PlanetaryCARE

Building Global Resilience through Regeneration

AGRICULTURAL APPLICATIONS GUIDE

Fermented Microbial Inoculants in Agriculture

A Field Guide for Growers & Agricultural Entrepreneurs

VOLUME I • INTRODUCTION

- Compost & Agricultural Waste
- Septic Systems & Sewage
- Animal Bedding & Manure
- Soil Treatment & Foliar Application
- Deodorizing
- Aerobic Compost Tea
- Livestock & Poultry
- Ponds & Water Bodies

CONTENTS

Table of Contents

— Foliar Application

— Pasture Application

Aerobic Compost Tea (ACT)

— Benefits

— Guidelines for Adding FMI to ACT

— Specialized Compost Teas

Livestock & Poultry

— Benefits

— Water Supplementation

— Feed Application

— Barn & Bedding Spraying

Ponds & Water Bodies

— Benefits

— Large Ponds & Lakes

— Small Ponds & Wading Pools

Application ratios and results will vary by crop, soil type, climate, water quality, and management practices. This guide is educational and does not replace professional agronomic or regulatory advice.

INTRODUCTION

About This Guide

This guide is written for farmers, ranchers, compost producers, and agricultural entrepreneurs who wish to incorporate fermented microbial inoculants (FMI) — also widely known in the field as EM or Effective Microorganisms — into their soil health and farm management programs. TerraFerm's ASAM (Advanced Syntropic Antioxidative Microbes) brewing ingredients provide the microbial foundation for the applications described herein.

TerraFerm does not sell live Mother Culture (the active fermentation starter); instead, we supply the pre-measured ASAM dry and liquid ingredient kits that are combined with Mother Culture, water, and molasses to produce a high-quality fermented microbial inoculant in your own facility. The applications in this guide apply broadly to any properly prepared FMI/ASAM brew.

Scope of This Guide

This is Volume I in a planned series of field guides. It covers foundational application areas most relevant to farm operations: compost, soil, bedding, waste management, deodorizing, foliar feeding, livestock supplementation, and pond treatment. Coverage is intentionally introductory — providing practical starting points rather than exhaustive protocols. Future volumes will address advanced brewing, specialty crops, bioremediation, and more.

Important Disclaimer

Important Disclaimer

- Application ratios and frequencies given here are starting points — not rigid prescriptions. Variables including soil type, climate, water chemistry, crop variety, and management history will require adaptation.
- If facing unique or complex challenges, consult a qualified agronomic advisor or your TerraFerm/ASAM distributor for guidance tailored to your operation.
- Regulatory requirements for microbial products vary by state, province, and country. Verify compliance with your local agricultural extension office or regulatory body.
- Buyers are responsible for confirming labeling, registration, and compliance requirements for their finished fermented product.

BACKGROUND

What Is a Fermented Microbial Inoculant?

Origin & Background

Fermented microbial inoculants (FMIs) — marketed worldwide under many names including "Effective Microorganisms" (EM) — originated in Japan through the work of Dr. Teruo Higa, a horticulture professor at the University of the Ryukyus. Building on earlier research by Dr. Kobayashi (Kyoto University), who used phototrophic organisms for wastewater treatment and odor control, Dr. Higa developed a cooperative microbial consortium that has since been adopted in over 100 countries for sustainable agriculture, waste management, and environmental restoration.

The consortium consists of 20 or more species of mutually beneficial microorganisms — including lactic acid bacteria (LAB), purple non-sulfur bacteria (PNSB), and yeasts — working in a synergistic, metabiotic relationship where each organism creates favorable conditions for the others. The result is a culture with powerful antioxidative, regenerative, and deodorizing properties.

The Heart of the Culture: Purple Non-Sulfur Bacteria

While lactic acid bacteria are the most numerous organisms in FMI, the purple non-sulfur bacteria (PNSB) are the most impactful. Normally found in deep soil, pond mud, and on wild plant leaves, PNSB are photosynthetic microbes responsible for much of the culture's regenerative and antioxidative effects. They produce a remarkable array of bioactive compounds — including quinones, carotenoids, bacteriochlorophylls, and organic acids — that shift soil and waste chemistry toward a more healthful, balanced, syntropic (anti-entropic) state.

Agricultural Uses

FMIs have demonstrated benefits across a wide range of agricultural applications:

- Soil conditioning — building toward a truly sustainable zymogenic soil over time
- Compost acceleration — faster maturation, higher nutrient density, reduced pathogens
- Waste management — odor elimination, sludge reduction, BOD/COD improvement
- Livestock feed supplementation — improved gut health, waste quality, and animal wellbeing
- Foliar nutrition — combined with compost teas and nutrients for enhanced plant uptake
- Pond and water body remediation — algae control, dissolved oxygen improvement
- Deodorizing — neutralizing ammonia, hydrogen sulfide, and other noxious gases

Key Properties of a Quality FMI

Beyond the live microbial consortium, a properly formulated FMI contains substances that help beneficial organisms become established in compost, soil, or waste media:

- **Minerals & trace elements** — nourish both the FMI consortium and naturally occurring wild beneficial microbes, building a larger synergistic community over time.
- **Selective nutrients & carbon sources** — preferentially support beneficial microorganisms while disadvantaging putrefactive and pathogenic organisms.
- **Organic antioxidants** — including quinones, anthocyanins, polyphenols, flavonoids, and carotenoids, produced during controlled fermentation. These neutralize toxic and noxious compounds and create competitive advantage for beneficial microbes.
- **Energy substances & carriers** — quinones, ubiquinone, ATP, bacteriochlorophylls — that shift the chemistry and microbial balance of soil and waste streams.

TerraFerm ASAM Ingredients

- TerraFerm's ASAM dry kit supplies fermented shrimp paste, shrimp powder, wheat bran, Azomite, sea salt, kelp meal, Pascallite clay, and optional enhancement inputs — all pre-measured for your batch size.
- The ASAM liquid kit supplies Sea-Crop ocean concentrate, fish hydrolysate, and other liquid inputs. Both kits are combined with separately-sourced Mother Culture, blackstrap molasses, and water to complete the brew.

APPLICATION

Compost & Agricultural Waste

Benefits When Applied to Compost & Waste Piles

- Drastic reduction or elimination of odors and toxic gases (ammonia, hydrogen sulfide)
- Suppression of pathogenic microbes — yielding balance and harmony in the pile
- Reduction in flies, mosquitoes, and harmful molds
- Up to 35% faster composting — pile ripens and matures more quickly
- Finished compost with higher nutrient value and drastically reduced pathogen levels
- Harder, more disease-resistant plants when finished compost is applied to soil
- Greater crop resistance to drought, salinity, frost, and disease over time

A Note on Composting Fish or Animal Parts

The guidelines below assume primarily vegetative organic matter. If composting large quantities of animal parts or fish waste, additional preparation is required:

- Chop material into pieces smaller than 75mm × 75mm (3" × 3").
- Mix thoroughly with very large volumes of carbon-rich vegetative matter — sawdust, beet pulp, grain husks, shredded leaves, hay, or straw. The required carbon-to-protein ratio often surprises first-timers.
- Use stronger FMI ratios and, where possible, high-phototrophic culture.

Note: FMI cannot compensate for an insufficient carbon-to-protein ratio. It enhances and improves the process, but does not substitute for proper technique.

How to Use — New Compost Pile

Mix 1 part FMI and 1 part blackstrap molasses with 400 parts water (1:1:400 ratio). Apply to the pile via drip, spray, watering can, or drenching. Use the diluted mix within 24 hours of mixing.

Apply at minimum twice during the pile's lifetime: once at start and once again at Day 5–11. A third application at 2–3 weeks and a fourth at 4 weeks are beneficial but not required. If using active aerobic (turning) methods, expect a hotter, faster pile — turn more frequently.

How to Use — Existing Pile (Already Started Without FMI)

For an established pile, use a stronger initial ratio: 1:1:200. Follow up with the 1:1:400 ratio at Days 5–11, and optionally again at 2–3 weeks and 4 weeks. As always, use the diluted mix within 24 hours of preparation.

COMPOST — DILUTION REFERENCE

New pile — initial & follow-up applications	**1:1:400 (FMI:molasses:water)**
Existing pile — initial application	**1:1:200 (stronger)**
Follow-up applications (existing pile)	**1:1:400 (standard)**

APPLICATION

Septic Waste & Sewage Treatment

In any waste treatment system, sludge accumulates both as an intentional end-product and as an unwanted residue in pipes, equipment, and lagoons. FMI technology addresses virtually every problem associated with agricultural waste streams and septic systems.

Benefits for Agricultural Septic Waste & Sewage

- Massive odor reduction; drastic reduction in toxic gases (H■S, ammonia, mercaptans)
- Sludge reduction of 15–90% over time, including hardened multi-year accumulations
- Drastic reduction in pathogenic bacteria, yeasts, protozoa, and toxic molds
- Reduction in BOD (biological oxygen demand) and COD (chemical oxygen demand)
- Improvement in dissolved oxygen levels; reduction in suspended and dissolved solids
- Prevention of rust and corrosion of metal equipment (pumps, valves, pipes)
- Reduction in heavy metals, chlorinated hydrocarbons, pesticides, and nitrosamines
- Normalization of pH from extremes; reduction in nitrate, nitrite, and phosphate levels

Important — Results Take Time

- Full benefits typically emerge over 2 weeks to 2 months as beneficial microbes establish themselves in water, sludge, gravel, concrete surfaces, and interstices.
- For systems with pre-existing waste, expect a brief "settling period" where some factors may temporarily worsen before improving. Odor control is usually rapid; sludge reduction takes longer.

Treating an Existing, Partly-Filled Septic System

Initial treatment:

Add FMI at 1:20,000 to 1:30,000 (FMI to waste volume). For a 5,000-gallon tank, add approximately 1 quart (about 1 liter) of FMI diluted in 10× water. Pre-mixing equal parts FMI and molasses with 10–20× warm water before application speeds action but slightly increases risk of sludge flotation.

Follow-up treatments (two additional applications, ~1 month apart):

Use 1:10,000 ratio of FMI plus equal parts blackstrap molasses, pre-mixed in a small volume of water and poured into a drain. Example: for a 5,000-gallon system, mix ½ gallon FMI + ½ gallon molasses in ~4 gallons of water per treatment.

Ongoing daily treatment for new waste:

Add FMI at 1:10,000 or stronger to all waste entering the tank. For a barn producing 100 gallons/day of waste, add ~1.5 oz FMI daily. Pairing with equal parts blackstrap molasses improves effectiveness.

Treating a Totally Clogged & Blocked Septic System

Begin immediately with a 1:1 mix of FMI and blackstrap molasses added to drains daily — starting with 1 pint FMI + 1 pint molasses per day. Continue for at least 3–4 months (longer in cold weather, which slows microbial action). This approach has repeatedly restored systems declared completely clogged to "as good as new" condition.

SEPTIC & SEWAGE — DILUTION REFERENCE

Initial treatment — partly-filled tank	**1:20,000 to 1:30,000**
Follow-up treatments (2×, ~1 month apart)	**1:10,000 + equal molasses**
Ongoing daily — new waste entering tank	**1:10,000 or stronger**
Clogged/blocked system — daily treatment	**1 pint FMI + 1 pint molasses, straight**

APPLICATION

Animal Bedding & Manure

Benefits for Animal Bedding, Litter & Stock Pen Soil

- Massive, rapid odor reduction; drastic decrease in toxic gases (H■S, ammonia)
- Drastic reduction in pathogenic bacteria, yeasts, protozoa, and toxic molds
- Reduction in flies, mosquitoes, and pest insects in and near waste
- Improved dissolved oxygen levels; reduced nitrate, nitrite, and phosphate levels
- Reduced rust and corrosion on nearby metal equipment
- Better nutrient value and microbial profile of waste destined for composting

How to Use

Mix 1 part FMI and 1 part blackstrap molasses with 100 parts water (1:1:100). For serious pre-existing odor or disease problems, start at 1:1:20. Apply to bedding or soil via spray, watering can, or drenching. **Also spray all interior surfaces — walls, dividers, and ceilings** — for maximum initial establishment of the beneficial culture.

In the beginning (or for severe problems), repeat once or twice per day. As the beneficial microbes become established in older bedding layers, reduce to twice per week, then once per week, and eventually even less. With consistent use, application frequency may drop dramatically:

Field Example — Poultry Housing

- "I have not cleaned the chicken waste from the shed in over 2.5 years and yet the shed remains odor-free with few flies. I now spray the interior only once every 8–10 weeks. My chickens receive FMI daily in their drinking water (~1:300) and I mix some into their feed." — Field practitioner report

BEDDING & MANURE — DILUTION REFERENCE

Standard treatment — bedding & pen soil	**1:1:100 (FMI:molasses:water)**
Severe odor or disease problems — initial	**1:1:20 (stronger)**
Maintenance once established	**1:1:100, reduced frequency**

APPLICATION

Deodorizing

FMI is a powerful, broad-spectrum deodorizer. When sprayed or misted into the air, it immediately neutralizes and destroys odor molecules — including toxic gases such as ammonia and hydrogen sulfide — rather than masking them with perfumes or chemicals. This makes it uniquely effective in barns, processing facilities, composting areas, and waste treatment settings.

Benefits for Airborne Odor Control

- Immediate knockdown of virtually all odors when sprayed or misted into air
- Actual neutralization and destruction of odor molecules — not masking
- Reduction of toxic gases: H■S, ammonia, mercaptans, and others
- Drastic reduction in pathogenic bacteria, yeasts, protozoa, and toxic molds
- Reduction in flies and mosquitoes in the treated area
- Reduced rust and corrosion on nearby metal surfaces
- Eliminates need for toxic oxidizers or chemical odor-masking agents

Immediate Odor Knockdown

Fill a backpack or handheld sprayer with pure, full-strength FMI (for worst odors) or FMI diluted 1:2 with water (for moderate problems). Spray into the air, holding the wand as high as possible. Indoors, also spray exposed wood, soil, and bedding surfaces for even faster results.

Misting is more effective than spraying — the finer droplet size provides greater air contact. Misting nozzles are available from most agricultural supply vendors and can be retrofitted to many sprayers.

Automated Misting Systems

For larger operations — poultry barns, sewage treatment facilities, composting operations — automated misting systems incorporating an interval timer, pump, distribution tubing, and misting nozzles can provide continuous odor control. A typical system activates for a few minutes several times per hour, applying a fine FMI mist to the ambient airspace.

Long-Term Odor Control

For sustained, long-term odor management, treating bedding, soils, and surfaces (see the Bedding & Manure section) is the most effective strategy. Spraying is most powerful when combined with FMI supplementation in animal feed and water, which conditions the waste at its source.

DEODORIZING — DILUTION REFERENCE

Severe odors — immediate knockdown spray	**Full strength or 1:2 with water**
Moderate odors — ambient spray or mist	**1:2 to 1:10**
Automated misting systems	**1:10 to 1:50 depending on system**

APPLICATION

Soil Treatment & Foliar Application

Benefits for Soil Health

- Elimination of odors from compost and organic fertilizers applied to soil
- Reduction in pathogenic microbes; increased populations of beneficial microbes and fungi (including VAM mycorrhizae)
- Increased Brix rating and shelf/storage life of fruits, vegetables, grains, and hay
- Improved plant health, hardiness, and disease resistance
- Greater crop resistance to drought, salinity, frost, excessive heat, and low light
- Reduced incidence of plant disease; decreased attraction to insect pests
- Long-term progression toward a true zymogenic (self-sustaining) soil

Important Caveats Before Treating Soil

- **Avoid flowers and late-stage buds:** At concentrations stronger than 1:3,000, FMI applied to flowers or late-stage buds may cause burn or fermentation, preventing pollination. Do not apply foliar FMI during flowering.
- **Avoid applying near seed germination:** Do not apply FMI to soil within 2 weeks of planting seeds, or use only very dilute concentrations (1:10,000 or weaker).

Initial Treatment — Previously Untreated Soil

Mix 1 part FMI and 1 part blackstrap molasses with 400–800 parts water. Apply at approximately 1 gallon of FMI per acre, every 1–2 months at start — more frequently is better. Apply via spray, drip irrigation, or spray irrigation. Always use the diluted mixture within 24 hours of mixing.

Ongoing Treatment — Soil Already on FMI Program

Once a soil has received regular FMI inputs and organic matter for at least one year, application frequency may be reduced to 3–4 times per year. The general starting point of 1 gallon of FMI per acre per treatment remains a useful benchmark.

Foliar Application

This section is for growers already experienced with foliar application of nutrients or microbial products. It is not a beginner's guide to foliar application.

FMI can be added to tank mixes at 1:300 to 1:600 for most applications. Where more microbial activity is needed, ratios as strong as 1:100 may be used (use only on non-tender foliage at these concentrations). For more dilute

applications, 1:1,000 is often sufficient. Equal amounts of blackstrap molasses may also be added to the tank mix.

One frequently reported benefit of FMI in foliar spray: **soft-bodied plant pests often die within 12 hours of application**, even at relatively low concentrations.

Pasture Application

For pasture-fed operations — particularly for fields where grazing animals show persistent digestive issues — spray the pasture at least 3 times per year, preferably starting in late fall or early spring. Apply approximately 1 gallon of FMI per acre per treatment, injected at 1:500–1:2,000 into an irrigation system or applied with a tractor-drawn boom sprayer.

SOIL & FOLIAR — DILUTION REFERENCE

Soil — initial treatment	**1:1:400 to 1:1:800 (FMI:molasses:water)**
Foliar spray — general	**1:300 to 1:600**
Foliar spray — heavy application	**1:100 (non-tender foliage only)**
Foliar — light maintenance	**1:1,000**
Pasture spray injection	**1:500 to 1:2,000**

APPLICATION

Aerobic Compost Tea (ACT)

Adding FMI to aerobic compost tea is a powerful combination — FMI's anaerobic consortium complements the aerobic beneficial organisms in ACT, with each community supporting the other's effectiveness. The result is a more biologically diverse, odor-free, pathogen-suppressed product.

Benefits of Adding FMI to ACT

- Drastic reduction in odors from fish emulsion and other high-nitrogen ingredients
- Reduction in pathogenic microbes; greater microbial biodiversity
- Increased Brix rating of crop products; improved shelf life of produce
- Can be combined with rock dusts, humates, fulvates, fish emulsion, or calcium products
- Encourages beneficial fungi and microbial diversity

This section is for growers already successfully brewing aerobic compost tea.

General Guidelines

Add FMI at the start of brewing at a ratio of 1:400 to 1:1,000 (FMI to ACT volume). High-phototrophic cultures perform best. The ratio can be reduced as low as 1:15,000 in some formulas or increased to 1:200 where odor or pathogens are a concern. A good starting point for most ACT formulas is 1:500 — then adjust based on results.

If your ACT formula doesn't already contain molasses, consider adding blackstrap molasses at the same rate as FMI (e.g., 1:1:300 — FMI:molasses:ACT). The molasses feeds both FMI organisms and other beneficial microbes in the tea.

Specialized Compost Teas (High-Protein Formulas)

For manure teas, feather teas, fish teas, and other high-nitrogen, high-protein, odoriferous formulas, FMI use is especially valuable for odor control and pathogen suppression — but application rates will generally be higher (e.g., 1:50 for very protein-rich teas). Specific formulation will vary widely and is beyond the scope of this introductory volume.

COMPOST TEA — DILUTION REFERENCE

ACT — general starting ratio	**1:500 (FMI:ACT)**
ACT — strong application / odor control	**1:200**
ACT — very dilute / maintenance	**1:10,000 to 1:15,000**
High-protein teas (manure, fish, feather)	**1:50 or stronger**

APPLICATION

Livestock & Poultry

Regulatory Note

- FMI products are not marketed as drugs or medications for animals. They are used as nutritional supplements and microbial conditioners. Regulatory agencies (FDA and international counterparts) may restrict what supplements may be fed to livestock. Verify compliance with your state, provincial, and national regulations before use.

Benefits Reported for Livestock & Poultry

- Reduced odor of fecal material; lower ammonia and H■S levels in waste
- Fewer flies and mosquitoes breeding in or near waste and bedding
- Improved gut health — acts as a probiotic in the animal digestive tract
- Increased disease resistance; decreased need for drugs and vaccinations (reported)
- Improved feed-to-weight conversion ratio; animals reach market weight sooner (reported)
- Larger eggs and higher egg production in laying hens (reported)
- Improved animal contentment and behavior

Important: Use Feed-Grade or Food-Grade Ingredients

If offering FMI to any animals, confirm that all ingredients used in brewing — including the Mother Culture, molasses, and all kit components — are rated feed-grade (for animals) or food-grade (for human use). TerraFerm's ASAM kits are formulated for agricultural use; verify specific ingredient certifications with your kit documentation.

Water Supplementation

Most farmers add FMI to livestock water at 1:300 to 1:500. Prepare the dilution fresh daily (or every few days). **Start conservatively** — the darker color and taste may initially deter some animals from drinking, and a rapid dietary shift to high-FMI intake can produce temporary digestive adjustment symptoms. Begin at 1:500 and move toward stronger ratios gradually as animals adapt. A maintenance ratio of 1:500 to 1:1,000 is adequate for most purposes.

Feed Application

For liquid FMI, add 0.5–2% by weight to grain, silage, haylage, or hay. Most farmers spray or mist a 1:1 mixture of FMI and blackstrap molasses (slightly diluted with water) directly onto dry feed as a top-dressing, then stir thoroughly. A starting target is approximately 1% by weight of feed — for a 5-gallon bucket of dry feed, 3–5 oz of FMI/molasses mixture is ample.

Caution with dampness: Slightly damp feed can develop molds if left uneaten for more than 1–2 days. Some breeds (especially turkeys) are sensitive to mycotoxins. Use small enough quantities that feed feels dry within 20 minutes of mixing as moisture is absorbed into the grain.

Dry EM bokashi (dried FMI-fermented bran) can also be added at ~3% by dry volume to feed, with no dampness concerns.

Barn, Bedding & Pen Spraying

For maximum odor control and to pre-condition waste for composting, spray all barn surfaces (walls, floors, equipment), bedding, waste troughs, and holding pens with FMI every 2 weeks. As beneficial microbes become ubiquitous in the local environment, frequency may decrease.

Dilute FMI at 1:50 to 1:100 (stronger for serious odor problems) and apply with a handheld, backpack, or tractor-drawn boom sprayer. Adding equal parts blackstrap molasses (1:1:50 or 1:1:100) enhances effectiveness. Always use diluted mix within 24 hours of preparation.

LIVESTOCK & POULTRY — DILUTION REFERENCE

Drinking water — starting ratio	**1:500 to 1:1,000**
Drinking water — established animals	**1:300 to 1:500**
Feed top-dressing	**0.5–2% by weight (~1% typical)**
Barn & pen spraying — maintenance	**1:50 to 1:100**
Barn spraying with molasses	**1:1:50 or 1:1:100**

APPLICATION

Ponds & Water Bodies

Ponds vary enormously — from small wading pools for waterfowl to large lakes covering many acres — so application recommendations are necessarily general. The principles are consistent: FMI shifts the microbial balance toward beneficial, syntropic organisms, reducing odor, algae, pathogens, and nutrient imbalances.

Benefits for Ponds & Water Bodies

- Drastic reduction in odors; reduction of pathogenic microbes
- Decrease in BOD, COD, color, and turbidity
- Control of algae overgrowth; reduction in excess nitrates and phosphates
- Improvement in dissolved oxygen (DO) levels
- Increased health of aquatic plants and fish
- Reduced breeding of flies and mosquitoes
- Can be combined with other compatible beneficial microbial products

Large Ponds & Lakes

For large bodies of water, apply FMI at 1:20,000 to 1:30,000 (FMI to total water volume). Unlike most other applications, **molasses is generally not recommended for ponds** as an added nutrient load can cause problems. Use FMI straight. Some specialized large pond applications with high organic loads may benefit from co-application with molasses — this is covered in advanced volumes.

Small Ponds & Wading Pools

For small ponds with high organic loads (duck or goose wading ponds, heavily used fish ponds), use much stronger ratios: 1:200 to 1:300. In these cases, premixing 1 part FMI with 1 part molasses in 10–20 parts warm water, then adding immediately to the pond, can be very effective. **Use this dilute mix within a few hours of mixing.**

Field Example — Duck & Goose Wading Ponds

- "Since 2001, I've maintained wading pools for ducks and geese. Before FMI, the ponds stank within days. After starting with a small amount of FMI plus occasional molasses, odors dropped to roughly 1% of their former level. After 3+ years of use, I've never needed to drain and scrub the ponds. I add FMI (and sometimes molasses) about once per month. The water still looks muddy, but even my finicky chickens drink from it willingly." — Field practitioner report

PONDS — DILUTION REFERENCE

Large ponds & lakes	**1:20,000 to 1:30,000**
Small ponds — moderate organic load	**1:300 to 1:500**
Small ponds — high organic load	**1:200 to 1:300**
Small ponds with molasses (pre-mixed)	**1:1:10 to 1:1:20 (FMI:molasses:water)**

About TerraFerm

TerraFerm is the agricultural biologicals division of PlanetaryCARE.org (PCARE), a mission-driven organization focused on regenerative approaches to soil health, food security, and ecological resilience. TerraFerm provides pre-measured ASAM brewing ingredient kits, educational resources, and consulting services to help growers, distributors, and entrepreneurs establish effective fermented microbial programs on their farms and properties.

TerraFerm does not sell Mother Culture (the active fermentation starter) as part of a packaged kit. Buyers source Mother Culture independently through TerraFerm's recommended affiliate suppliers, then combine it with TerraFerm's ASAM ingredient kits, molasses, and water to brew their own high-quality FMI product.

Contact & Resources

- **Website:** TerraFerm.org
- **Education & Training:** Online courses covering EM brewing fundamentals, ASAM process, soil biology, and batch documentation — available at TerraFerm.org
- **Consulting:** Discovery calls, setup packages, and ongoing support for growers and agricultural entrepreneurs — see TerraFerm.org/consulting
- **Shop:** ASAM Dry Kit, Liquid Concentrate Kit, and enhancement add-ons — see TerraFerm.org/shop

Disclaimers: *Application methods and results may vary by crop, soil type, climate, water quality, management practices, and local regulations. Buyers are responsible for confirming labeling, registration, and compliance requirements in their state, province, or country. Organic certification claims should only be made after confirmation with the buyer's certifier or applicable certifying body. This material is educational and does not replace professional agronomic, regulatory, or legal advice. FMI products are not marketed as drugs, medications, or pesticides.*

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