

EXCELLENT GOOD FAIR POOR						
Cover Crop Species	Cover Crop Group	Competition from Living Cover	Suppression from Dead Mulch	Mix with:	Benefits	Limitations
WINTER OR SUMMER COVER CROPS						
Cereal Rye	annual grass			legumes, other small grains, brassicas	Quick establishment, high biomass, prevents erosion, cold tolerant, N-scavenger, weed suppression, can be used as haylage	Requires timely control, N tie-up, feral rye a threat in other winter grains
Barley/ Wheat	annual grass			annual ryegrass, legumes, other small grains	Quick establishment, medium biomass, prevent erosion, cold tolerant, N-scavenger, weed suppression, grazing or haylage	N tie-up, not as weed suppressive as rye, matures later than cereal rye
Oats	annual grass			legumes, small grains, brassicas	Quick establishment, high biomass, winterkills in the North, smother crop or nurse crop, weed suppression	N tie-up, winterkills in the North
Black oats	annual grass			legumes, small grains, brassicas	Quick establishment, biomass greater than oats, weed suppression, winterkills in the North	N tie-up, winterkills in the North
Triticale	annual grass			legumes, other small grains	Quick establishment, high biomass, prevents erosion, N-scavenger, cold tolerant, weed suppression, grazing	N tie-up, seed more expensive than rye or wheat, matures later than cereal rye
Annual ryegrass	annual grass			other grasses, legumes, brassicas	Winter hardy, prevents erosion, can interseed, good for grazing	Relatively low biomass, herbicide-resistant biotypes, some tolerance to glyphosate
Hairy vetch	annual legume			small grains, other legumes, buckwheat	N source, winter hardy, complements small grains in mix, weed suppression, green manure, pollinator-friendly	Slow to establish, hard seed can volunteer, weed problem in small grains
Crimson clover	annual legume			rye, other small grains, annual ryegrass, other legumes	N source, winter hardy, good in mixes, soil builder, grazing, green manure, glyphosate-susceptible, pollinator-friendly	Slow to establish, less weed suppressive than vetch
Medium red clover	biennial legume			small grains, annual ryegrass	N source, winter hardy, can frost seed, hay crop, grazing, green manure, pollinator-friendly	Slow to establish, must seed early for winter survival, 2-year+ lifecycle
Yellow sweetclover	biennial legume			small grains, red clover	N source, soil builder and subsoil aerator, pollinator-friendly	Slow to establish, can self-seed and become a weed
Balansa clover	annual legume			oats, annual ryegrass, small grains	N source, green manure, winter or summer cover crop, biomass surpasses other clovers, tolerates wet and dry conditions, grazing or hay, pollinator-friendly	Limited published data
Berseem clover	annual legume			oats, annual ryegrass, small grains	N source, green manure, forage, tolerates drought, grazing or hay, pollinator-friendly	Not winter hardy except in the South
White or ladino clover	perennial legume			annual ryegrass, red clover, perennial grasses	N source, long-lived perennial, living mulch, drought-tolerant, grazing, pollinator-friendly	Long-lived perennial, hard seed, mostly suitable for perennial cropping systems, herbicide-tolerant
Field pea (winter and summer types)	annual legume			small grains	N source, quick establishment, good in mixes, low water use, hay or seed harvest, pollinator-friendly	Residues quickly degrade, winter types exist, but winter survival only in some areas
Radish (forage, oilseed, Daikon, tillage)	annual/biennial brassica			other brassicas, small grains, annual ryegrass, crimson clover	Quick establishment, winterkills in the North, can seed in late summer, large taproot relieves compaction, N-scavenger, weed suppression	Residues quickly degrade, aggressive in mixes, needs N, will flower if seeded in spring
Rapeseed (winter and spring types)	annual brassica			other brassicas, small grains, annual ryegrass, crimson clover	Quick establishment, soil fumigant, N-scavenger, pollinator-friendly	Residues quickly degrade, glyphosate-tolerant
Sorghum-sudangrass / sudangrass	annual grass			buckwheat, sunn hemp, soybeans, cowpeas	Quick establishment, high biomass, soil builder, prevents erosion, N-scavenger, weed suppression, grazing or hay	Heat-loving, can produce prussic acid (poisonous to some livestock)
SUMMER COVER CROPS						
Buckwheat	annual forb			sorghum - sudangrass, sunn hemp	Quick establishment, short lifecycle, weed suppression, pollinator and other beneficial insects	Residues quickly degrade, can self-seed
Japanese millet	annual grass			legumes and brassicas	Quick establishment, N-scavenger, weed suppression, grazing or hay	Heat-loving, needs moisture
Cowpea (black-eyed peas)	annual legume			sorghum - sudangrass, other grasses, sunn hemp	N source, companion crop, beneficial insects, weed suppression, forage and seed	Heat-loving, needs moisture
Soybean	annual legume			oats, sorghum - sudangrass, other grasses, sunn hemp	N source, high biomass, drought-tolerant, grazing, pollinator-friendly	Needs moisture, some disease pests, must fit in rotation
Sunn hemp	annual legume			oats, sorghum sudangrass, buckwheat	N source, high biomass, drought-tolerant, grazing, pollinator-friendly	Heat-loving, fibrous stems make no-till difficult, seeds can be toxic to non-ruminants
Sunflower	annual forb			sorghum sudangrass, sunn hemp, cowpea, soybean	Good in mixes, compaction relief, N-scavenger, high biomass, drought-tolerant, pollinator and beneficial insects	Leaves quickly degrade, several potential insect and disease pests
Mustard spp. (e.g. white or yellow)	annual brassica			oats, annual ryegrass, legumes, brassicas	Quick establishment, aggressive with weeds, can have short lifecycle, N-scavenger, soil fumigant, pollinator-friendly	Residues quickly degrade, can harbor flea beetles