

Sunflower (*Helianthus annuus*)

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, 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. It is also used in wildlife mixes.

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.	
Aerial Seeding Rate (lbs/acre)	Not recommended.	

Termination Information

Information	Source
Sunflower can be terminated by mowing, herbicides and tillage. It will also winter kill, but may set viable seeds and become weedy. Sunflower is attractive to migrating birds. Check with your state’s wildlife resources department on how hunting regulations may affect planting and management.	Midwest Cover Crops Council Selector Tool
Consult your local Extension and state Pest Management Handbook for herbicide recommendations. Always follow the herbicide label.	

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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)	N/A	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 cash crop. Consider terminating several weeks prior to next crop establishment or mow to reduce residue size to aid in planting. Check with your state’s wildlife resources department on how hunting regulations may affect planting and management. Risk of susceptibility to Sclerotinia and Sclerotium rolfsii (<i>Athelia rolfsii</i>) if planted early in spring or left in field late in fall. Do not plant before legume cash crop or hemp unless fumigating before planting cash crop. Narrow row spacing required to suppress weeds.	USDA Sunflower Plant Guide; Clemson University

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