

COVER CROP DESCRIPTION

Establishes well in tough conditions. Tolerates wet soils better than small grains. Not good in heat or drought. Winterhardiness 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.





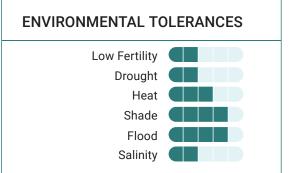
Ryegrass, Annual - Ackroyd [2020] Ryegrass, Annual - Ackroyd [2020]

GOALS

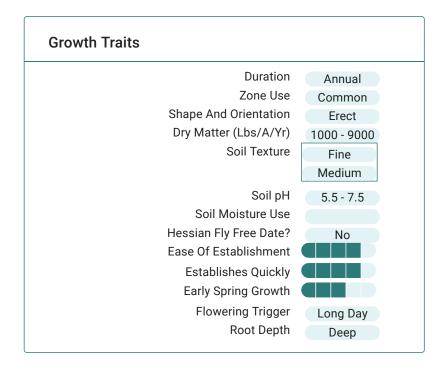
Growing Window Short Nitrogen Scavenging Lasting Residue Prevent Fall Soil Erosion Prevent Spring Soil Erosion Forage Harvest Value

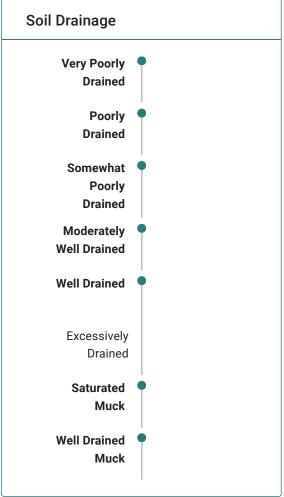
Penetrates Plow Pan **Reduces Surface Compaction** Improve Soil Organic Matter Increase Soil Aggregation **Good Grazing** Pollinator Food

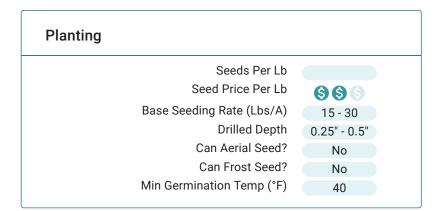
WEEDS Residue Suppresses Summer Annual Weeds **Outcompetes Summer Annual Weeds** Suppresses Winter Annual Weeds Persistence Volunteer Establishment

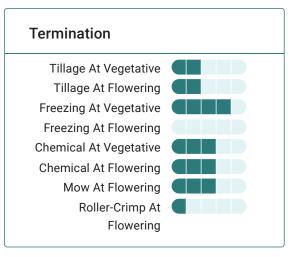




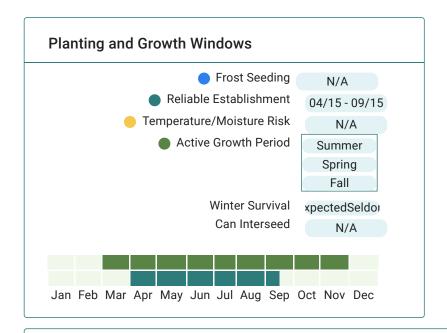












Extended Comments

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

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.

Environmental Tolerances: Winter survival is highly dependent on cultivar and overwintering is likely to be sparse in zone

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.

Taxonomy: Scientific name quandry! Lolium multiflorum deprecated: https://www.calflora.org/cgi-bin/species_query.cgi? where-taxon=Festuca+perennis; Italian ryegrass (closely related) does not need vernalization to flower so choose annual ryegrass instead if weediness is a concern.

Nematodes: Host for root-knot and sting nematode

Termination: Herbicide resistance has been documented in annual ryegrass, see Tech Note under Resources section. If using tillage, multiple passes may be necessary.





References & Resources

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

<u>Cover Cropping Costs and Benefits</u>, University of Vermont Extension

<u>Under Cover – Integrating Cover Crops into Silage Corn Systems</u>, 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 Cropping for Success, University of Maine Cooperative Extension

<u>Cover Crops for Home Gardens</u>, 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