

BACK TO EARTH WORKS

backtoearthworks.com

REGENERATIVE SOIL KIT USER GUIDE

Usage Calendar 1

Vital Information 2

How to Use 3

Step One- Soil Sanctuary 4

Step Two - Earth’s Embrace 5

Step Three - Green Guardian..... 6

Maximize Usage 7

Community Benefit..... 8

Growing Guides 9

- Seeds..... 10

- Perennials 11

- Transplants..... 12

Fertilizer Usage 13

New Perspective 14

Soil 15

Our Mission 16

Learn More 17







THANK YOU FOR YOUR SUPPORT

PLEASE CONTACT US IF YOU HAVE ANY QUESTIONS

backtoearthhelps@gmail.com

Your Kit Application Calendar

Obtain season-long vibrancy with just four applications - enrich your soil further with bonus Green Guardian applications for ongoing plant and microbe support. These additional applications bolster soil health and plant growth, seamlessly integrating with the main regimen. Follow our concise guide, utilize our sample application calendar, and witness your garden's flourishing transformation.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 	2	3	4	5	6	7
8	9	10	<div data-bbox="1018 836 1774 1282" style="border: 1px solid black; padding: 10px;"> <p>Follow our kit guide calendar for optimal soil and plant health.</p> <ul style="list-style-type: none">  STEP 1 - SOIL SANCTUARY (SS)  STEP 2 - EARTH'S EMBRACE (EE)  STEP 3 - GREEN GUARDIAN (GG) </div>			14
15 	16	17				18
22	23	24				28
29 	30	31				

**For best results, alternate full kit applications with Step 3 (GG) every 12-16 days.*

Clean Equipment After Use!

When sprayers or watering systems are not thoroughly cleaned immediately after delivering biology-based products, biofilm can form on moist surfaces within the equipment. This accumulation can lead to several negative effects, impacting the performance of the products and longevity of the equipment with continued use.

- 1. Clogging:** Biofilms can clog hoses, nozzles, and pumps, leading to reduced efficiency and potential malfunctions in watering equipment.
- 2. Corrosion:** Some biofilms can induce corrosion on metal surfaces, compromising the integrity and longevity of the equipment.
- 3. Pathogen Protection:** Biofilms can harbor non-beneficial microbes which can potentially attack the beneficial microbes in your garden.
- 4. Reduced Performance:** Accumulation of biofilm can degrade the performance of equipment by obstructing water flow and altering the dispersion patterns of sprays.

To clean equipment and prevent biofilm buildup, thoroughly rinse all interior surfaces with clean water and pump it through the lines and sprayer nozzle. Detach the nozzle to flush out any hidden buildup, then reattach it. For optimal efficiency and longevity, regularly clean and disinfect your gardening equipment using biofilm-removing solutions like 12% hydrogen peroxide. Regular maintenance extends equipment life and guarantees effective operation for your gardening needs.



CLEANING EQUIPMENT

**Refer to pages 4, 5, and 6 for measurement details and square footage coverage for each step.*

WASH PRODUCE BEFORE CONSUMING

Back to Earth Works

Our kit offers a fully organic, comprehensive microbial environment for your plants to thrive.

Not for use on house plants - Using our kit enhances soil fertility, boosts plant health, and increases yield. It promotes sustainable growth by nurturing the soil's natural ecosystem, improving water retention, and reducing or eliminating the need for chemical intervention.

**We recommend mixing each step into 1-3 gallons of water per 400 sqft of watering space.*

Step 1: Mix Soil Sanctuary with Your Watering Solution (SS)

Start by using the measuring tool provided with each kit. Each tool corresponds to a colored dot for each step and measures the precise amount needed for one full application. Stir Soil Sanctuary into your bucket of water

Step 2: Infuse Water with Earth's Embrace (EE)

Add the required amount of EE to the mesh bag. For ~60 seconds dunk in and out of the watering solution while firmly squeezing and kneading the bag. This extracts the microbes from EE suspending them in your watering solution. Save EE after hand-steeping and use as a seed starter or soil boost - wash leftover material out of mesh bag

Step 3: Add Green Guardian (GG)

Using the measuring tool provided, carefully measure and stir the appropriate amount of Green Guardian into the water solution.

Note: Green Guardian has an odor and should be introduced outdoors

Water Your Garden

Use within 24 hours of mixing, do not store in sprayer or leave solution in direct sunlight - Once all components are mixed, let the solution set for ~60 seconds to allow for the sediment from EE to settle to the bottom and add to watering can, squirt bottle, or sprayer (**leave 10% of liquid mixture to avoid potential clogging**). The regenerative soil solution can now be applied as a plant foliar spray or soil drench.

**For best results use sprayers that have never had chemicals in them*



3-STEP VIDEO

The Shelter **Soil Sanctuary**

Soil Conditioner & Microbe Shelter



Our specially formulated Soil Sanctuary is a charged biochar pulverized down to microscopic sizes that offers an abundance of shelter shapes for many different soil microbes to colonize, improving the soil's capacity to house a diverse microbial population.

This is essential for enhancing the soil services plants require to build nutrient density in their bodies. Soil sanctuary ensures a protective, thriving habitat for your garden's microscopic allies while enhancing nutrient retention, soil structure, and water-holding capacity.

Measurement amounts

Small Kit	50-400 sq ft garden	1.5 oz per application	6 oz bottle
Medium Kit	400-1000 sq ft garden	3 oz per application	12 oz bottle
Large Kit	1000-2000 sq ft garden	6 oz per application	24 oz bottle

The Life **Earth's Embrace**

Revitalize and Balance your Soil's Ecosystem



Our specially formulated Earth's Embrace inoculum is made in-house and acts like a probiotic for your garden's soil.

It introduces a diverse and balanced array of beneficial microorganisms, including bacteria, fungi, protozoa, and nematodes. This rich microbial community rejuvenates the soil's natural functions and services.

By enhancing the soil's ecosystem, Earth's Embrace plays a vital role in diminishing pest and disease threats, thereby bolstering the overall health and productivity of your garden.

Measurement amounts

Small Kit	50-400 sq ft garden	2 cups per application	12 cup bag
Medium Kit	400-1000 sq ft garden	3 cups per application	18 cup bag
Large Kit	1000-2000 sq ft garden	4 cups per application	24 cup bag

The Food **Green Guardian**

Nourish and Stimulate Plant Growth



Our Green Guardian serves as a dual-action food and bio-stimulant, enriching your plants with an extensive array of nutrients and boosting root exudate production.

This increased production of exudates feeds soil microbes more effectively, supporting a larger microbial population. This, in turn, enhances nutrient cycling, bolsters plant immunity, and invigorates soil vitality.

Note: Green Guardian has an odor and should be introduced outdoors or in an open space

Measurement amounts

Small Kit	50-400 sq ft garden	.5 oz per application	4 oz bottle
Medium Kit	400-1000 sq ft garden	1 oz per application	8 oz bottle
Large Kit	1000-2000 sq ft garden	2 oz per application	16 oz bottle

Bonus Applications

For continuous nourishment of your garden's ecosystem, incorporate the four bonus Green Guardian (GG) applications halfway between the comprehensive applications of Soil Sanctuary, Earth's Embrace, and Green Guardian.

This method enriches the soil's microbes directly while giving your plants an immediate boost. This encourages your plants to feed the microbes more generously, fostering a thriving soil environment.

Earth's Embrace

Beyond our bonus Green Guardian applications, Earth's Embrace (EE) serves dual purposes: as a potent seed starter when mixed into potting soil (5-10% by volume) and as a natural remedy for pest and disease control - we've included a few additional applications as a thanks for your support.

Even the most well-kept gardens can face challenges from diseases and pests under the right environmental conditions. This is where the two bonus applications of Earth's Embrace (EE) come into play. Utilize step 2 to create an extract for spraying directly on affected plants and their immediate neighbors. It's crucial to apply the second round of treatment within 1-3 days for optimal effectiveness. Earth's Embrace has demonstrated success in suppressing common garden problems such as aphids, spider mites, whiteflies, powdery mildew, and blight. For the best defense, integrate these bonus applications with other natural pest management strategies, like introducing beneficial predators or enhancing garden airflow. Detecting and addressing pest or disease issues early significantly increases your ability to manage them effectively.

**After dispersing Earth's Embrace in water using the mesh bag, apply the leftover material directly to your soil for enhanced benefits.*

Nature's Filter

By rejuvenating the soil in your space, you're not just elevating your garden—you're championing a greener, more vibrant community.

Think of healthy soil as nature's ultimate filter: it soaks up rainwater which minimizes runoff and shields our waterways from pollutants. This action cleanses our rivers and lakes, safeguards groundwater, and even alleviates local water demand by enhancing the soil's ability to retain and recharge water.

Well-nourished soil means lush greenery that withstands the heat, aiding in cooling our urban spaces. It's the very foundation that supports a rich tapestry of life, from earthworms to birds, all while locking away carbon to purify our air and tackle climate change. Embarking on soil restoration is, without doubt, one of the most impactful investments for a sustainable future.

Whether you're driven by a love for nature, a commitment to community well-being, or the health of your family, we're thrilled to welcome you to the Back to Earth family of growers.

Seeds, Perennials, and Transplants

Stepping into gardening can feel like navigating a maze of advice and information. For those just starting their green-thumb journey or looking to simplify their approach, remember: simplicity is key.

If unsure, start with a straightforward routine of one application per month from the onset of your planting season, adding in bonus Green Guardian (GG) nourishments halfway between comprehensive treatments. This approach keeps your garden thriving through to harvest. When watering or spraying plants aim for a minimum of 70% leaf coverage.

** With our specially formulated applications, there's no risk of over-applying. Each product is designed to be gentle on your plants and soil, allowing for flexibility in application without the worry of harming your garden's ecosystem. Feel free to adjust the frequency to meet your garden's unique needs, ensuring optimal growth and health.*

Experienced Gardeners:

Our kit is designed to be versatile, catering to the unique needs of your garden. While we recommend four applications per year, don't hesitate to tailor our kit to your garden's response. Consider breaking the applications into smaller, more frequent doses to provide your plants with a steady stream of nutrients. Keep an eye on your garden's health indicators, such as growth rate and leaf color, and use these as cues to adjust your schedule.

From Seeds to Harvest

Our guide ensures that from the very beginning of your plants' lifecycle, they receive the care and support needed for vibrant, fruitful growth.

Initial Application (Seed Planting)

Apply the first full spectrum applications (Green Guardian [GG], Soil Sanctuary [SS], Earth's Embrace [EE]) at the time of seed planting.

Germination Phase

Apply the second full spectrum application within 5-10 days after observing seed germination.

Growth Phase

Conduct the third application 15-20 days following your second application, as the plants begin to visibly grow.

At Transplant, Pre-Flowering, or Fruiting Phase

The final application should be made before the flowering or fruiting phase or at transplant (25-30 days after the 3rd full-spectrum application).

Bonus GG Applications

Build in the first bonus application at the midpoint between the growth phase and the pre-flowering or fruiting phase, then the final three every 10-20 days following the fourth full-spectrum application.

Perennial Bloom

Application Schedule

Distribute four applications approximately one month apart, beginning in early spring or aligned with specific growth stages for best results. Aim for at least 70% coverage of plant surfaces with the solution.

Early Spring

Administer the 1st application to both the soil and plant before the onset of new growth in early spring.

Bud Swell

Apply the 2nd application to the plant and surrounding soil as buds begin to swell.

Bud Burst

The 3rd application targets the bursting buds and expanding foliage, including the soil.

Full-Leaf Set

Ensure the 4th application covers plant surfaces comprehensively, achieving at least 70% coverage.

Bonus Green Guardian (GG) Applications

Introduce bonus GG applications at the intervals between the main applications, specifically around 12-16 days after each full spectrum application.

Transplant Care

Ensure your transplants thrive from the get-go with our full spectrum application regimen. Designed for delicate transition periods, these applications support root establishment and plant vigor.

Application Schedule

Apply four full spectrum applications approximately one month apart, beginning at the time of transplant. Direct application to the rootball, on foliage, and into the transplant hole is recommended for immediate support.

Initial Transplant Stage

At transplant, carefully apply the first of the full spectrum applications directly to the rootball and the surrounding soil to foster root development and reduce transplant shock.

Subsequent Applications

Following the initial application, continue with three more full spectrum treatments, spaced roughly one month apart, to progressively nourish and strengthen your transplants

Bonus GG Applications

Supplement with bonus GG applications at 12-16 day intervals between the full spectrum treatments. These bonus feeds are great for maintaining continuous nutrient flow and plant health.

**Important: When watering or spraying plants aim for a minimum of 70% leaf coverage.*

Maximize Growth, Minimize Waste

Using fertilizers alongside our garden kit can boost your soil and plants, but our goal is to reduce chemical dependence and restore the natural soil food web.

Synthetic Fertilizers: Think Twice

Our first and foremost advice is to steer clear of synthetic fertilizers. The chemical composition of these products clashes with the organic nature of Earth's Embrace disrupting the delicate balance of beneficial microorganisms we aim to foster in your soil.

Organic Fertilizers: Smart Use

If you choose to use fertilizers, we advocate for organic options. As a rule of thumb, consider reducing your usual fertilizer application rates by half of what is recommended on the label. This adjustment helps prevent nutrient overload, allowing your garden to benefit from both the organic matter in our kit and the additional nutrients from the fertilizer without overwhelming your plants or soil. As seasons pass with continual use of the kit your soil's capacity to fuel your garden nutrient needs could get you to a point where fertilizers are completely redundant.

Economize Your Gardening

Overuse of even organic fertilizers isn't just hard on plants—it's hard on your wallet. Since plants have a limit to nutrient uptake, excess fertilizer doesn't translate to more growth, but more waste. By incorporating our kit, you can actually reduce your fertilizer expenditure.

Let our kit do the heavy lifting, minimizing your need for additional fertilizing products and maximizing your garden's and budget's potential.

Creating an Ecosystem

Our Regenerative Soil Kit is like founding a thriving settlement for the microscopic world beneath our feet, rejuvenating and enriching the soil in your garden.

Soil Sanctuary acts as the foundation, much like the settlers laying down the first stones of their new homes in wildlands. It prepares the soil, creating a welcoming environment or “shelter” for beneficial microorganisms to settle in.

Earth’s Embrace introduces the “settlers” — a diverse community of microorganisms, including beneficial bacteria, fungi, nematodes, and protozoa. These tiny inhabitants are crucial for a thriving ecosystem, working together to break down organic matter, improve soil structure, and enhance nutrient availability.

Green Guardian comes in as the essential “food” source, providing a balanced diet of nutrients that these microorganisms need to thrive. Just as settlers would farm the land to feed their community, Green Guardian nourishes the soil’s microscopic inhabitants, ensuring they have the energy to support plant growth and soil health.

Together, these components of our kit revitalize the soil, turning it into a bustling ecosystem akin to a vibrant, flourishing settlement. This holistic approach not only enhances plant health and yield but also supports sustainable gardening practices, fostering a living soil that benefits future generations.

Regenerate your Ecosystem

Soil is Alive

A single handful of healthy soil contains billions of microorganisms, including bacteria, fungi, protozoa, and nematodes, making it one of the most complex ecosystems on Earth.

Carbon Storage Powerhouse

Soil is the third-largest carbon storehouse, or “sink,” on the planet, storing more carbon than all the world’s forests combined. This makes it a crucial player in combating climate change.

The Foundation of Biodiversity

About 90% of all earth’s organisms live in the soil at some point in their life. Soil health directly influences biodiversity above ground, supporting everything from worms to birds to mammals.

Critical for Food Production

Around 95% of our food comes from the soil. Healthy, regenerated soil leads to more nutritious crops, which is vital for food security and health.

Soil Regeneration Supports Wildlife

Regenerating soil attracts earthworms, which are key for aerating the soil and breaking down organic matter. This, in turn, attracts birds and creates a habitat for a multitude of other wildlife species, enhancing local ecosystems.

Our Mission

In 2017, we embarked on a journey to redefine gardening practices with a focus on sustainability and ecological balance. Initially established as Fort Wayne's first vermicomposting business, we focused on transforming restaurant food waste into nutrient-rich worm castings. This initiative marked the beginning of our journey into understanding and enhancing soil health.

Our exploration led us to discover the crucial role of diverse soil microbiology in boosting plant growth, guiding us to become microbe farmers. We developed and assembled specialized products that foster balanced microbial communities, crucial for a thriving garden ecosystem.

At Back to Earth Works, we are committed to community enrichment through regenerative and sustainable soil management. Our range of 100% all-natural, eco-friendly products, including GreenGuardian, Earth's Embrace, and SoilSanctuary, are designed to work synergistically to revitalize soil.

Our holistic approach promotes landscape management without exposing communities to harsh chemicals, focusing on nurturing soil vitality and plant health. We empower gardeners, irrespective of their garden's size, with the tools and knowledge for a sustainable, flourishing garden, contributing to a healthier, environmentally responsible world.



Learn more with us!

@back_to_earth_works

A fascinating fact about soil ecosystems

A single teaspoon of rich garden soil can contain more microorganisms than there are people on Earth.

This bustling underground community includes bacteria, fungi, protozoa, and nematodes, all playing crucial roles in decomposing organic matter, cycling nutrients, and supporting plant growth. This incredible biodiversity under our feet is vital for the health of our planet's ecosystems.

Biochar: Biochar is the lightweight residue, made of carbon and ashes, remaining after the pyrolysis of biomass, and is a form of charcoal.

Biostimulant: Substances or microorganisms applied to plants or soils to improve nutrient efficiency, stress tolerance, and crop quality without being nutrients themselves.

Compost: Organic matter that has been decomposed and recycled as a fertilizer and soil amendment.

Earthworm Castings (Vermicast): Nutrient-rich waste material from earthworms after they digest organic material.

Ecosystem Services: Positive benefit that wildlife or ecosystems provide to all peoples such as water filtration, air purification, flood control, etc.

Humic Acid: A group of molecules that bind to, and help plant roots receive, water and nutrients.

Microbiome: The community of microorganisms (such as bacteria, fungi, protozoa, nematodes, and viruses) that inhabit a particular environment, including the soil.

Mycorrhizae: Symbiotic relationships between fungal networks and plant roots, enhancing water and nutrient absorption while providing carbohydrates to the fungi.

Nematodes: Microscopic, worm-like organisms that live in soil and promote plant health, while others can be plant parasites.

Nutrient Cycling: The movement and exchange of organic and inorganic matter back into the production of living matter.

Organic Matter: Plant and animal residues in various stages of decomposition in the soil.

pH Level: A measure of acidity or alkalinity in soil, on a scale from 0 to 14, with 7 being neutral. Soil pH can affect plant growth and nutrient availability.

Photosynthesis: The process by which green plants and some other organisms use sunlight to synthesize energy from carbon dioxide and water. Photosynthesis in plants generally involves the green pigment chlorophyll and generates oxygen as a byproduct.

Protozoa: Single-celled organisms that feed on bacteria, helping with nutrient cycling and controlling harmful pathogen populations..

Rhizosphere: The zone of soil surrounding a plant root where complex biological and chemical interactions occur between the plant and microorganisms.

Soil Aeration: The process of introducing air into the soil to reduce compaction and improve water and nutrient absorption.

Soil Amendment: Any material added to soil to improve its physical properties, such as water retention, permeability, water infiltration, drainage, aeration, and structure. The goal is to provide a better environment for roots.

Legal

© 2024 Back To Earth Works LLC. All rights reserved. No part of this User Guide may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of Back To Earth Works LLC, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.