



Rye

Secale cereale

Rye is a cold-tolerant grain that germinates in cool soil (34-40°F),¹ making it a major fall-planted cover crop in the Northeast for winter erosion control. The crop prefers well-drained soils but will tolerate heavy clays and acid soils. Rye has a well-developed fibrous root system that reduces leaching of soil nitrates. The top growth provides soil cover and suppresses weeds; however, it can be difficult to control in the spring and is known to suppress some crops.



Land preparation Prepare a seedbed free of clods and weeds. If tillage is impossible, rye can be broadcast on moist, untilled ground. Additional fertilizer is usually not needed, especially when following vegetables.

Seeding rate	Date	Drill	Broadcast
	9/15	60	85 lb/ac
9/22	100	140	
10/1	140	200	
10/15	180	250	

Drill 1 to 1½ inches deep. After broadcasting, cover 1 inch.²

Rye is often mixed with legumes as a nurse crop. In fall, use 70 lb/ac rye with 20-25 lb/ac hairy vetch.¹ In the spring, use 60 lb/ac rye with 15 lb/ac medium red clover.³

Seeding date September 15 - October 10 for winter cover. Early plantings recover more nutrients and build soil better.
By October 15 for spring cover.
April 15 as a nurse crop for clover.

Seed sources Local seed dealers, Seedway, AgriCulver, local farmers (if the seed is weed-free).

Maintenance None.

Control Control early. Crop suppression is least if rye is killed with herbicide (e.g. 1 lb/ac glyphosate)⁴ when it is about 6 inches tall,⁵ and allowed to decompose for 3-4 weeks. Without herbicide, plow down at 4 to 8 inches tall. Wet, warm spring weather can cause quick growth and make incorporation difficult. For later control mow, or roll and crimp, during the brief period after all the tillers are past the boot stage but before the plants have headed out. This last method has high risk of crop suppression.

Tips Some crops are suppressed following the incorporation of rye, either from allelopathy¹ or nutrient tie-up. Wait at least two weeks after incorporation before

¹ Soil Health Series, Rodale Institute Research Center, Fact Sheet # 12, 1993.

² Clark, A. 2007. Managing Cover Crops Profitably, 3rd ed., Sustainable Agriculture Network. p.100.

³ The New Farm's Cover Crop Guide, Rodale Research Center, p.6, 1988.

⁴ Masiunas, J.B., L.A. Weston, S.C. Weller. 1995. The impact of rye cover crops on weed populations in a tomato cropping system, Weed Science 43:318-323

⁵ Thorup Kristensen, K., D.B. Dresbøll. 2010. Incorporation time of nitrogen catch crops influences the N effect for the succeeding crop. Soil Use and Management 26: 27-35

Disclaimer

This fact sheet reflects the current (and past) authors' best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this fact sheet does not assure compliance with any applicable law, rule, regulation, or standard, or the achievement of particular discharge levels from agricultural land.

Björkman, T. and J.W. Shail. 2010. Cornell cover crop guide for rye. Cornell University. 2pp. Ver. 1. 101029

For more information



Cornell University
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<http://www.nysaes.cornell.edu/hort/buckwheat>

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