Microstart Application, Storage & Usage

Thanks for choosing **Microstart!**

This guide is designed to help you apply your microbe mix effectively, store it correctly, and track its results across your paddocks or crops.

It includes step-by-step instructions, equipment recommendations, seasonal application guidance, and tools for monitoring soil health - including Brix testing, visual assessments, and stock behaviour tracking.

Whether you're transitioning from synthetics or you've already been farming biologically, this resource will help you get the most out of your Microstart application.

If you ever need support, don't hesitate to reach out to us at:

📧 **support@microstartfarming.com.au**
📞 **Darren – 0417 840 509**

MICROSTART
BIOLOGICAL FARMING

Contents

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1. Storage Guidelines

1.1 General Storage Instructions

- **Use Fresh If Possible**: It is best to use the product fresh.
- **Storing Leftovers**: If there is leftover product, do the following:
    - Fill the container to the top with water.
    - Securely place the lid back on the container.
    - Store in a **cool, dark place**.

1.2 Preparing For Reuse

- **Mix Before Use**: When ready to use, stir or mix well.
- **Strain The Mix**: Always strain into the spray tank to remove excess fungi that might have settled on top during storage. Fungi settled on top of the mix is normal and still usable, even if there is a slight smell.

1.3 Ideal Storage Conditions

- **Temperature**: Keep below 25°C if possible, but as cool as practical.
- **Shelf Life**: Under optimal conditions, the product can last up to **6 months** when stored out of the sun in cool conditions.
    - The mix is good to use unless it smells anaerobic or sour.

1.4 Handling Issues

- **Fungal Growth**: If fungus grows on the surface, mix it back in before straining into the spray tank.
- **Pressurised IBCs**: Release the pressure by opening the lid. Stir the mix or shake the container to reintroduce oxygen and reduce pressure buildup.

1.5 20L Drums

- **Pressurised 20L Drums** - Loosen the lid or use a pin to puncture the air filter at the top of the lid *(just be aware the drum will leak now if turned on its side or upside down)*.

1.6 Ideal Long-Term Storage

- For indefinite long-term storage for IBCs, you can do the following:
    - Fill the IBC with water (until 1ft from the top).

- Aerate with an air pump.
- Add in molasses and or kelp a few days before use *(approximately 5 litres for a full IBC.)*

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2. Equipment Guidelines

For equipment guidelines and recommendations, consider the following:

All equipment must apply the mix at 30 PSI or less.

2.1 Equipment Considerations

- **Preferred Equipment**:
  - Boom sprayers with coarse or fertiliser nozzles.
  - Boomless nozzles *(see recommendation below).*
  - ATV or motorbike-mounted setups with pumps.
- **Pressure Guidelines**:
  - Keep pressure below **30 PSI** to maintain product efficacy.
- **Tank Cleaning**:
  - Clean tanks thoroughly to avoid contamination of the mix with past applications used in the tank/equipment.
  - Clean after application to avoid fungal growth.

2.2 Nozzle and Filter Guidelines

- Use coarse nozzles to accommodate suspended particles in the mix.
- Avoid fine nozzles or filters as they may strain out beneficial fungi and get blocked quickly.

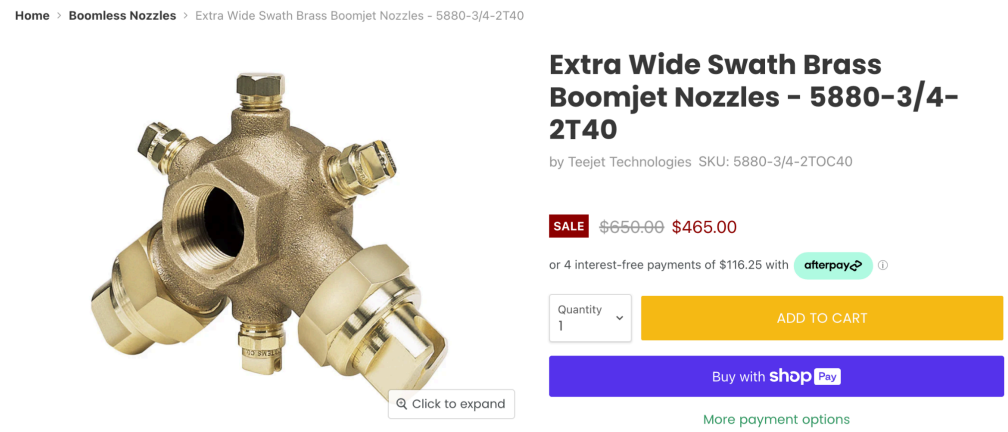
2.3 Additional Equipment Options

- **Drones and Helicopters**: Effective for broad applications - again, ensure nozzles are adequate (coarse or fertiliser nozzles).
- **Fertigation Systems**: Suitable for indoor irrigation setups but may require custom guidance (contact us).
- **Manual Application**: Backpack sprayers are viable for smaller areas.

2.4 Recommended Nozzle

Order this Nozzle online here (or check your local supplies store):

https://microstartfarming.com.au/boomjet-nozzle



2.5 Cost-Effective Solutions For Spray Rigs

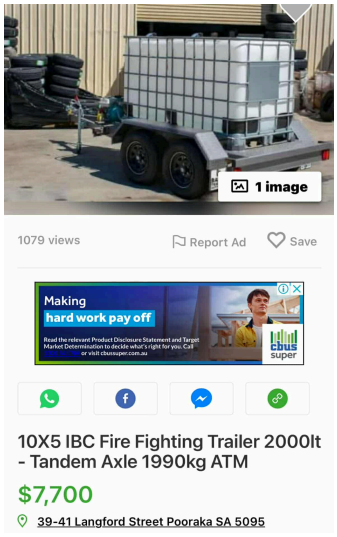
Homemade Rigs:

For smaller farms, looking to save on equipment costs, homemade or custom-made smaller rigs can be made for application of the mix.

It just needs to be sprayed at 30 PSI or less.

Track the Application PSI for the rig by attaching a pressure valve to the nozzle (see image below).

Usually, these rigs can be made with IBC tanks and a water pump on a trailer. See the rig examples below using a boomless spray nozzle:



Custom-Made Trailers:

https://microstartfarming.com.au/custom-made-trailers

2.6 Farm Spraying GPS Tracker (for use in cars/quads/etc): Download on App Store:

https://microstartfarming.com.au/farm-sprayer-gps

Farm Sprayer GPS 4+

GPS Field Navigation

Joshua Johnson

Designed for iPad

#28 in Navigation

★★★☆☆ 2.8 • 16 Ratings

$14.99 · Offers In-App Purchases

View in Mac App Store ↗

3. Application Timing And Methods

3.1 Application Timing By Farm Type

- **Pasture Farming**:
  - Best during **autumn and spring** (or start of growing season in Northern Australia) when the soil is moist and covered with green vegetation.
  - Avoid hot, windy, or dry conditions.
- **Crop Farming**:
  - Apply after sowing when the crop is 2-3 inches tall.
  - For irrigated crops, apply after irrigation.
- **Indoor/Undercover Crops:**
  - Can be applied through irrigation or foliar spray at any time.
- **Vineyards**
  - Once shoots have emerged (usually in spring).

3.2 Timing of Day

- **Cooler Periods**: Apply in early morning, late afternoon, or during cooler weather with dew or rain.

3.3 Stock Management

- **No withholding period for stock.**
  - However, remove stock if the mix develops an especially strong smell as a precaution.
- **Rest pastures post-application** to maximise plant photosynthesis and sugar production. See further stock management guidelines below in section **“6. Transition Process from Synthetic Fertilisers to Microstart - Grazier Systems”**

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4. Preparing The Mix

Before applying, please take the following steps:

4.1 Straining the Mix

The mix has already been strained before shipping, but fungi may grow during transport.

- **Important**: Strain the mix before adding it to the tank to avoid clogging nozzles.
- **Recommended Straining Size**: Use a strainer of approximately **1200 microns**, depending on nozzle and filter sizes.

4.2 Water Requirements

- Use **non-chlorinated water**. Rainwater is ideal. If only chlorinated water is available:
    - Leave it in an open tank for 24 hours to allow chlorine to evaporate.
- High ph water may slightly affect the mix, but is generally not significant.

4.3 Basic Mixing Ratios

- **IBC Standard Ratio**: 25 litres of product with 100 litres of water per hectare.
    - Specific ratios for orchards or specialised crops will be provided on the product tag.
- **20L Drum Concentrate:** 20 litres of product with 180 litres of water per hectare. Covers 1.6 Ha.

4.4 Additives

- Generally, no additives are required unless specified (e.g., molasses in certain cases).

5. Monitoring Results (Soil Test/Tracking Resources)

To best track the effectiveness and benefits from the application, please do one (or all) or the following testing methods before and after applying at different time periods.

5.1 Take Photos

The simplest and easiest way to keep track of results is to take photos.

Every 2-4 weeks, take photos of your pastures, soil, species coverage, problematic areas, and plant density.

If possible, keep track of where and when you take the photos to keep them consistent and take down notes of conditions around when the photos were taken.

5.2 Soil Structure - The Wire Test

An extremely simple test that only requires a 1-2 ft wire around ⅛ inch/3.1mm thick that is flexible *(but not so soft that it'll bend under its own weight if you wave it around)*.

Download Guide Print Out Here:

https://microstartfarming.com.au/wire-test-guide

5.3 Visual Soil Assessment

A 10-minute, free, easy and effective way to keep track of your soil health:

Download Guide Print Out Here:

https://microstartfarming.com.au/visual-soil-assessment-guide

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5.4 Brix Test - Use A Brix Meter To Test & Track The Pasture/Crop Sugar Levels

Brix measures the sugar content in plants, indicating plant health, nutritional density, photosynthetic activity, and natural resistance to pests and disease.

Healthier Brix = healthier plants, pasture, and stock.

Download Brix Testing & Tracking Guide Here:

https://microstartfarming.com.au/brix-levels-testing-guide

5.5 Stock Behaviour

Although this one is hard to track/measure accurately. **Keep an eye on stock behaviour and how they behave around treated VS untreated pastures.**

We've heard many stories from farmers as to how stock will prefer/run to pastures and paddocks treated by the mix.

Test: A way to test this is to apply the mix on **an untreated paddock** at up to 2X the regular dose on a small area (5 - 10 metres squared). Then see how this area of pasture is treated by the stock.

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6. Stock/Pasture Transition Process (from Synthetic Fertilisers to Microstart Applications)

Year 1-2 – Immediate Transition with Optional Synthetic Use

- **No Transition Period Required**
  - Farmers can **stop using synthetic inputs immediately** without a gradual phase-out of synthetic fertilisers. Apply **twice in the first year (ideally spring & autumn)** for optimal soil regeneration.
    - For especially dire situations, a further increased application rate (amount per Ha) or frequency may be recommended.
  - **During the second year, a single application should only be needed,** whilst two can be done for either a) accelerated results or b) soils recovering from dire conditions.
  - **Do NOT apply any synthetic applications within 3 weeks before/after** any Microstart application.

- **Optional Use of Synthetics for Enhanced Efficacy**
  - If desired, farmers can still use small amounts of **synthetic fertilisers alongside Microstart applications** to enhance nutrient efficiency.
    - The presence of beneficial microbes improves **nutrient uptake**, meaning farmers can **achieve better results using lower synthetic inputs**.

- **Stock Rotation & Pasture Management**
  - Allow pastures time to recover after grazing to **maximise photosynthesis and plant sugar production**.
  - Follow the '**⅓ Rule'**:
    - Let the stock eat **⅓ of the pasture**.
    - Trample **⅓ into the soil**.
    - Leave **⅓ for regrowth**.

Year 3+ – Long-Term Biological Soil Management

- **Fully Sustainable Soil Biology**
  - With annual applications, **pasture soil microbes become self-sustaining**, reducing the need for external inputs.

- **Synthetics can be eliminated or kept to minimal levels**, depending on soil conditions and pasture performance.

- **Stock Health & Behaviour Changes**
  - Higher pasture **Brix levels** improve **nutrient density and digestibility**, making stock healthier and more efficient grazers.
  - Expect more **even grazing patterns** and **less selective grazing**.

- **Ongoing Soil Monitoring**
  - Farmers can track improvements using **visual assessments, wire tests, and Brix testing**.
  - If pastures remain **bare or slow to recover**, additional **Microstart applications** can be made.

Dairies: Contact us for specific guidance and a custom program for this transition process.

7.0 Broadacre Crop Transition Process

We recommend that a soil test be taken before/during this process - contact us to get yours done.

Year 1 – Transitioning To Microstart Applications & Reducing Synthetic Inputs

- **Transition To Microstart Applications**
  - **A transition period from synthetics to biological inputs is needed**, wherein some synthetics may be used.
  - **Match the synthetic fertiliser frequency with Microstart** to transition effectively without a dip in production.
- **Application Strategy**
  - Apply **half to two-thirds of the usual synthetic fertiliser** at the usual time (when sowing) to provide initial nutrients.
  - Apply **Microstart 2-3 weeks after germination/when crops reach 2-3 inches in height.**
  - **Do NOT apply any synthetic applications within 3 weeks before/after** the Microstart Application.
  - Follow-up applications can be applied approximately 6 weeks apart as **a substitute for applying nitrogen**.

Year 2-3 – Cutting Synthetic Inputs

- **Reducing Synthetic Fertiliser Reliance**
  - Farmers can **minimise synthetic fertiliser after the first two to four Microstart Applications.**
  - A small amount of synthetic fertilisers can still be beneficial for yield outcomes**.**

- **Crop Growth & Soil Performance Improvements**
  - Expect **deeper root growth, softer soil, and improved nutrient availability**.
  - **Stubble decomposition accelerates**, enhancing nutrient cycling.
  - Crops display **stronger growth, improved moisture retention, and higher Brix readings**.

Year 4+ – Fully Integrated Biological System

- **Applications**

    - Soil microbes will naturally cycle nutrients, reducing **external input dependency**.
    - Ongoing applications of both Microstart and minimal synthetic inputs *(optional)* will continue to **maximise crop production**.
- **Improved Pest & Disease Resistance**
    - Healthier soils lead to **stronger crops with fewer pest and disease issues**.
    - Reduced need for **chemical pest control**, as soil and plant health increase.

- **Long-Term Sustainable Farming**
    - Farmers will experience **higher resilience in drought conditions, improved soil structure, and stronger plant vigour**.
    - Microstart application frequency can be varied depending on results and particular issues/conditions.

7.1 Vineyards Application

- Can be applied through **irrigation OR ideally sprayed over vines once shoots have emerged** (usually in spring).
- **Contact us for a custom program.**

7.2 Tree Crop Application

- For Tree Crops, soil testing and a custom program will be needed.
- **Contact us for a custom program.**

7.3 Horticulture Application

- For Horticulture, soil testing and a custom program will be needed.
- **Contact us for a custom program.**

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8. Special Considerations

8.1 For Unique Crop Types

- Reach out to us and we'll create a specialised fertiliser program - often done alongside our soil biologist partners.

8.2 Bare Pastures or Poor Conditions

- Apply in 3-month intervals initially to rebuild soil health.
- Avoid overgrazing and allow vegetation to establish to 2-3+ inches.

8.3 Pest and Disease Management

- Pest presence often indicates poor soil health. **Contact us for specific advice and consultation.**
- Use the fungal mix for additional soil resilience if necessary.

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9. Reordering & Ongoing Management/Support

- Maintain annual applications until soil biology is fully established.
- Contact us for custom programs based on specific soil types or crop needs.
- Monitor and adjust based on visual indicators and test results.

If you ever need specific support/help with your mix, situation, order, etc, we're here to help!

Simply reach out to us at **support@microstartfarming.com.au**

Or Call Darren on 0417 840 509.