THE BIOLOGICAL FARMING REVOLUTION

HOW TO CULTIVATE THE MOST PRODUCTIVE, PROFITABLE AND SELF-SUSTAINING PASTURE YOU'VE EVER HAD, 100% NATURALLY!

MICROSTART
BIOLOGICAL FARMING

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About Microstart

Microstart is an Australian-owned and family operated company run by father and son, Darren and Ryan Kuchel, based in Mount Gambier, South Australia.

Around 20 years ago, Darren was sick of the increasing hassles and costs of maintaining an "average at best" amount of productivity on his livestock farming.

Before he started farming biologically, he was spending countless hours worrying about which synthetic fertilisers and applications needed to be put out next - the same applications that would put a serious dent in his profits and only seemed to cause more problems for every one that was solved (which then required more expensive applications and solutions to fix)…

"There has to be a better way" he thought.

Fed up with farming this way, he started doing some research on alternative farming methods… and came across an approach to farming that sounded completely backwards to what he and all of the other farmers he knew had always done.

The approach he stumbled across is what is now known as **Biological Farming.**

Biological Farming is a 100% natural approach to pasture management that focuses on building the essential biology required for health and self-sustaining productivity in the soil.

Darren began implementing the principles of Biological Farming by producing his own, 100% natural biological application to his pastures - and as a result has been off the "conventional farming wagon" ever since… all while experiencing increased productivity, pasture health and most importantly, higher profits since making the change.

20 years later, after working with dozens of local farmers to help organically improve their soil biology, pasture health and production - Darren and Ryan are now excited to offer their 100% natural biological solutions to Australian farmers and gardeners all across the country.

“Our goal is to help as many Australian farmers and gardeners to move away from harmful chemicals and artificial applications, so that they can grow the healthiest, most nutritious produce 100% naturally by utilizing the powerful science of biological horticulture and agriculture.”

Ryan (Mabel) and Darren Kuchel

What Other Farmers Are Saying About Microstart

"I can see the benefit after only one year. Very happy and highly recommend Microstart."

J Treglown – Poolajeilo, Victoria

"Good hay result. Would recommend Microstart to other farmers because it works. Happy with your service, book us in for this year!"

A & F Martel, Compton - South Australia

"Working with Microstart was a good experience. Darren is easy going and has plenty of knowledge about Biological Farming.

I would recommend Microstart to other people who are looking for other alternatives and to get away from super fertiliser."

R White, Tantanoola - South Australia

"Noticed an immediate response after spraying, capeweed vanished, colour of grass was intense green and thickened up."

N & D Claydon - Milltown, Victoria

“Every year I was stuck in a cycle of putting on super and then spraying for weeds, and year after year I was using more super to get the same result, while even more weeds grew back that I would have to spray.

Eventually I had enough and decided to start farming biologically with Darren and Microstart.

This year I’ve cut hay in paddocks that were treated biologically that I’ve never been able to cut hay in before.”

Jim Cope - Mt Gambier, South Australia

Jim experienced flooding in September 2016, where some paddocks were under up to 1.5 metres of water for just over a week. This was one of the biologically treated paddocks in November, two months after the flooding.

“Darren is very easy to deal with and provides good advice. Darren helped us treat our 40 acre paddock that was struggling after being sown back to pasture.

This year we yielded tall and full multiple grass clovers, in particular our clover was outstanding.

We have recommended Microstart several times. We believe that this is a sustainable option and cost-effective.”

D & I Prunnell, Mt Gambier, South Australia

Biologically Treated Pasture in Allendale, South Australia:

Biologically Treated Pasture in Compton, South Australia:

This is Darren's own pasture that has been biologically treated for over 15 years and has seen no chemical inputs during this time (compare colour to conventionally farmed pasture in the background):

How To Cultivate Productive, Profitable And Self-Sustaining Pasture, 100% Naturally

What you now hold in your hands is just a small snapshot of more than 20 years of extensive research, testing and trial and error following the guidance of the top soil biologists in the world.

Up until recently, this has been Darren's "private" method of farming that he'd only shared with a handful of others (he doesn't do things the "conventional" way).

However his unconventional approach to farming and pasture management has allowed him to completely eliminate the need for any and all forms of synthetic fertilisers as well as chemical based forms pest, disease and weed control.

All while experiencing steady pasture health and consistent productivity - year after year.

In this book you're going to discover the system that Darren and a small handful of smart farmers across Australia are using for chemical-free, productive and profitable farming.

The Reason Why Most Farmers Are Struggling

The sad truth is, most farmers nowadays are struggling with some or all of the following problems:

- Maintaining profitability after the ever increasing costs of applications “required” on their pasture.
- Constant pest, disease and weed outbreaks.
- Maintaining productivity levels each year.
- Diminishing returns for each dollar spent on inputs.
- Nutrient leaching during periods of heavy rainfall.
- Top soil compaction and poor root structure.
- Advice from Agronomists where their primary concern was selling you more product rather than fixing your pastures problems (and providing “band-aid” solutions at best).

These are some of the most common reasons why so many farmers today are stressed out, confused and struggling to keep their farm operating profitably.

To many, it seems like each year their pasture requires more chemical based applications to be able to simply match last year’s output, while at the same time creating more problems that then require more (expensive) solutions. And the cycle continues year after year, cutting heavily into their bottom line.

Many Farmers Are Currently Stuck In A Downward Spiral Of Increasing Costs And Decreasing Pasture Health And Productivity

Over the next few pages you're going to learn the hidden reasons why most farmers are struggling in this way. And more importantly - what it takes to pull any pasture out of this downward spiral of increasing costs and diminishing returns and into an **upward spiral of productivity, health and long term sustainability**.

You will understand why most conventional farming practices are literally killing your soil, and by the end of this book you'll have a much better understanding of the reasons why any particular block of pasture isn't thriving from the perspective of soil biology, and how to use the biological approach to turn it around into the healthiest and most productive it's ever been.

First off, let's take a look at where Conventional Farming is today to get some perspective.

Putting Farming Into Perspective - The Last 100 Years Of Agriculture

Before we dive into the solution to virtually all pasture health and productivity problems, first we need to step back and put the current conventional farming methods into perspective.

It's important to understand how things came to be the way they are today and the reason why we've let things get to this point in the first place.

Understanding how the current methods of fertilising and pest-control became the norm is crucial to be able to understand the reason why the majority of conventionally farmed pastures are rapidly declining into unproductive, weed-ridden paddocks that are completely dependent on the next synthetic "fix" of nutrients for survival.

The Green Revolution

Over the past 100 years, we have gone through what experts call the 'Green Revolution'.

The Green Revolution brought about the introduction of synthetic fertilisers and chemical-based pesticides, weedicides and other forms of disease control (a lot of which were actually a by-product of the Second World War).

Farmers were introduced to these new synthetic products with promises of increased yields and higher profits.

In a short period of time, every farmer was adding superphosphate, urea, MAP and DAP to their land to boost growth and increase productivity.

To begin with things couldn't have been better - profits soared as productivity and yields took off.

Soon enough however, the negative side effects of farming this way began to become more and more apparent. Synthetic fertilisers lost their original “kick” and were required in larger amounts to maintain productivity - while an increasing amount of weed, pest and disease problems became more common and harder to control.

To tackle this, commercial farm supply companies readily supplied more products to combat each of these new problems (and continue to do so to this day).

Farmers were encouraged to add more and more synthetic fertilisers and directly attack/poison anything that isn’t beneficial with chemical applications so that yields were maintained.

This approach is commonly referred to as "more-on" farming - where instead of looking for the root cause to pest, disease and fertility problems, the "more-on" approach is to simply use more specialised (and expensive) products to treat the symptoms that arise.

This “more-on” approach to farming inevitably results in increasingly complex and severe productivity and pest problems that become increasingly difficult and expensive to deal with.

The end result being nutrient sparse, unhealthy pasture that causes compromised health for the livestock that consumes these unhealthy pastures (which then carries through to us humans who consume the meat of the stock raised on chemically cultivated pasture).

We’ll get into the exact reasons why this approach to farming causes so much damage shortly.

For now what’s important to note is that despite the fact that this approach to farming produced positive results to begin with – it’s only recently that farmers are starting to see the immense damage caused by farming this way (as productivity and health problems continue to spiral downwards and become increasingly obvious).

So much so that many have been forced to search for alternative ways to farm as it’s become obvious that the conventional approach to

farming and treating symptoms with band-aids applications instead of addressing their root cause **simply doesn't work.**

The 'Green Revolution' is over and that it's time to start looking at and understanding the biological processes that are (and always have been) present in the soil - and focus on allowing this biology to give us farmers a sustainable, productive and healthy farming system.

The 'Green Revolution' Is Over.

We Are Now At The Start Of The 'Biological Revolution'.

The Most Important Factor For Healthy, Productive Pasture

Here's a question to consider:

What is the #1 most important factor to a productive, healthy and profitable farm?

Getting high quality fertilisers at a price that doesn't cut into profits?

A good year of rain?

Smart grazing and stock rotation?

Using the right pesticides and disease killing inputs?

Most farmers would typically respond with one of the above (or something similar).

And from a certain perspective, those things can be very important.

However, none of these things are the most important factors.

The truth is, those things only really matter when the one thing that's most important is missing.

Without this one thing, farmers are stuck worrying about and dealing with a multitude of other problems that are the result of not having this one thing in place.

Get this right however, and virtually **all of your pasture problems will take care of themselves.**

The Most Important Factor For Healthy And Productive Pasture:

Cultivating And Maintaining The Essential Biology In Your Soil.

With all things being equal (rainfall, sunshine, grazing patterns etc.) the right soil biology will make the difference between a compacted, weed ridden paddock and a thriving paddock of lush feed, with no compaction and a few feet of healthy topsoil.

Cultivating and maintaining balanced soil biology is the critical component of farming that allows pasture to thrive and maintain good health without any kind of artificial inputs.

The Critical Importance of Soil Biology For Healthy, Sustainable, Productive and Profitable Farming

What makes this soil biology so important?

Soil with active, healthy biology has millions of beneficial organisms living in a single gram of soil. This includes beneficial bacteria, fungi, protozoa, nematodes - among others.

These organisms convert the minerals and gases in the soil into bioavailable nutrients for the plant roots to uptake.

In other words - the right soil biology will provide the plant with all of the complex nutrients it requires for good health and productive growth.

This works as the soil biology and the plant form a natural relationship together to keep each other alive and healthy.

In return for the soil biology breaking down and making nutrients available to the plant (nutrients it would otherwise be deprived of), the plant gives these organisms energy in the form of sugar - the one thing they need for survival but cannot produce on their own**.**

You see, plants are unable to produce most of the nutrients that are required for growth and to survive independently. However, one very valuable thing they can do is convert sunlight into energy via photosynthesis and produce sugar.

This sugar is what the millions of beneficial microorganisms (also known as microbes) trade for the complex nutrients that the plant requires for survival.

Just as us humans cannot produce energy directly from sunlight and are required to consume it from a source of stored energy, the same goes for soil biology.

The Soil Biology (Microbes) produce and provide essential nutrients to the plant, and in return they receive the energy (in the form of sugar) they need for survival. They both rely on each other.

Side Note: This is how every plant ecosystem has functioned since the dawn of time (with the exception of modern agriculture), and it's how every natural plant-based ecosystem still functions today without the need for artificial applications or synthetic nutrients. Nature has been developing this process since the dawn of time.

The process does get a lot more complex than what we've just discussed, but this basic understanding is all that is required to appreciate just how important cultivating the right soil biology is for healthy and productive pasture.

To summarise:

The Right Soil Biology Will Provide A Plant With All Of The Complex Nutrients It Requires For Optimal Health And Productive Growth.

What this means for the farmer is that as long as the correct biology is cultivated and maintained in the soil, they will never need to apply a single gram of synthetic fertiliser or chemical pest control ever again.

What about Nitrogen?

For the large majority of farmers, the concept of ceasing to apply synthetic Nitrogen to their pasture sounds like a suicidal move, as it's a commonly held belief for most farmers that the only way to acquire enough Nitrogen for productivity is through artificial inputs.

However, the need for synthetic nitrogen disappears with the presence of balanced soil biology. This is with the correct biological systems in place in the soil, Nitrogen is taken in from the atmosphere and converted into nitrates (the biologically available form of Nitrogen) through the soil microorganisms.

In fact, roughly 80% of the atmosphere consists of Nitrogen. There is more than enough natural Nitrogen freely available for every plant on Earth in our atmosphere (as long as the required soil biology is in place to convert it into plant-available form).

The problem isn't a Nitrogen shortage, the problem is the absence of the biological systems that can make this Nitrogen available to plants.

Side Note: When applying synthetic forms of Nitrogen, the typical uptake rate form the plant is somewhere between 10-40%, with the remaining 60-90% being leached into water, volatilized into the air or immobilized in the soil.

The Effect Healthy Soil Biology Has on Pests, Diseases and Weeds

With healthy and balanced soil biology in place, the plant receives all of the nutrients it requires for optimal health and productivity (rather than the few required for survival and growth from a synthetic source).

As a result, plant health and immunity improves dramatically and it's now able to naturally fight off pests and disease.

Side note: You can also test the immunity of any plant by taking what is called a 'brix reading' with a brix refractometer, which tests the sugar levels in the plant. The higher the sugar levels, the higher it's immunity and the more nutritionally valuable is it for livestock. With each % increase in sugar, the nutritional value of the plant doubles.

For most grasses, a reading of above 4% sugar is considered healthy with strong immunity. We've found that for farmers who have been using conventional fertilising methods, sugar levels are typically at 0.5-2%.

To help demonstrate this, take human health as an example:

When given all the nutrients required for optimal health, our immune system is able to effectively fight off the majority of diseases and infections that cross our paths.

However, deprive us of these nutrients and our immune system becomes weakened and we become susceptible to virtually any and all viruses or infections that cross our paths. The same goes for the immunity of plants.

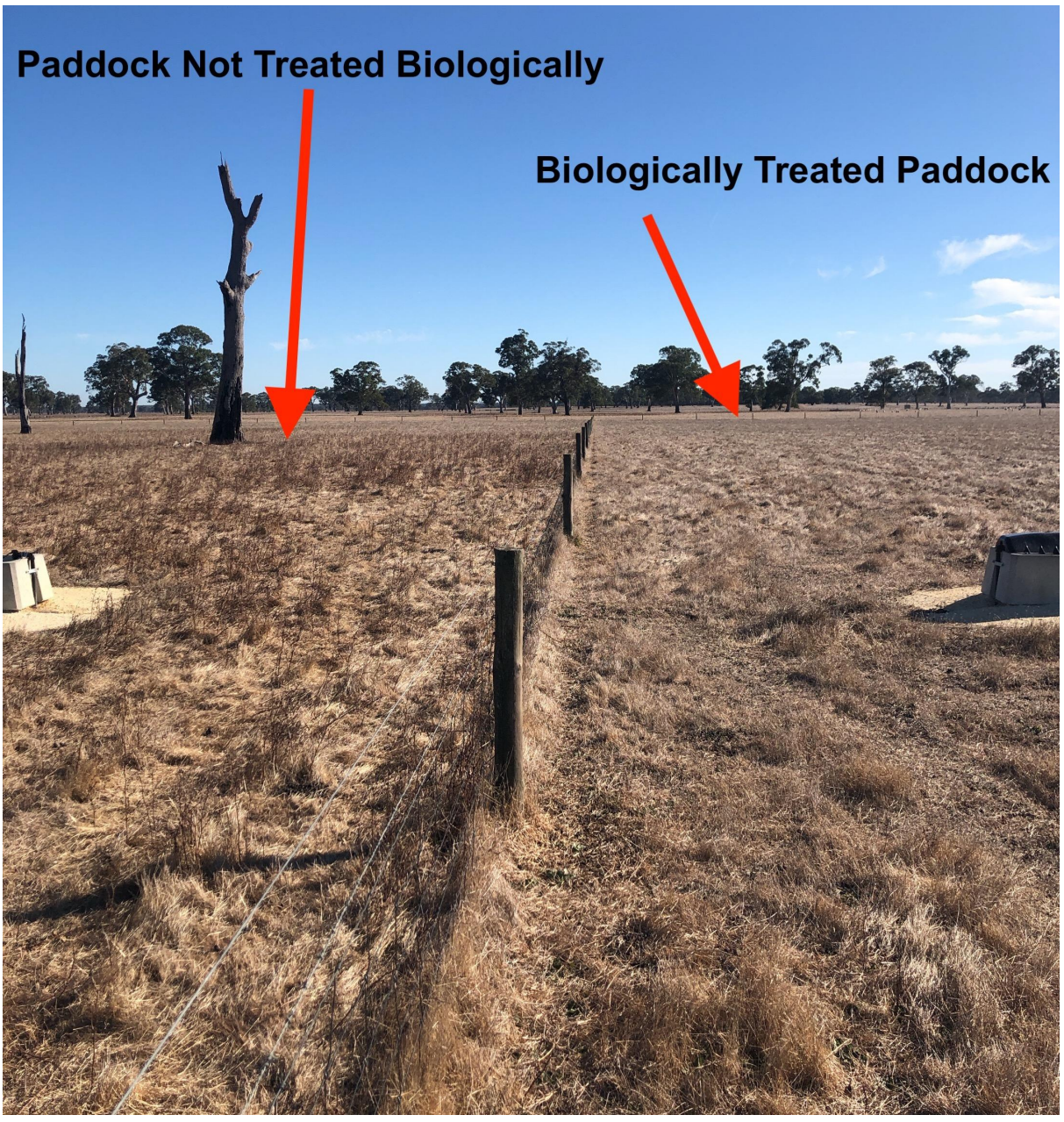
As for weed protection, most weeds require a different balance of soil biology than productive pastures do to thrive. This means that if a weed outbreak occurs, the soil biology is currently suited to that type of weed - indicating an imbalance in the biology.

With this understanding, weeds can be used to diagnose and bring attention to imbalances in the soil.

The solution then becomes a matter of addressing the imbalance in the soil biology (the cause of the problem), rather than attacking the weed itself (the effect). If the cause of the weeds isn't addressed and corrected, they'll just grow back again as soon as the poison wears off.

Once you get the soil biology right, conditions become increasingly unsuitable for weeds to survive and break out.

To illustrate this, here's an example of a property we treated in Poolaijelo, Victoria in 2018 to help deal with dock issues. The paddocks in the photo below have the same treatment history besides the paddock on the right being treated with our biological application roughly 9 months before this photo was taken:



How Chemical Based Applications Affect Soil Biology

As we discussed earlier, the ‘Green Revolution’ meant that the use of synthetic fertilisers and chemical based forms of pest and disease control became the norm.

What started out as an understandable attempt to gain a boost in productivity evolved into a 70+ year habit of killing off the essential biology in our soil - resulting in increasing dependence on artificial inputs just to maintain productive pasture (not to mention the harm these chemical applications do to the environment, those who come in contact with it, and those of us who consume the product of chemically cultivated pastures).

The Reason Why Synthetic Inputs Are So Detrimental To Soil Biology

When a plant receives the nutrients they require for survival artificially, it no longer continues the nutrient/sugar exchange with the soil biology that we discussed earlier.

As a simple survival mechanism to conserve energy, the nutrient-energy exchange sites on the plant roots shut down as the plant no longer needs to trade its energy for the nutrients required for survival, and the soil biology slowly becomes starved of sugar and eventually dies.

Shut down enough of these nutrient-energy exchange sites on the plant root, and eventually all of the biology surrounding that root will starve and die, leaving the soil virtually sterile and unable to fix Nitrogen naturally from the atmosphere.

This leaves plenty of room and resources for pests and diseases to come in and take the place of the beneficial organisms that have now been starved to death.

There is benefit for the plant in the short term by shutting down these nutrient-energy exchange sites, as it gets to keep the sugar it would have otherwise given to the soil microbes.

However this is massively detrimental over the long term as the plant becomes increasingly dependent on external, artificial inputs for survival (as the soil biology is now being starved and is dying, leaving less active nutrient-energy exchange sites).

Eventually it becomes the job of the farmer to provide virtually all of the nutrients that the pasture requires for survival (an often difficult, stressful and expensive job to say the least).

As for chemical based forms of pest, disease and weed control, these are straight-up toxic to beneficial soil biology which is directly killed off with each application.

Sure the pests, disease and weeds might subside for a while, but this also kills the essential soil biology that's required to eliminate the problem once and for all.

With each round of synthetic/chemical application the soil biology is being simultaneously killed off, starved and becomes increasingly imbalanced.

This is the underlying reason why so many farmers are struggling to maintain any form of stability with their pasture, with productivity becoming more and more difficult with each year that goes by.

Pasture That Is In "Intensive Care"

Here's a comparison that will further illustrate the key differences between a conventionally farmed, "dependent" pasture compared to a biologically farmed, self-sustaining and healthy pasture:

Let's say we have a person who due to health issues, is required to spend their days in hospital in the Intensive Care Unit, attached to an intravenous drip in order to get the nutrients and energy they need for survival.

Their health is so depleted that they cannot function normally and secure the nutrients they need independently, and as a result their survival is dependent on artificial means of receiving these nutrients. Without this means of sustenance, they would soon die.

They are surviving, but they are far from being healthy.

It goes without saying that a healthy human being is able to obtain, consume and absorb the nutrients and energy it requires for its survival independently.

Well the exact same is the case for plant life.

If a plant requires constant treatment and artificial "injections" of nutrients in order to survive, then it's not much different to the person in the ICU hooked up to an IV all day - essentially the plant is in a state of "intensive care".

It may be surviving, but it's a long way from being healthy - from being in a state where it can independently derive all the nutrients it requires for optimal health directly from its environment.

This is the case for the majority of farmers who are farming by conventional methods and are following the "put more-on" approach to treating pasture problems (and if they're not currently, it's simply a

matter of time before their pasture degrades to this “intensive care” state).

Due to well-meaning advice that either lacked the correct understanding of proper soil biology - or was the result of profit-based motives, **thousands of farmers have unintentionally put their farms into this state of “intensive care”. Where the health of their soil continues to spiral downwards and requires increasing amounts of (expensive) synthetic ‘injections’ of the nutrients it requires just to survive.**

As we discussed earlier, these artificial nutrient injections cause the plant to ignore and reject the beneficial organisms that live in the soil and facilitate the nutrient-energy exchange that is crucial for a healthy, self-sustaining ecosystem that allows the plant to thrive independent of any artificial applications.

How To Tell If Your Farm Is In A State Of "Intensive Care"

What happens if you were to leave your pasture alone without any kind of application at all for 12 months?

Does it continue to grow and maintain its health?

Or does it starve, die and/or become overrun by pests, weeds and diseases?

If the answer is the latter, the bad news is that your pasture is most likely in a state of "Intensive Care".

The good news is that recovery is relatively simple and straightforward, it does however require a completely different approach to what the majority of Aussie farmers are currently using.

How To Restore The Natural Health, Immunity And Productivity of Pasture With Depleted Soil

If your pasture is in a state of “intensive care”, the solution is not to give it better “medicine” (more synthetic nutrients, pesticides, weedicides etc).

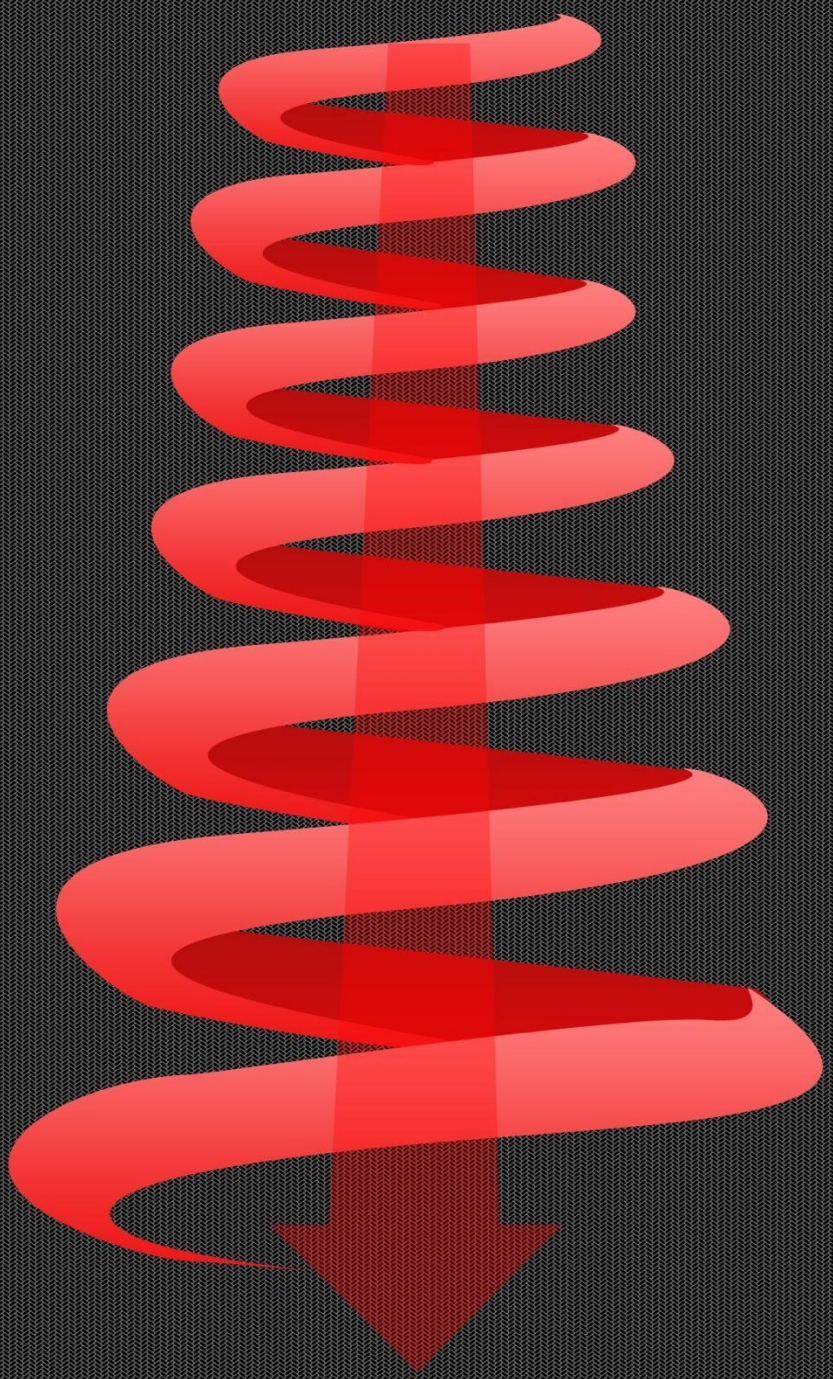
As we discussed already, this “put more-on” approach to solving pasture problems is flawed, for two simple reasons:

1. It only addresses the symptoms and not the root cause of the problem (meaning the problem will resurface after the treatment wears off).

2. The treatment of the symptom in this way only results in further imbalances in the soil biology which leads to more complex problems that require additional applications (as the soil biology is continuing to be killed off).

As long as a farmer operates under this approach to farming, he has no choice but to deal with the downward spiral of rising application costs and increasingly unhealthy, unstable and unproductive soil (see next page).

Conventional Farming Downwards Spiral



1. Artificial application of nutrients and/or pest control.
2. Soil biology is harmed and imbalances occur.
3. Pasture health and immunity decreases.
4. Pests, diseases and weeds become more prominent.
5. Pasture grows rapidly while soil biology is killed off and becomes increasingly imbalanced (increasing dependence on artificial inputs.)
6. Increasing amounts of artificial applications are required to maintain stability.
7. Soil biology continues to degrade as expenses and maintenance requirements increase.

Cycle Repeats With Additional Applications...

The only effective solution to restoring the natural health of pasture that is in a state of "intensive care" is to focus on the root cause of the problem – that is, **to restore the correct biology in the soil.**

Focusing on anything else is simply a "band-aid treatment" that only addresses the symptoms of the problem, not the cause.

Low productivity, pests, diseases and weeds are all a direct result of imbalanced soil biology.

In order to restore the natural health, immunity and productivity of your pasture the single most important factor is bringing the soil biology back into balance.

Restoring the soil biology is a matter of applying the required biology proactively from an external source (this is where our biological application comes in).

Note: "external" does not mean synthetic/artificial, it simply means it has been generated somewhere else and is being moved into the soil ecosystem.

In our experience, this is the most effective way of restoring balance in and cultivating the essential soil biology that is required for any pasture to thrive naturally, and quickly leads to increasingly productive and profitable farming.

How Biological Farming Will Improve Productivity, Profitability and Sustainability

As we mentioned earlier, the nutrient-energy exchange between the soil biology and the plant is what allows your pasture to become self-sustaining.

With balanced soil biology, plants are able to derive all of the complex nutrients they require directly from the soil. Relieving the farmer of the need to apply any kind of synthetic input or pest control ever again.

Instead, the primary focus of the farmer will be on cultivating and maintaining the balance of soil biology that the pasture requires.

As a farmer, directing your focus and resources towards building your soil biology is not only a simpler and less stressful way of farming - but is also more effective and less expensive than being stuck in the repetitive cycle of artificially treating symptoms as they arise.

Spend Less and Produce More - 100% Naturally

With healthy and balanced soil biology in place, yields typically become exponential and increase over time.

This happens when the ongoing costs of repeated synthetic applications are no longer needed due to a more robust and balanced biological system in the soil. A system that once established, will continue to extract and deliver the essential nutrients for plant health and productivity directly from the soil, for free.

This biology only grows stronger over time, and **becomes increasingly self-sustaining with each year it is developed.**

It is for this reason that for most farmers we suggest that after 2-3 years of biological inputs, it is possible to dial back to a bi-annual or tri-annual microbial input in order to cut costs. As the soil biology already established will continue to grow, strengthen and increase in productivity once it has reached a point of healthy balance.

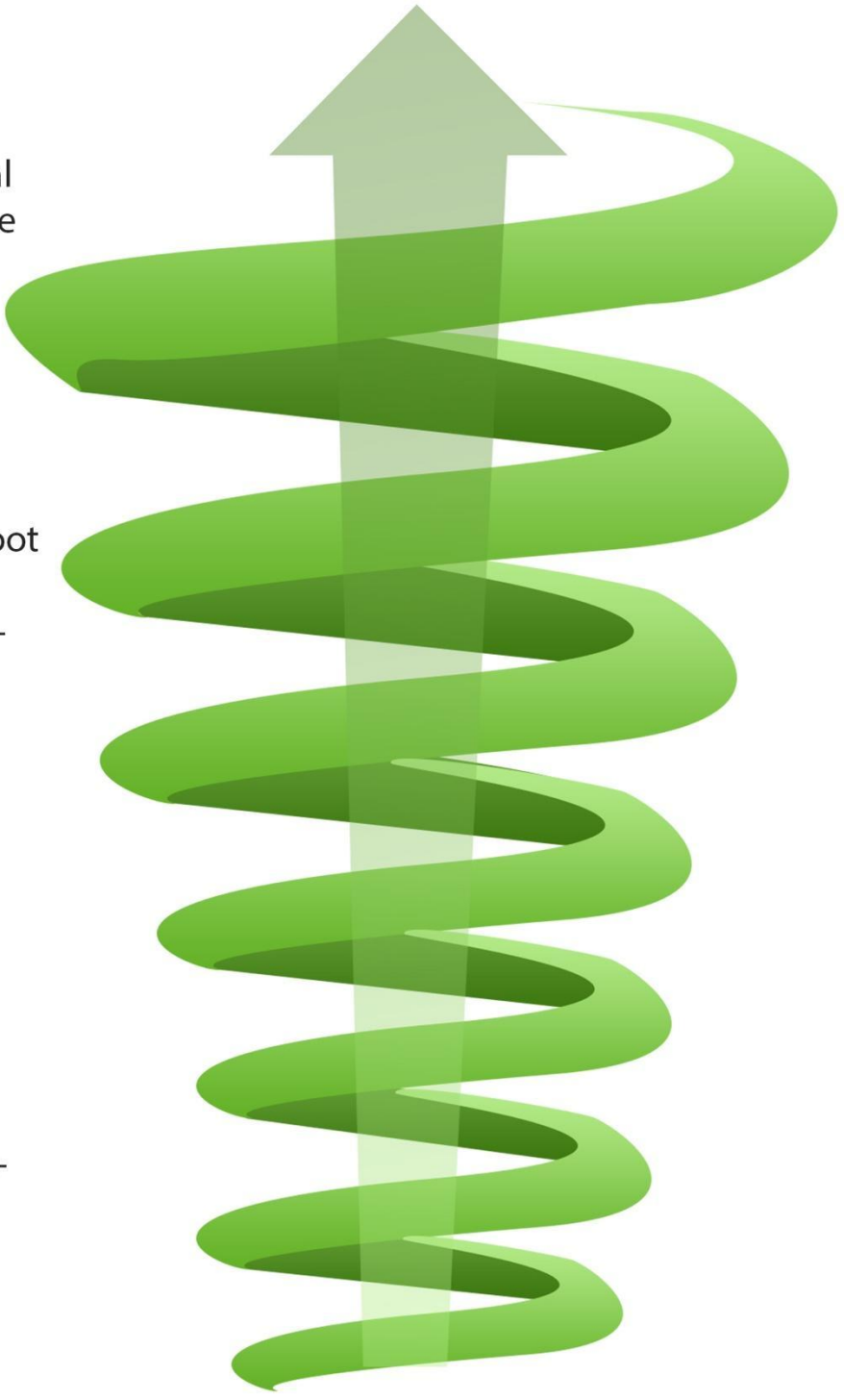
As the farmer, responsibilities then shift to monitoring and cultivating more of the same soil biology to further strengthen your soil health. All while costs decrease (due to less input requirements) and pasture becomes increasingly productive and profitable - as its health and sustainability continues to spiral upwards over time.

Here's an image to further illustrate how the upward spiral of biological farming works over time:

Biological Farming Upwards Spiral

Cycle Repeats With Additional Biological Applications & Time (Self-Sustaining Cycle)

6. Healthy pasture continues to cultivate and improve soil biology.
5. Increased productivity and root structure results in more nutrient-energy exchanging - soil biology grows.
4. Plant health, immunity, root structure and productivity increases due to increased nutrient uptake.
3. Plant is better able to derive nutrients from soil and fix nitrogen from the atmosphere.
2. Increased nutrient-energy exchange between plant and soil biology.
1. Biological application improves soil biology.



Biological Farming Is Not Only 100% Natural - But Actively Reduces Greenhouse CO2 Emissions

Traditional synthetic nitrogen fertiliser requires the processing of non-renewable mineral oil or natural gas in order to be produced. Worldwide, this produces 250 million tons of CO2 released into the atmosphere each year.

Biological farming methods not only help to reduce this number as synthetic forms of nitrogen are no longer required in any amount, but they also raise the organic humus content of the soil - which enables the utilization of CO2 directly from the atmosphere and into the soil to be taken in by the plant.

Once established, healthy soil biology actively pulls CO2 from the atmosphere and delivers it to the plant as bioavailable carbon.

A Quick Recap Of Biological Farming Principles

We've covered a lot so far, here's a quick recap:

1. The "Green Revolution" occurred roughly 100 years ago and brought about conventional farming methods - the use of synthetic fertilisers and chemical based forms of pest, weed and disease control.

2. The single most important factor to healthy, productive and sustainable pasture is cultivating and maintaining the essential biology in your soil.

3. The presence of healthy and balanced soil biology results in the microscopic organisms (microbes) in the soil delivering all of the complex nutrients that your pasture requires for survival and growth, including being able to "fix" nitrogen naturally and freely from the atmosphere and make it bio-available for the plant to use. This also dramatically increases the plant's immunity against pests and diseases.

4. Having balanced soil biology means that weed outbreaks become less likely as soil conditions become increasingly unsuitable for the growth and survival of weed species (and more beneficial to the pasture/plant types that you choose to grow).

5. Conventional farming practices actively kill off the beneficial soil biology and result in:

a. Soil imbalances that cause further pest, disease and weed problems (despite short term appearances).

b. Increasing dependency on the continual application of synthetic fertilisers to get the nutrients required for survival and growth.

6. Pasture that is dependent on artificial inputs for survival is comparable to being in a state of “intensive care”. It’s alive, but not healthy.

7. Pastures in this state of “intensive care” cannot recover by using the same approach that caused this condition in the first place (the “put-more-on” approach to farming where symptoms are treated instead of addressing the root cause of the issue).

8. The solution to restoring the natural health of any pasture (and pulling it out of this state of artificial nutrient dependence) is to restore the balance in the soil biology.

9. Unhealthy soil biology is restored by proactively applying the essential biology to the soil from an external source (and not by applying more synthetic nutrients and pest control chemicals).

10. With the correct soil biology in place, the pasture becomes increasingly healthy, productive and self-sustaining - and enters an upward spiral. At this stage the need for all forms of chemical applications disappear completely.

11. Biological farming is not only 100% natural, but actively reduces greenhouse gas CO2 emissions - it’s environmentally friendly.

Farmers who understand and implement these principles experience an increasingly profitable, productive and self-sustaining farming system that's also beneficial to the environment and those who consume its produce.

See the table on the next page for a breakdown of the key differences between biological farming vs conventional farming.

Biologically Farmed Pasture

- 100% natural and environmentally friendly (pulls greenhouse CO2 from the atmosphere for use as bio-available carbon).
- Produces nutritionally dense feed with higher sugar content.
- Healthy soil biology results in increased immunity to pests, diseases and weeds as soil balance is restored - treats the cause of outbreaks, not the symptom.
- Yields and productivity increase alongside long term sustainability and growth.
- Becomes healthier, more productive and self-sustaining over time.
- Less expensive than conventional methods - higher profit margins.
- Simple to manage. Livestock pasture typically requires 1 natural biological application per year.
- Soil structure is built which prevents nutrient leaching during heavy rain, and allows for increased moisture storage to withstand dry periods.

Conventionally Farmed Pasture

- Cultivation is harmful to the environment and the livestock/humans that consume the end product.
- Produces nutritionally sparse feed with low sugar content (need more of it to match the results of biologically farmed feed).
- Increasing susceptibility to pests, diseases and weeds as action is focused on treating the symptoms of imbalanced soil (killing weeds/pests/disease) not the cause - leads to further soil imbalances.
- Fast returns at the cost of long term productivity - soil fertility and health continually degrades over time.
- Results in increasingly imbalanced soil over time - degradation of soil and pasture.
- Costs continually increase to address new soil problems - cuts heavily into profits.
- Complicated to manage, many applications continually required to maintain temporary stability.
- Little to no soil structure results in becoming pasture highly vulnerable to periods of heavy rain (increased nutrient leaching) and dry periods (poor ability to store water in soil).

Microstart Liquid Microbe Agriculture Mix

Our Liquid Microbe Agriculture Mix is designed to rapidly restore the essential soil biology in virtually any soil so that it becomes the healthiest, most productive, profitable and self-sustaining it's ever been while also kick-starting productivity with a combination of potent natural fertilisers.

We offer this mix in 200L and 1000L amounts, with freight across Australia.

With the guidance of world-renowned soil biologist Dr Mary Cole from Agpath (www.agpath.com.au) we've developed this biological application to be suitable for livestock, dairy and crop farmers all across Australia. We make specific adjustments to each mix based on soil type, pasture type, location and farming practices in order to deliver the best results for each specific farm we treat.

We create this Agriculture Mix to be the most complete and fastest way to start cultivating the essential biology your soil requires for healthier, more productive and self-sustaining pastures.

By deciding to farm biologically with our Liquid Microbe Agriculture Mix, farmers are able to quickly replace the need for any and all synthetic fertilisers and chemical forms of pest, disease and weed control that continually degrades the quality of their soil.

To learn more about our Agriculture Mix or to place an order, click here to visit our website or go to:

www.microstartfarming.com.au/ag-mix

Frequently Asked Questions

Question: Will it take a long time to see results of the Biological Application compared to Conventional Methods (synthetic applications)?

Answer:

No. While it can take a number of months to restore the balance of your soil biology (heavily depleted soils do take some time), you will still experience an initial “kick” to match that of synthetic applications.

This is because our biological application also contains natural stimulants and fertilisers that will quickly give your pasture a quick short term boost, without harming the soil biology.

Essentially, you won’t have to sacrifice productivity during the time it takes for your soil biology to be restored. We naturally deliver the nutrients your plant needs now, while also cultivating the essential soil biology that is required for long term health, productivity and sustainability.

Question: Should I continue to use artificial fertilisers and pest control alongside your biological application?

Answer:

We don't recommend it as it is directly harmful to the soil biology that we are trying to restore and cultivate.

However, if you feel the need to use some form of chemical application, we recommend doing so before our biological application has been applied so that it's not directly impacting the new biology being added to the soil (by doing it after our application you will harm the new biology that was placed in the soil).

For the best results we recommend to completely cut out all forms of artificial inputs on pasture that has been treated with our biological application.

Question: If I use your biological application does this mean I will never get any weeds again?

Answer:

Not exactly. While you may still notice some weeds appear on your pasture as your soil biology improves, they will become decreasingly problematic.

This is because:

1. The likelihood of prolific breakouts is greatly reduced due to healthier soil (they are present but not dominant).

2. With healthy soil biology, most weeds that do grow become nutritionally valuable to your stock as sugar levels increase with healthy soil biology.

While you may notice some weeds after we restore your soil biology to good health, they will not become dominant and have very little negative impact on the health and productivity of your pasture.

Question: Is this approach to farming sustainable?

Answer:

Yes. In fact, the longer you farm biologically, the more secure and sustainable your pasture becomes.

This is because when cared for properly, soil biology increases over time and requires less interference and maintenance from you as the farmer.

Once the soil biology has taken hold and becomes balanced and healthy (typically after 2-4 years of biological application) – we suggest to decrease biological inputs to either a bi-annual or tri-annual basis if costs are an issue.

As long as the biology isn't harmed in any way from chemical applications or overgrazing, the pasture will sustain and increase its profitability over time.

Biological farming is for the farmer who wants their pasture to become stronger, more productive and require less maintenance over time.

If you have any more questions, feel free to contact us at support@microstartfarming.com.au or give us a call on (08) 8233 0804.

To healthy and profitable farming,

Darren & Ryan Kuchel
Microstart Farming

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WWW.MICROSTARTFARMING.COM.AU