



Dairy Farm Nutrition Solutions.

**With smarter farming comes better nutrition.
Better nutrition means a smarter business.**

Biological farming nutrition solutions from AgriSea provide dairy farmers with a complete nutrition solution that is better for their farm, their animals, the environment and business profitability.





Welcome to AgriSea

Smarter dairy farming.

Since the 1990's AgriSea has been at the leading edge of farm nutrition solutions. Seaweed, specifically New Zealand's native *Ecklonia Radiata*, is packed full of minerals, vitamins, growth promotants, trace elements and amino acids. It's a nutrient 'feast', a smorgasbord for soil biology, plant and animal health.

From an environmental perspective AgriSea's products are all batch-brewed and made from certified sustainably sourced seaweed. Our proprietary brewing method preserves the 'life' in the seaweed meaning the nutrients and the benefits are retained.

Our products work with the environment. Preserving and enhancing soil conditions, growing more nutritious and energy rich grass giving you healthier cows, greater productivity and ultimately, more milk at a lower cost.

With a reputation for producing safe, healthy and high quality food, New Zealand dairy farmers are leading with on farm innovation and efficiency.

AgriSea is committed to helping New Zealand farmers farm smarter.

The AgriSea System

Biological farming. Building a better farm.

The AgriSea System of products has been developed to provide farmers with a complete biological and sustainable system for their farm.

Our products can work within your current system whether you are providing nutrients in a conventional manner, biological manner or you have gone for complete organic farming. Our products are certified organic, yet 98% of our farmers are non-organic.

AgriSea maximises all farm management systems resulting in significantly increased farm health, production and profitability.

We call it Strategic Regeneration

Whatever farmers do on-farm in today's market we have to consider many complex areas of farm management. Strategic regeneration with AgriSea means that you will be using products and getting results that improve many aspects of farm management.

This leads to many advantages including healthier animals, better productivity, higher quality dry matter and vastly improved nutrient management.

Strategic Regeneration



FARM PROFITABILITY

AgriSea Products work. And all at a cost that can save farmers money. Reduced production costs, increased productivity means increased profits.



FARM PRODUCTIVITY

AgriSea Products help create a healthy farm system. Healthy soil = healthy plants = healthy animals = healthy profit.



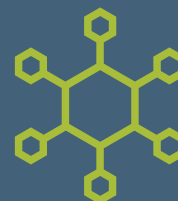
NUTRIENT AVAILABILITY

AgriSea Products have a vast array of naturally occurring nutrients that are immediately available for soil and plant health.



ENVIRONMENTAL MANAGEMENT

AgriSea Products will improve the sustainability of your nutrient program.



SYSTEM COMPATIBILITY

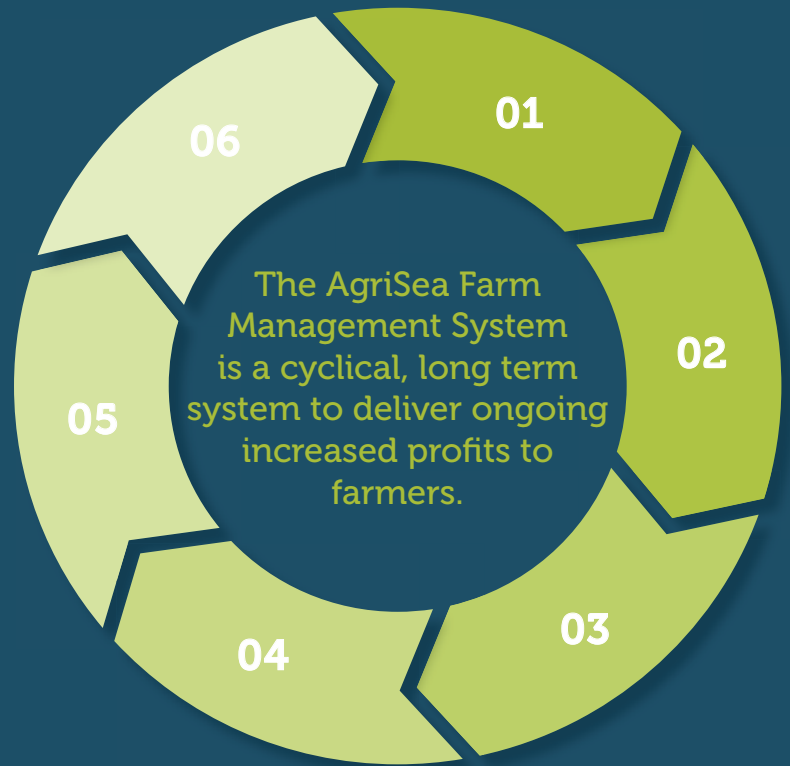
AgriSea products are compatible with all Dairy Farm Management practices/systems.

For healthier animals, better productivity, higher quality dry matter and vastly improved nutrient management.

The AgriSea Dairy Farm Nutrition Solution System

We believe in the efficacy of our products and of building long term and sustainable relationships with our customers. Our Area Field Consultants are there to work with you to create the best system possible for your long term success.

We have developed a management system based on our strategic regeneration model to ensure when working with AgriSea that you see the benefits on an ongoing basis over a long period of time.



01

ON-FARM CONSULTATION

Our Area Field Consultant will come and spend time with you, looking at your farm and learning about your business. They can read soil tests, conduct visual soil assessments, herbage tests etc. all as part of their investigation into your farm.

02

ANALYSIS AND NUTRITION PLAN

Once our first visit is complete and we have the results of any tests we may have conducted we will put together your analysis and nutrition plan.

03

APPLICATION OF AGRISEA

Using AgriSea products in the way we recommend is important. We will work with you to help you get the best possible results from the application of our products.

04

BIOLOGICAL FARM REGENERATION

Using AgriSea products in the way we recommend will result in significant improvements to your farm and animals. During this stage we will work with you to show you what you can expect to see on-farm.

05

ONGOING ANALYSIS AND NUTRITION MONITORING

We believe in the importance of developing a strong and long term relationship with you and your farm and for this reason we will continue to monitor and analyse the results you are getting on-farm.

06

SAMPLE, MEASURE, FINE TUNE

Our biological based farming system works and we will sample, measure and fine tune your system to ensure you get the results you expect.

AgriSea Nutrition

How it works and why it works.

The AgriSea System works with your farm's entire ecosystem to improve the outcomes for soil, grass and animal health.

Since the 1950's, farming practices have focused on the soil chemistry to balance the 'soil test' – high input, synthetic compounds and fertilisers – to increase production and yields. While the initial results were good, we are now increasingly aware of the long-term effects these practices have on the quality of our farms, our farm products, our land and waterways.

Healthy soil is the basis for agriculture and the necessary foundation for healthy plants and healthy animals. Whilst the right mix of compounds and chemicals are important, we have not paid enough attention to soil biology, or soil life.

In short, without a healthy soil biology, a farms requirement for nutrients and trace elements increases, hence in the past we have continued to pour on more and more fertiliser. With healthy soil biology, your farms requirement for additional fertiliser will decrease whilst providing the opportunity for increased, healthier grass growth and symbiotic relationships.

With farm inputs increasingly under the national spotlight for all the wrong reasons, AgriSea's System gives farmers the opportunity to dramatically reduce their fertiliser inputs, grow the same amount or more grass, drastically improve environmental outcomes and farm smarter.

Incorporating AgriSea's System of biostimulants into your farm management system will give you the confidence to grow quality pastures and in turn quality profits.



AgriSea Soil and Plant biostimulants work with the soil biology by providing a balanced and more complete food source for beneficial soil biology or soil microorganisms.

Soil microorganisms are responsible for creating symbiotic relationships between plant roots, soil nutrients, soil structure and water. Without these relationships, plants miss out on the nutrients provided by the soils microorganism community, resulting in soil in which nutrients are locked up and not available to plants. Increased pest and disease damage, increased fertiliser requirements and decreased resilience to environmental conditions such as drought.



Why Biostimulants Work

Over many years soils on farms have become depleted as their pastures are grazed, fertilisers are applied and changes in the environment and weather have taken their toll. When high analysis fertilisers, (N, P, K, S) were first applied, many soils had a healthy soil biology and the results of these fertiliser additions to the soil were impressive. However as time went on, the result declined and the industry mantra was to simply apply more fertiliser.

We are now facing the consequences of the “more is better” mantra. Simply increasing the amount of fertiliser applied to soil has meant that the natural ecosystems within the soil biology have shut down, locking up nutrients, drying out soil and reducing the return or growth of grass on pastures.

Biostimulants enhance nutrient assimilation and plant development by providing the soil’s ecosystem of microorganisms

(or soil “Life”) with a complex source of nutrition to enable them to create the necessary relationships between plant roots, soil nutrients, soil structure and water. This in turn frees up locked nutrients the plant needs to grow, such as Nitrogen and Phosphate, which then become plant bioavailable. Making these nutrients bioavailable to the plants means they can use what is already in the soil and less commercial fertiliser is needed to achieve the same result.

The overall impact is that the soil begins to regenerate itself becoming a teeming, living ecosystem that thrives with a significantly reduced need for additional fertiliser. Pastures are lush, healthy and full of nutrition for your animals.

Regenerating your pasture and your farm takes time but the results are proven and they are worth it.

Soil Biology and Soil Life How the biological ecosystem works

AGRISEA Biostimulants: AgriSea products have been developed to work with your farms soil and pasture ecosystems by providing the microbial environment (like bacteria and fungi) in the soil with the nutrients they need to flourish. AgriSea products work with all farming systems to enhance and promote healthy soil biology.

Phyllosphere (above ground microbial habitat): A plant’s leaves and stems can have up to 10 million microbes on each square centimetre.

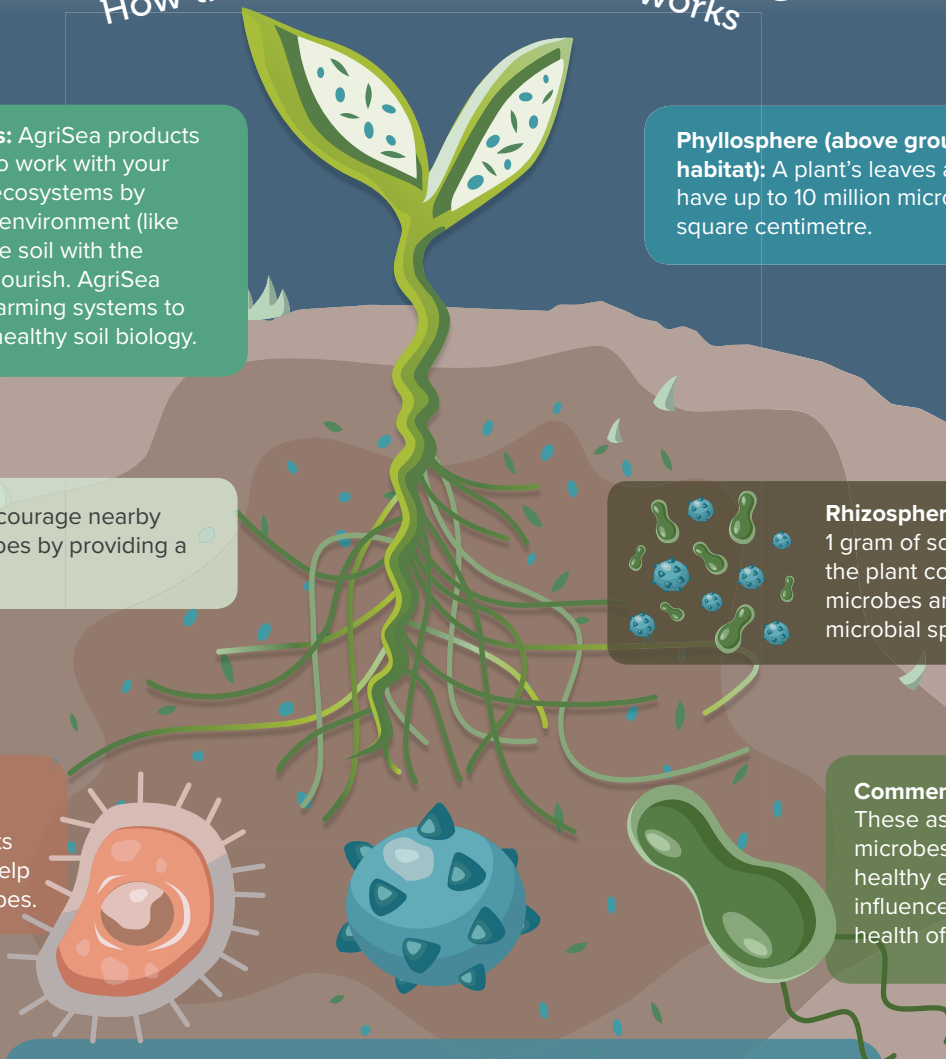
Plants roots: Encourage nearby beneficial microbes by providing a food source.

Rhizosphere (soil near roots): 1 gram of soil near the roots of the plant contains up to 10 billion microbes and 30,000 different microbial species.

Pathogenic microbes: AgriSea helps to reduce these by providing nutrients to beneficial microbes to help shut out Pathogenic microbes.

Commensal microbes: These assist the beneficial microbes in creating a healthy ecosystem which influences the overall health of the plant.

Beneficial microbes: These supply plants with beneficial nutrients by releasing nutrients like Nitrogen and Phosphorus. They protect plants from disease and repel pests. They help plants tolerate conditions like heat, flooding, and drought.

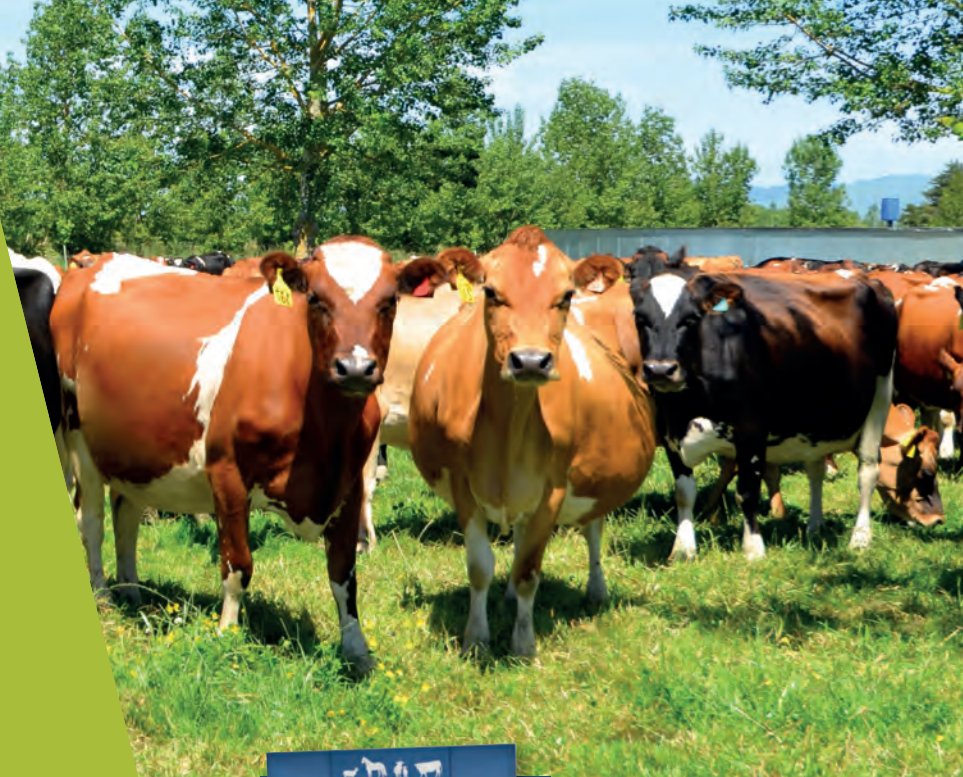


AgriSea Products

Animal Nutrition

Most animal health problems are a direct result of nutritional imbalances.

AgriSea Animal Nutrition provides a vast range of natural nutrients, minerals, vitamins and trace elements that are immediately bioavailable for your animals.



Animal Nutrition Liquid

Available in 20L, 100L, 200L, 1000L

AgriSea **Animal Nutrition** provides a complex array of nutrients to your animal.



Animal + Solid

Available in 20Kg

AgriSea **Animal+** is a combination of AgriSea liquid Animal Nutrition and **Zeolite**.

The Benefits of the AgriSea Animal Nutrition range include:

- Improved reproductive performance
- Improved metabolic processes
- Increased rumen microbiology
- Improved feed conversion
- Greater resilience during times of stress i.e. calving, mating, weather extremes
- Improved resilience to worm burden
- Increased weight gains
- Improved immune system
- Reduced animal health cost
- Optimised and improved overall livestock health
- Ease of administration
- No sweeteners needed - stock love it!
- Add to water troughs, feed and in-line dispensers
- No withholding period

WHAT IS THE ROLE OF ZEOLITE?

Zeolite is used in Animal + as a high quality nutrient carrier to support animal health.

AgriSea Animal + is an easy to apply nutritional supplement.

- The resulting combined product (Animal+) is a product which is suitable for:
- Young stock on run off blocks
- In-shed feeding
- Adding to calf meal
- Spreading over supplementary feed
- Adding to loose salt

AgriSea Products

Soil Nutrition

Healthy soil is the basis for agriculture and the necessary foundation for healthy plants and healthy animals.

AgriSea Soil Nutrition is a soil biostimulant and conditioner which improves your soil structure and fertility and allows for optimum uptake of minerals and nutrients.



Soil Nutrition Liquid

Available in 20L, 100L, 200L, 1000L

AgriSea **Soil Nutrition** provides a bioavailable source of nutrients to stimulate soil biology that enhances pasture nutrient uptake.



Soil + Solid

Available in 20Kg & 500Kg

AgriSea **Soil +** is a combination of AgriSea liquid Soil Nutrition and **Zeolite**.

AgriSea Soil Nutrition is designed to compliment any farming nutrient management programme.

The Benefits of AgriSea Soil Nutrition include:

- Increased soil biological activity
- Increased root length and mass
- Increased soil quality and fertility
- Improved soil structure (aeration, drainage, can withstand traffic)
- Deeper humus layer (nutrient storehouse of your soil)
- Locked minerals and nutrients in the soil become bioavailable
- More natural nitrogen fixation (reduced need for synthetic fertilisers)
- Less pulling
- Increased germination rates for cropping and re-grassing
- Increased crop yield and pasture quality
- Farm holds longer and recovers quicker in drought
- Ease of use
- Safe and non-toxic
- Spray or Spread – Boom, Rosette, Chopper and plane
- Compatible for use with other products
- Fine filtration ensures no clogged lines or spray nozzles
- No withholding period

WHAT IS THE ROLE OF ZEOLITE?

Zeolite is used in Soil + as a high-quality carrier for our AgriSea liquid seaweed concentrates as it enables a slow and sustained release of nutrients due to it's ability to hold nutrients in the root zone for plants to use when required.

Plant driven nutrient release is desirable as it sets up a natural cycle for nutrient uptake. This leads to increase efficiency of fertilisers and conditioners as the zeolite recharges or reabsorbs once its initial nutrients have been released. Unlike other soil amendments it does not break down, remaining in the soil to help improve nutrient and water retention permanently.

AgriSea Products

Pasture Nutrition

Pasture *quantity* is important for stocking rates and feed, but it is the pasture *quality* that significantly impacts on animal health, production and profitability.

AgriSea Pasture Nutrition is an efficient method of delivering an instant nutrient lift directly to your pasture – significantly lifting the quality of your pasture, crops and stored feed.



Pasture Nutrition Liquid

Available in 20L, 100L, 200L, 1000L

AgriSea **Pasture Nutrition** provides a complex array of nutrients immediately available to your plants.



Combo+ Solid

Available in 20Kg & 500Kg

AgriSea **Combo +** is a combination of AgriSea liquid Soil and Pasture Nutrition and **Zeolite**.

The Benefits of AgriSea Pasture Nutrition include:

- Greener, healthier pasture and crops due to increased chlorophyll levels
- Significant lift in the fibre, protein and overall nutritional value of your pasture
- Increased DM yields
- Increased brix (natural sugar) levels in pasture
- Increased natural nitrogen fixation
- Increased palatability in pasture and stored feed
- Pasture more vigorous and durable in times of stress
- Increased pasture resistance to disease and pests
- Increased ME (Metabolisable energy)
- Healthy stock due to high nutritional value of grass
- Nutritional lift for herd in periods of low light - spray ahead of cows in winter
- No chemical additives; no residues; no withholding
- Ease of use
- Safe and non-toxic
- Spray or Spread – Boom, Rose, Jet, Chopper
- Compatible for use with other products
- Fine filtration ensures no clogged lines or spray nozzles

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Plant driven nutrient release is desirable as it sets up a natural cycle for nutrient uptake. This leads to increase efficiency of fertilisers as the Zeolite recharges or reabsorbs once its initial nutrients have been released. Unlike other soil enhancers it does not break down, remaining in the soil to help improve nutrient and water retention permanently.

Application Guidelines

Animal Nutrition

Dosage Rates - Liquid

Cows

- Maintenance - 5ml per cow/day
- Reproductive period - 10ml per cow/day 4 weeks prior to calving until end of mating
- Drying off - 10ml per cow/day
- Down cow - 3 x 500ml in first 24 hours, then 250ml over 3 days

Calves

- On arrival at the shed - 20ml per calf/day
- Until weaning - 5ml per calf/day (into milk)
- Ill thrift/scours - 100ml 3 x over 24 hour period

Animal +

Dosage Rates - Solid

COWS
15G
per/cow/day

CALVES
5G
per/calf/day


Soil Nutrition


Application

Time /temp

Liquids

 **5L**
5 litres per hectare

 **10°C**
Air temp

 **6°C**
Soil temp

Optimum application times are early morning. Air temp must be no lower than 10°C or apply in late evening. Soil temp must be no lower than 6°C.

Solids

Solid Soil +

 **20KG**
20 kilograms per hectare

- Apply in:
- Early Autumn
 - Later Autumn/ Early Winter
 - Early Spring
 - Late Spring

Pasture Nutrition

Application

Timing

Liquids

 **5L**
5 litres per hectare

- Apply in:
- Early Autumn
 - Early Spring
 - Winter use strategically for pasture recovery and pasture feed quality

Solids

Solid Combo +

 **30KG**
30 kilograms per hectare

Please Note: These rates are intended as a guide only. Application frequencies will be largely dependent on your current farming system, your specific farm needs and goals. Best applied during periods of active growth.

The Science Behind Seaweed

Elements and Minerals

Nitrogen (N)	Selenium (Se)	(Pantothenic acid)
Phosphorus (P)	Manganese (Mn)	Vitamin B6 (Pyridoxine)
Potassium (K)	Molybdenum (Mo)	Vitamin B7 (Biotin)
Sulphur (S)	Cobalt (Co)	Vitamin B9 (Folic Acid)
Calcium (Ca)	Boron (B)	Vitamin B12 (Cobalamins)
Magnesium (Mg)		Vitamin C
Sodium (Na)	Vitamins	Vitamin D
Iodine (I)	Vitamin A	Vitamin E
Fluorine (F)	Vitamin B1 (Thiamine)	Vitamin K
Copper (Cu)	Vitamin B2 (Riboflavin)	Choline (Co)
Zinc (Zn)	Vitamin B3 (Niacin)	
Chromium (Cr)	Vitamin B5	

Essential Amino Acids

Histidine
Isoleucine
Leucine
Lysine
Methionine
Phenylalanine
Threonine
Tryptophan
Tyrosine
Valine
Non-Essential Amino Acids
Alanine
Arginine
Asparagine

Aspartic acid

Aspartate
Cysteine
Glutamate
Glutamine
Glycine
Proline
Serine
Fatty Acids
Alpha-linolenic acid (an Omega 3)
Linolenic acid (an Omega 6)

Plant Growth Regulators

Trans-zeatin riboside (Cytokinin)
Trans-zeatin (Cytokinin)
Indole-3-acetic acid (Auxin)
Isopentenyladenosine (Cytokinin)
Isopentenyladenine (Cytokinin)

Other Bioactive Compounds

Fucoxanthin
Mannitol
Phlorotannins

AgriSea Case Study

Miah and Jenny Smith



KEY STATS:

LOCATION: Atiamuri
AREA: 260ha effective
COWS: 535 Jersey crossbreeds
PRODUCTION: 2018/19 target: 200,000
-210,000kg milk solids

FARM DAIRY: 74-bail rotary, ACR, Protrack,
auto teat sprayer, in-dairy feeding
PASTURE HARVESTED: 10t DM/ha
SUPPLEMENT: 400t

Miah and Jenny Smith have witnessed a significant improvement in soil and pasture quality since they embarked on a trial comparing biostimulants and fertiliser applications.

Their farm in Atiamuri was harvesting just 10 tonnes DM/ha and had a tendency to go dry quickly in the summer because the plant roots were short, Miah says. “We were putting on 150kg N/ha, heaps of DAP, super phosphate, potassium – the works. But we were always chasing our tails and running out of grass. It was stressful.”

Miah attended an AgriSea workshop with Australian Dr Christine Jones and he came away completely converted. **The change in thinking to looking after soil biology first and foremost was like a light coming on**, Miah says. “It’s about starting with the soil first, not your cows first. It’s how to feed soil biology.”

The 3 Year Test

Three paired sites were chosen that were comparable in contour, aspect and fertiliser history, and each site was split into conventional fertiliser and AgriSea biostimulant programmes. The biostimulant paddocks had three applications of AgriSea Liquid Soil and Pasture Nutrition per year while the conventional paddocks had capital and maintenance fertiliser of nitrogen, phosphorus, potassium, sulphur, magnesium and calcium.

The scepticism from other farmers has been continuous, but people can now see the results of how well the paddocks are performing under the programme. Everything Miah and Jenny had learnt in the past has been turned upside down, but if they can

make money and look after the environment at the same time it’s a win-win, the couple say. “We are trying to look after the land, that is what looks after us.” Jenny says. “I thought I was doing a good job of looking after the environment, but by doing this we won’t have any (fertiliser) runoff and it takes the pressure off.” Change is coming whether we like it or not and we feel we are ahead of the game”

“We really wanted to test it. There was no gap in pasture production after three years, and the AgriSea paddocks came in at half the cost. There is more available N in our AgriSea paddocks, where clover is actually fixing nitrogen, than the paddocks that had N fertiliser put on.”

A New Approach

Miah and Jenny still cop some flack for going down a different path, but the couple can see the results and they want to act now before they are made to by new regulations. “Most people won’t change unless they’re made to change. Most people will wait and come back in another three years and see how we are going. A lot of people said our soil will be depleted after 3 years, well it’s not. This farm had no topsoil, it had been bulldozed off. You can see it changing in the paddocks. The roots were only going down two inches, now they’re growing up to a metre.” Miah and Jenny are taking a step further over the next two seasons and are trialling regenerative grazing and multi-pasture species.

This case study is summarized from the article “Alternative Test” which appeared in the November 2018 issue of Dairy Exporter magazine. Used with permission.



Top customer service

“It’s about partnership – we’re committed to assisting you to reduce costs while maintaining high production, high yields and high profits”.

We’ll partner you with a highly trained AgriSea Area Field Consultant along with specialist advisors to add value to your business.



OUR GUARANTEE

Our company stands behind our products. We promise to deliver high quality, effective products which will reduce your environmental footprint and add value to your farm, it’s operations and outputs.

For more information or for your free, no obligation soil assessment please phone your Area Field Consultant or AgriSea Customer Services on 0800 SMARTFARM.



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