

Sunflower is usually used in summer cover crop mixtures. It has many features that make it attractive as a cover crop. It is relatively inexpensive, attractive to pollinators and beneficial insects, adapted to a variety of soils and planting timings, and has a taproot that can penetrate compacted soil layers as well as mine nutrients deep in the soil. Sunflower suppresses many nematode populations including soybean cyst nematode, but is susceptible to root-knot nematodes.

Recommended Varieties

Variety	Reasons Why	Source
Peredovik Sunflower	Good biomass, good root system, good for pollinators.	Jimmy Carter Plant Materials Centers data, Little Mill Seed LLC.

Planting Information

Information	Comments	Source
Drilled Seed Depth (inches)	1 – 1 ½	Midwest Cover Crops Council Selector Tool
Drilled Seeding Rate (lbs/acre)	10 - 40	Southeast AgriSeeds
Broadcast Seeding Rate (lbs/acre)	Not a preferred method unless timely moisture is available for stand establishment. May consider drag or mowing of prior crop residues to aid in seed soil contact.	

Termination Information

Information	Source
<p>Most vegetable farmers use mowing and incorporation for termination. Flail mowers provide the finest residue and most even distribution, but rotary mowers can be used. Sunflowers can get fairly large and woody and cannot be terminated with weedeaters or small push mowers. Residue should be incorporated as soon after mowing as possible. Leave at least 2 weeks for residue to decompose before planting. If there is high biomass, then 3 weeks or more may be needed. Decomposition is greater in moist, warm conditions. If the soil is dry then irrigation may be necessary. Cool soils conditions will lengthen time needed before planting.</p> <p>Sunflower will also winter kill, but may set viable seeds and become weedy.</p> <p>Consult your local Extension and state Pest Management Handbook for herbicide recommendations. Always follow the herbicide label.</p>	University of Georgia; Clemson University

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Cultural Traits

Traits		Comments	Source
Typical Dry Matter Range (lbs/acre)	2,000 – 5,000		Midwest Cover Crops Council Selector Tool, Jimmy Carter Plant Materials Center data
Typical Total N Range (lbs/acre)	Not applicable		Midwest Cover Crops Council Selector Tool
Life Cycle	Warm season annual broadleaf		Midwest Cover Crops Council Selector Tool
Growth Habit	Upright		Midwest Cover Crops Council Selector Tool
Preferred Soil pH	6.0 – 7.0	More tolerant of higher salt soils.	Midwest Cover Crops Council Selector Tool
Relative Costs (\$/acre)	\$\$		Based on survey of seed costs using maximum price and max seeding rate
Min. Germination Temp (F)	65°		Midwest Cover Crops Council Selector Tool
Cautions	If large amounts of biomass are produced, sunflower residue may become woody and impede planting of next crop. Consider terminating several weeks prior to next crop establishment or mow to size residue to aid in planting if concerned. Narrow row spacing required to suppress weeds.		USDA Sunflower Plant Guide

Sources:

Jimmy Carter Plant Materials Center Annual Reports:

https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ga/plantsanimals/?cid=nrcs144p2_022076

Midwest Cover Crops Council Selector Tool - Missouri data:

<http://mccc.msu.edu/covercroptool/covercroptool.php>

Southeast AgriSeeds:

<http://www.southeastagriseeds.com/wp-content/uploads/2017/07/Peredovik-Sunflower-SE.pdf>

USDA Sunflower Plant Guide:

https://plants.usda.gov/plantguide/pdf/cs_hean3.pdf