

*Lolium multiflorum*



### COVER CROP DESCRIPTION

Establishes well in tough conditions. Tolerates wet soils better than small grains. Not good in heat or drought. Winter-hardiness can vary – select cultivar accordingly. Dense fibrous root system, top soil conditioner, good weed fighter and N scavenger, top-quality forage. Needs N fertility for high biomass. One of the best cover crop species for interseeding due to ease of establishment under droughty conditions, shade tolerance, and short stature. Annual ryegrass is a key weed in small grains. Do not allow to set seed. Can be hard to kill with herbicides and other methods; successful termination dependent on crop growth stage and application timing. Blends of annual ryegrass that mature at different times will make termination more difficult. Mixes well with crimson clover. Shorter than small grains with a lower C:N ratio.



Ryegrass, Annual - Ackroyd [2020] Ryegrass, Annual - Ackroyd [2020]

## GOALS

	Short
Growing Window	<div><div></div></div>
Nitrogen Scavenging	<div><div></div><div></div><div></div><div></div></div>
Lasting Residue	<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></div></div>
Prevent Spring Soil Erosion	<div><div></div><div></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></div></div>

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 (0-10)
Residue Suppresses Summer Annual Weeds	3
Outcompetes Summer Annual Weeds	4
Suppresses Winter Annual Weeds	5
Persistence	2
Volunteer Establishment	4

## ENVIRONMENTAL TOLERANCES

Condition	Dark Teal	Medium Teal	Light Teal	Very Light Teal	White
Low Fertility	0.25	0.25	0.25	0.25	0.00
Drought	0.25	0.25	0.25	0.25	0.00
Heat	0.25	0.25	0.25	0.25	0.00
Shade	0.25	0.25	0.25	0.25	0.00
Flood	0.25	0.25	0.25	0.25	0.00
Salinity	0.25	0.25	0.25	0.25	0.00

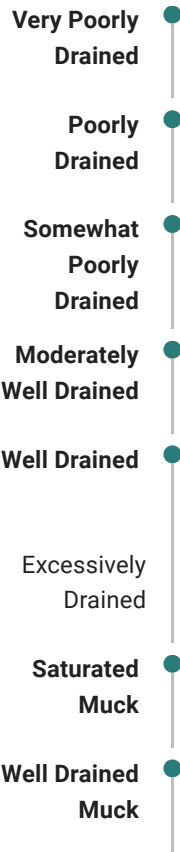


PLANT HARDINESS ZONE 5 DATASET

Growth Traits

Duration	Annual
Zone Use	Common
Shape And Orientation	Erect
Dry Matter (Lbs/A/Yr)	1000 - 6000
Soil Texture	Fine
	Medium
Soil pH	5.5 - 7.5
Soil Moisture Use	Medium
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	Long Day
Root Depth	Deep

Soil Drainage



Planting

Seeds Per Lb	230000
Seed Price Per Lb	<div><div></div><div></div><div></div></div>
Base Seeding Rate (Lbs/A)	12 - 25
Drilled Depth	0.25" - 0.5"
Can Aerial Seed?	No
Can Frost Seed?	No
Min Germination Temp (°F)	40

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

Frost Seeding

N/A

Reliable Establishment

04/01 - 05/31

08/15 - 10/15

Temperature/Moisture Risk

06/01 - 06/30

10/01 - 10/15

Active Growth Period

Summer

Spring

Fall

Winter Survival

Expected

Can Interseed

N/A

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

### Extended Comments

**Taxonomy:** Scientific name quandry! Lolium multiflorum deprecated: [https://www.calflora.org/cgi-bin/species\\_query.cgi?where-taxon=Festuca+perennis](https://www.calflora.org/cgi-bin/species_query.cgi?where-taxon=Festuca+perennis)

**Planting:** Can be interseeded into corn around V4.

**Termination:** Herbicide resistance has been documented in annual ryegrass. If using tillage, multiple passes may be necessary.

**Forage and Grazing:** Breeding efforts in Europe to make Italian ryegrass more winterhardy because it is FANTASTIC forage. This makes it difficult to manage as a cover crop if the farm has no livestock to feed it to.

**Weeds:** If mowing, leave 3-4" to ensure regrowth; Must be killed before it joints or after heading

**Goals:** Italian ryegrass is a biennial; needs vernalization to set seed and reliably winter kills in some areas, hence the nickname "annual ryegrass." There are true annual ryegrasses: these are called Westerwolds. They do not have a vernalization requirement to set seed, so management is needed to prevent volunteers. Cultivar matters hugely when using ryegrass as a cover crop because it affects the likelihood of winterkill and how challenging it will be to manage in rotation.

**Nematodes:** Host for root-knot and sting nematode



## References & Resources

**Forage Species Adapted to the Northeast**, West Virginia University Extension Service  
**Pasture and Hay Seeding Rates**, West Virginia University Extension Service  
**Cover Crops and Green Manures**, University of Vermont Extension  
**2016 Cover Crop Mix in Corn Silage Trial**, University of Vermont Extension  
**2015 Cover Crop Mix in Corn Silage Trial**, University of Vermont Extension  
**2014 Summer Cover Crop Mix**, University of Vermont Extension  
**2014 Early Fall Cover Crop Trial**, University of Vermont Extension  
**2014 Late Summer Cover Crop Trial**, University of Vermont Extension  
**Cover Cropping Costs and Benefits**, University of Vermont Extension  
**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  
**Aerial Seeding Helps Farmers Plant Cover Crops in the Northeast**, Lancaster Farming  
**UNH Researchers Find Forage Radish is the Cream of Cover Crops**, University of New Hampshire Ag Experiment Station  
**Cover Crops**, University of Massachusetts Extension  
**Cover Crops and Green Manures (New England Vegetable Management Guide)**, 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  
**Using Green Manures**, Maine Organic Farmers and Gardeners Association  
**Selected Green Manures and Cover Crops for Maine**, University of Maine  
**Spring Management of Overwintering Cover Crops – Don't Wait!**, Cornell University Cooperative Extension  
**Annual Ryegrass**, Cornell University Cooperative Extension  
**Early Spring Seasonal Cover Crops**, Cornell University Cooperative Extension  
**Mid and Late Summer Seasonal Cover Crops**, Cornell University Cooperative Extension  
**Cover Crops for Conservation Tillage Systems**, Penn State Extension  
**Cover Crop Interseeder – Potential for Injury from Corn Herbicides**, Penn State Extension  
**Ryegrass**, Penn State Extension  
**Cover Crop Interseeder – Impacts on Corn Yield**, Penn State Extension  
**Special Cover Crop Control Considerations**, Penn State Extension