COVER CROP GUIDE for URBAN GARDENS

By Koi Dem Mendez & Elizabeth Henderson

Funded by New York Soil Health, New York State's hub for soil health related networking, research, education, and outreach

Designed by Kelly Cheatle, Illustrated by: Chloe Smith

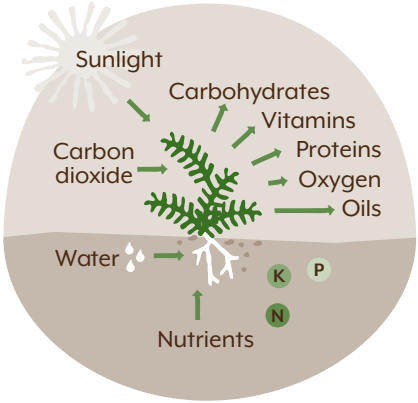
Dedicated to our indigenous ancestors
from whom we learned to cover crop

COVER CROPS make the SOIL in your GARDEN HEALTHIER!

Cover crops are plants that you grow to feed the soil. Another name for them is ***green manure,*** fertilizer that you can grow right in your own garden.

Healthy soil is a living biological system. It has good structure, a balance of organic matter, carbon, air, and water, cycles nutrients, and hosts a diversity of beneficial organisms, the soil food web.

Healthy soils grow vigorous crops, and the people and animals who eat those crops are healthy. Healthy soils are resilient, buffering extremes of drought, heavy rains, and temperature swings. By growing cover crops, gardeners add to the carbon in the soil, and help regulate the global climate with long-term greenhouse gas benefits while making the food you grow more nutritious.



Green plants turn sunlight, air and water into food!
The scientific name is PHOTOSYNTHESIS: plants take carbon dioxide from the air and, fueled by energy from the sun, turn the carbon into sugars releasing oxygen back into the air. Plants use some of the sugars to grow, to make their own leaves, stems, flowers, roots and fruit, but some of it they pump into the soil to feed the many organisms that feed them in return.

As much as 30% of the sugar plants produce goes into the soil to feed the microherd! That is why it is best to have plants growing as much of the year as possible. Over the winter, cover crops protect the soil from rain, ice and wind.

This booklet is a guide to growing cover crops in your garden.

Cover crops are...

WEED WARRIORS

Outcompete weeds naturally.

SOIL FOOD

Adds organic matter, boosts soil life.

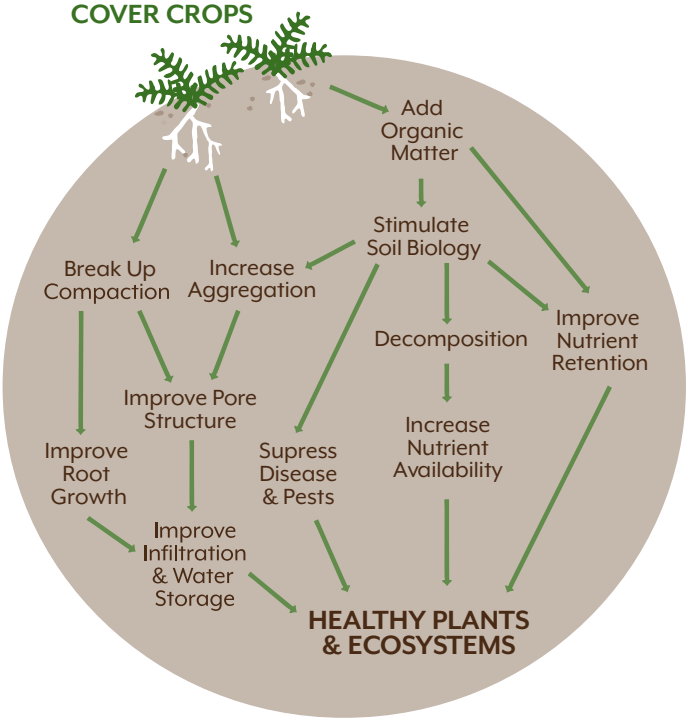
WATER SAVERS

Improve water holding & drainage.

POLLINATOR PITSTOP

Flowers for bees & butterflies.

COVER CROPS are powerful tools for improving SOIL HEALTH



Adapted from Building Soils for Better Crops, 2009 and Oshkins & Drinkwater 1999

GUARDIANS of the SOIL

Types of Cover Crops

Cover crops are like guardians of the soil. Each group protects in a different way — weaving, feeding, breaking, or blooming. You can call on one guardian or invite them to work together as a team. ***Many hands make light work!*** The same goes for plants in an ecosystem!

GRASSES
Rye, Oats, Barley, & Wheat

"Like a woven basket underground, grasses hold soil tight and keep nutrients from washing away."

THE SOIL WEAVERS

- These soil shields grow quickly to cover bare earth, shielding it from sun, wind, and rain.
- Their fibrous roots weave the soil together, stopping erosion and blocking weeds.
- They build structure, laying a strong foundation for future crops.

BEGINNER WISDOM: *Rye is the classic guardian — tough, cool-weather ready, and forgiving to beginners.*

LEGUMES
Peas, Clover, Vetch, & Beans

THE SOIL FEEDERS

- Our fertilization friends capture nitrogen from the air and share it with the soil — a gift for future plants.
- Gentle green companions that invite bees while quietly feeding the soil below.
- Their soft leaves break down easily, leaving soil rich and fertile.

BEGINNER WISDOM: ***Try red clover or field peas. They're friendly, forgiving, and easy to cut back.***

BRASSICAS
Radish, Mustard, & Turnip

THE GROUND OPENERS

- Powerful taproots drill into compacted ground, cracking it open for air and water.
- Draw nutrients up from deep below, sharing them with the topsoil.
- These 'soil breakers' release natural compounds that help suppress pests and diseases.

BEGINNER WISDOM: ***Tillage radish planted in fall works like nature's plow — by spring the soil is looser and easier to plant.***

FLOWERS + MIXES
Buckwheat, Sunflowers, & Wildflower blends

THE PARTY CREW

- As the pollinator hosts, our party crew blooms with bright colors to welcome bees, butterflies, and beneficial insects.
- Grow fast, shading out weeds and adding bursts of beauty to the garden.
- Diverse mixes bring balance — feeding soil, insects, and people alike.

BEGINNER WISDOM: ***Buckwheat is a quick-growing guardian (ready in 30 days!) — perfect between plantings.***

PRO TIP: ***No guardian works alone!*** The strongest protection comes from a TEAM — Grasses to shield the soil, Legumes to feed it, Brassicas to open it, and Flowers to invite life.

WHEN TO PLANT

Timing is everything...

Cover crops fit into the rhythm of the year. They step in whenever the soil would otherwise be resting bare.

SPRING BOOST
March – May

WHEN: As soon as the soil thaws and dries a bit *(late March to April in cooler places, earlier in warmer areas).*

WHY: Quick-growing soil guardians like oats or peas wake the soil after winter and prepare it for summer veggies.

BEGINNER TIP: If you plant early veggies *(like lettuce or spinach),* sow cover crops in any empty spots nearby.

SUMMER HELPERS
June – August

WHEN: After you pull out early crops *(like peas, lettuce, garlic)*, or in any open patch. Plant them in gaps between crops, or after an early harvest. They keep weeds from sneaking in.

WHY: Soil Guardians like buckwheat grow fast, shade the soil, and stop weeds from sneaking in. They can also attract pollinators during peak bloom.

BEGINNER TIP: Buckwheat is the ultimate "gap filler." Plant it in June or July, and it'll be flowering within 30–40 days.

FALL TUCK-IN
September – November

WHEN: Before the first frost, usually mid–late September through early October (depending on your region). Blanket the soil before winter. Soil Guardians like oats, clover, or radish protect and restore the land while you rest.

WHY: Guardians like oats, clover, or tillage radish protect the soil through winter storms, loosen hard ground, and feed it for spring.

BEGINNER TIP: Don't wait until it's too cold. If you see people raking leaves, it's the perfect time to tuck your soil in too.

WISDOM

Even planting cover crops for a few weeks makes a difference. Don't wait for "perfect timing" — use them whenever the soil is bare. The soil is a living breathing thing that gives us so much in abundance!

We want to show our gratitude for all its hard work by protecting them from harsh elements, like torrential rain and frigid winters.

The GUARDIANS return their GIFTS

When the cover crops have finished their work, they don't just leave — they share all the treasures they've been storing in their roots, stems, and leaves. Here's how you can welcome those gifts back into your soil:

CHOP & DROP

WHAT TO DO: Cut the plants down at the base and let the stems and leaves lie right on top of the soil.

WHY: This creates a living blanket (mulch) that keeps moisture in, protects worms and microbes, and slowly feeds the soil as it breaks down.

BEGINNER TIP: Use garden scissors, clippers, or even just pull and lay them flat. No fancy tools needed!

TURN IN

WHAT TO DO: Cut or mow the cover crops, then lightly mix them into the top few inches of soil with a rake or shovel.

WHY: This makes the nutrients release faster, feeding your next veggies right away.

BEGINNER TIP: Wait 2–3 weeks before planting new crops, so the soil life has time to do its work.

LET THEM FLOWER

WHAT TO DO: Allow some cover crops (like clover, buckwheat, or vetch) to bloom before cutting them down.

WHY: Flowers call in bees, butterflies, and other pollinators — making your garden buzz with life.

BEGINNER TIP: Don't let them go too long, or they'll drop seeds and spread more than you want!

MYTH BUSTERS

Clearing the Shadows

MYTH: ***"Cover crops are just for big farms."***

TRUTH: ***Soil Guardians show up anywhere.*** A raised bed, a backyard patch, even a patio container can benefit. They don't ask for acres — they just ask for a little space to stretch and grow!

MYTH: ***"They're too much work."***

TRUTH: ***Think of cover crops as teammates!*** They take care of the weeding, keep the soil fed, and cut down how much you need to fuss with fertilizers. ***In the long run, they actually make your gardening easier.***

MYTH: ***"They're only for soil health nerds."***

TRUTH: ***Nope. Cover Crops are beginner-friendly.*** They don't require spreadsheets, microscopes, or a PhD in dirt. All you really need is a packet of seeds, some water, and a little patience. ***The guardians know what to do.***

WISDOM

If you can grow grass, you can grow cover crops! Scatter seeds like you're tossing breadcrumbs for birds (covering the bed with row cover or netting may keep the birds and squirrels from hogging the whole meal). Let the rain and sun do their work! Soon enough, you'll see little green allies rising, ready to guard the soil, call in pollinators, and build resilience under your feet.

Starting small is more than enough.

A handful of crimson clover in a pot, oats tucked between tomatoes, or peas covering winter soil — all of it counts. Each guardian planted is a promise: healthier soil, stronger food, and a future rooted in care.

COVER CROP RECIPES

Summoning a Team

"When the Guardians stand watch, the soil thrives. Plant them, and your land will answer back with strength and abundance."

WEED BLOCK MIX

Rye & Clover

A sturdy shield against weeds paired with a soft feeder that gives back to the soil. Simple, reliable, and effective.

POLLINATOR PARTY

Buckwheat & Sunflowers

Fast blooms that attract bees and butterflies, with tall, radiant hosts that guide pollinators home.

SOIL HEALER

Radish & Oats

Radish drills deep to open hard soil. Oats spread wide, weaving a living net that steadies the ground.

NITROGEN TRIO

Field Peas, Vetch & Clover

A team of soil-builders that pull nitrogen from the air and store it in the soil for the crops that follow. Vetch winds and covers, peas climb, and clover holds steady at the base.

WINTER BLANKET

Oats & Winter Peas (any peas will do!)

A cold-hardy guard may survive the frost, but is easy to cut down or turn under in the spring. Oats protect and hold the soil, while peas slowly fix nitrogen to fuel spring growth.

SUMMER SHADE

Cowpeas, Millet & Soybeans

Heat-loving protectors that sprawl and climb, shielding the ground from the summer sun while feeding the soil beneath.

BEGINNER WISDOM: For peas, beans, or vetch, a little "inoculant" (a natural powder of helpful microbes) sprinkled on the seed before planting helps them thrive. Think of it as giving them their teammates before the game starts!

If you want to DIG DEEPER, we suggest:

SOUL FIRE FARM

www.soulfirefarm.org/resources/
How Alive is my Soil? • Que etan vivo mi suelo?

LIBERATION ON THE LAND • LIBERACIÓN EN LA TIERRA

youtube.com/watch?v=Zsrujcd9rRU

SUSTAINABLE AGRICULTURE RESEARCH & EDUCATION

www.sare.org/resources
Building Soils for Better Crops:
Ecological Management for Healthy Soils
Fred Magdoff, Harold van Es | 2021
https://www.sare.org/publications/building-soils-for-better-crops/cover-crops/

USDA NATURAL RESOURCES CONSERVATION SERVICE

Soil Health
https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soil/soil-health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