Score (0-5)
Residue Suppresses Summer Annual Weeds	4.5
Outcompetes Summer Annual Weeds	3.5
Suppresses Winter Annual Weeds	4.5
Persistence	1.5
Volunteer Establishment	4.5

ENVIRONMENTAL TOLERANCES

Condition	Dark Teal	Medium Teal	Light Teal	Very Light Teal
Low Fertility	0.40	0.40	0.20	0.00
Drought	0.35	0.35	0.25	0.05
Heat	0.30	0.30	0.30	0.10
Shade	0.30	0.30	0.30	0.10
Flood	0.25	0.25	0.35	0.15
Salinity	0.25	0.25	0.35	0.15

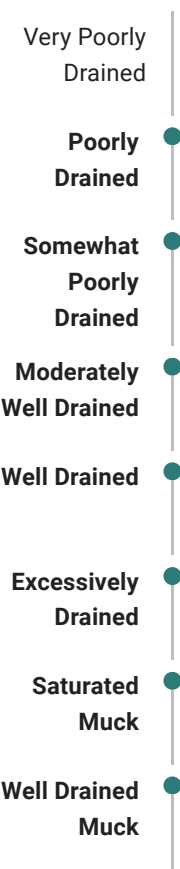


PLANT HARDINESS ZONE 5 DATASET

Growth Traits

Duration	Annual
Zone Use	Common
Shape And Orientation	Erect
Dry Matter (Lbs/A/Yr)	1500 - 6000
Soil Texture	Coarse
	Medium
	Fine
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	<div><div></div><div></div><div></div></div>
Base Seeding Rate (Lbs/A)	50 - 150
Drilled Depth	0.75" - 1.5"
Can Aerial Seed?	No
Can Frost Seed?	No
Min Germination Temp (°F)	34

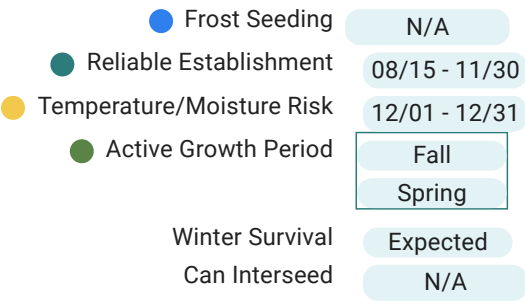
Termination

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>



PLANT HARDINESS ZONE 5 DATASET

Planting and Growth Windows



Extended Comments

Basic Agronomics: Depends on fall planting date as well as spring termination date.

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. Can be interseeded into corn after VT as drydown starts. Can be interseeded into soybeans once they start to yellow.

Termination: Roller-crimping is less effective on sparse stands.

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

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Multiple Purpose Cover Crops, Northeast Organic Farming Association of Connecticut

Cover Crops and Green Manures, University of Vermont Extension

2016 Cover Crop Mix in Corn Silage Trial, University of Vermont Extension

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2014 Summer Cover Crop Mix, University of Vermont Extension

2012 Cover Crop Termination and Reduced Tillage Trial, University of Vermont Extension

2010 Cover Crop Termination Trial, University of Vermont Extension

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Under Cover – Integrating Cover Crops into Silage Corn Systems, University of Vermont Extension

Pasture Production of Selected Forage Species, University of New Hampshire Cooperative Extension

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

Cover Crops, University of Massachusetts Extension

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Choosing Cover Crops, University of Massachusetts Extension

Late Season Cover Crops, University of Massachusetts Extension

Plant Cover Crops, University of Maryland Extension

Cover Cropping for Success, University of Maine Cooperative Extension

Cover Crops for Home Gardens, University of Maine Cooperative Extension

Selected Green Manures and Cover Crops for Maine, University of Maine

Cover Crops – What a Difference a Few Weeks Makes, Cornell University Cooperative Extension

Spring Management of Overwintering Cover Crops – Don't Wait!, Cornell University Cooperative Extension

Rye, Cornell University Cooperative Extension

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Fall Seasonal Cover Crops, Cornell University Cooperative Extension

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Suppressing Weeds Using Cover Crops in Pennsylvania, Penn State Extension

Plant Cover Crops, USDA NRCS

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This Isn't Your Father's Cereal Rye, Penn State Extension

Planting Green – A New Cover Crop Management Technique, Penn State Extension

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