Cover Crops
and Their Uses

Cover crops are an essential component of every sustainable farm. They are an investment in your gardens and fields that will pay future dividends of healthier, more productive cash crops.

The benefits of cover cropping are numerous and impressive:

- Increase soil fertility.
- Prevent soil erosion by keeping the ground covered during winter/off-cycles.
- Prevent weeds from flourishing on bare soil, functioning as "smother crops."
- Uptake nutrients that would otherwise run off or leach into groundwater, functioning as "catch crops."
- Improve soil tilth.

5 Steps for Deciding What to Plant, When & Where

1. **What are your goals?** Decide what you are hoping to achieve from planting a cover crop.
2. **What's your timing?** What is the window of opportunity for you to plant, and for how long will the planting remain in place?
3. **What are your equipment needs?** Available planting and termination tools and equipment will have a bearing on which cover crops you can use. Similarly, equipment recommendations will depend on the cropping system you've elected.
4. **Where do you live?** In order to determine which cover crop species or mixes of species are going to work best for you, you must factor your location in to all of the above goals and challenges.
5. **Plant & Keep Records.** Once you've taken all of the above into consideration, chosen your cover crop species, and entered them into your multiyear rotation plan from Step 2 above, you're ready to put the plan in place.

Johnny's Selected Seeds

Cover Crops for Early Spring – Summer

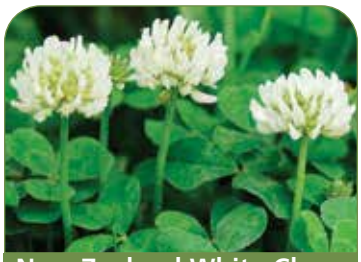
Type	Minimum Germ. Temp.	Hardiness Zone	Growth Rate	Sow Per 1,000 sq.ft.	Sow Per Acre	Seeding Depth
Alfalfa, Summer	45°F (7°C)	5	Fast	1/2 Lb.	15–25 Lb.	1/4–1/2"
Barley	38°F (3°C)	7	Fast	2 Lb.	80–125 Lb.	3/4–2"
Buckwheat	50°F (10°C)	NFT[1]	Fast	2–3 Lb.	50–90 Lb.	1/2–1 1/2"
Clover, New Zealand White	40°F (4°C)	4	Slow	1/4 Lb.	5–15 Lb.	1/4–1/2"
Clover, Sweet	42°F (6°C)	4	Medium	1/2 Lb.	10–20 Lb.	1/4–1"
Manure Mix, Spring Green	38°F (3°C)	See website	Medium	5 Lb.	200 Lb.	1/2–1 1/2"
Mustard	40°F (4°C)	7	Fast	1 Lb.	15–20 Lb.	1/4–3/4"
Oats, Common	38°F (3°C)	8	Medium	4 Lb.	110–140 Lb.	1/2–1 1/2"
Oats, Hulless	38°F (3°C)	8	Medium	4 Lb.	110–140 Lb.	1/2–1 1/2"
Peas and Oats Mix	41°F (5°C)	8	Medium	5 Lb.	120–200 Lb.	1 1/2–2"
Peas, Field	41°F (5°C)	7	Fast	3 Lb.	120 Lb.	1 1/2–3"
Sunflower	70°F (21°C)	NFT[1]	Medium	1,500 seeds	20,000 seeds	1 1/2–1"
Wheat, Spring	38°F (3°C)	7	Fast	4 Lb.	60–150 Lb.	1/2–1 1/2"

[1] NFT = Not Frost Tolerant.


Summer Alfalfa


Barley


Buckwheat


New Zealand White Clover


Sweet Clover


Spring Green Manure Mix


Mustards


Common Oats


Pea and Oats Mix


Sunflower


Hulless Oats


Field Peas


Spring Wheat

Cover Crops for Late Summer – Fall

Type	Minimum Germ. Temp.	Hardiness Zone	Growth Rate	Sow Per 1,000 sq.ft.	Sow Per Acre	Seeding Depth
Alfalfa, Summer	45°F (7°C)	5	Fast	1/2 Lb.	15–25 Lb.	1/4–1/2"
Barley	38°F (3°C)	7	Fast	2 Lb.	80–125 Lb.	3/4–2"
Manure Mix, Fall Green	45°F (7°C)	See website	Medium	1 1/2 Lb.	50 Lb.	1/2–1 1/2"
Peas and Oats Mix	41°F (5°C)	8	Medium	5 Lb.	120–200 Lb.	1 1/2–2"
Peas, Field	41°F (5°C)	7	Fast	3 Lb.	120 Lb.	1 1/2–3"
Radish, Oilseed	45°F (7°C)	6	Fast	1 Lb.	10–20 Lb.	1/4–1/2"
Rye, Winter	34°F (1°C)	3	Medium	4 Lb.	60–120 Lb.	3/4–2"

[1] NFT = Not Frost Tolerant.


Fall Green Manure Mix


Oilseed Radish


Winter Rye


Rye Grass


Crimson Clover


Mammoth Red Clover


Medium Red Clover


Hairy Vetch

Cover Crops for Planting Anytime

Type	Minimum Germ. Temp.	Hardiness Zone	Growth Rate	Sow Per 1,000 sq.ft.	Sow Per Acre	Seeding Depth
Clover, Crimson	45°F (7°C)	7	Medium	2/3 Lb.	22–30 Lb.	1/4–1/2"
Clover, Mammoth Red	41°F (5°C)	4	Fast	1/2 Lb.	5–15 Lb.	1/4–1/2"
Clover, Medium Red	41°F (5°C)	4	Medium	1/2 Lb.	5–15 Lb.	1/4–1/2"
Rye, Winter	34°F (1°C)	3	Medium	4 Lb.	60–120 Lb.	3/4–2"
Ryegrass	40°F (4°C)	6	Fast	1 Lb.	40 Lb.	0–1/2"
Vetch, Hairy	60°F (16°C)	4	Slow	1 Lb.	25–40 Lb.	1/2–1 1/2"

Uses for Cover Crops

GREEN MANURE
Replenish organic matter and nutrients to the soil while enhancing soil structure.

EROSION CONTROL
Hold the soil in place and minimize weather impact between primary crop harvests.

NITROGEN FIXATION
Increase yields and reduce fertilizer costs by planting crops that add nitrogen to the soil.

COMPACTION CONTROL
Develop and maintain optimal soil profile by breaking up deep layers of compacted soil.

WEED SUPPRESSION
Plant smother crops to reduce herbicide and labor costs and improve soil health.

GRAINS
Diverse uses for grains include mulching, crop rotation, livestock and human nutrition.

PEST MANAGEMENT
Improve marketable yield by incorporating crops that release glucosinolates into the soil.

FORAGE
Reduce costs and improve animal health by growing your own livestock feed and pasture.

BENEFICIAL INSECT PLANTING
Attract bees and other beneficial insect populations to improve pollination/fruit set, and for pest control.

BIOMASS (ORGANIC MATTER)
Plant recommended biomass crops for the high volume of organic matter they can potentially produce.

MORE ONLINE

- Complete growing information
- Articles on the uses and benefits of growing cover crops
- Jang JP-1 seeder roller trial results for Farm Seed

To learn more, visit
Johnnyseeds.com/farm-seed-library

Corn underseeded with clover

Crop Type	Nitrogen Fixation	Bees/Beneficial Insects	Compaction Control	Erosion Control	Weed Suppression	Green Manure	Forage	Biomass (Organic Matter)
Alfalfa, Summer	●	●	●		●		●	●
Barley					●	●		●
Buckwheat		●			●	●		
Clover, Crimson	●	●		●	●	●	●	
Clover, Mammoth Red	●	●	●	●	●	●	●	
Clover, Medium Red	●	●	●	●	●	●	●	
Clover, New Zealand White	●	2Y[1]		●	●	●	●	
Clover, Sweet	●	2Y	●	●	●	●	●	●
Manure Mix, Fall Green	●	●			●	●		●
Manure Mix, Spring Green	●				●	●		●
Mustard		●		●	●	●	●	●
Oats, Common				●	●	●		●
Oats, Hulless				●	●	●		●
Peas and Oats Mix	●			●	●	●		●
Peas, Field	●				●	●		●
Radish, Oilseed			●	●	●			
Rye, Winter				●	●	●		●
Ryegrass				●	●	●		●
Sunflower		●						●
Vetch, Hairy	●	2Y		●		●		
Wheat, Spring				●	●			

[1] 2Y = 2nd Year

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