Maxstim™

Creating New Standards in Biostimulants

Catalogue

Experts in complex biostimulants for efficient turf sod production

STATEMENTS

We are experts in complex biostimulants for sustainable agriculture and turf sod growing.

The combination of Maxstim's innovative bioflavonoid technology with our extensive field data gives you a world leading solution.

All our products, treatment protocols and advice are designed to increase your profits.

CONTENTS

Who is Maxstim?

Maxstim is a scientifically-driven, innovative organisation responsible for developing a powerful range of complex biostimulants. We are trusted around the world by progressive agricultural growers through to leading sports venues.

Each of our products improve plant and crop performance helping increase yields in the presence of diminishing Plant Protection Products (PPP) availability.

Maxstim's innovative research and development programme is driven by CEO Richard Salvage and Chief Scientific Officer Dr. Colin Fleming.

Maxstim Products

Our products are multi-sourced complex biostimulants that create a synergistic response from a wide variety of bioactive components.

Each product is the result of innovative research and include plant based amino acids, carbohydrates, organic acids, ascophyllum nodosum, trace elements and our own technology based on specific polyphenols and bioflavonoids. This wide range of bioactive compounds have been engineered precisely to work synergistically for the most beneficial results.

Maxstim Turf

Maxstim Turf is designed to help turf sod growers reduce time to harvest and increase profit. Our specialist complex biostimulant maximises root development, chlorophyll production and minimises the inputs.

Use Maxstim Turf to see:

- Increased root development
- Reduced time to harvest
- Improved efficiency in nitrogen usage
- Improved resistance to stress
- Better seed germination
- Increased mass and depth of grass roots
- Improved plant growth and vigour

Maxstim Cynosa

Cynosa has been developed to impact germination and strengthen crops, particularly cereals. Our latest research led us to create a product designed to strengthen plants and help protect them against fungal stresses. It is a perfect companion product to use alongside Maxstim's other biostimulants to support crop development and growth throughout the plant's life cycle. **Cynosa** combines available orthosilicic acid with specific bioflavonoids to stimulate the plants metabolic processes. Overwhelmingly we're being presented with evidence that **Cynosa**, used in conjunction with Maxstim biostimulants, is supporting the plant's natural defences against these otherwise difficult to control stressors.

When Cynosa is used in conjunction with Maxstim Agriculture+, crops have shown:

- Significantly higher yields
- Better resistance to disease & abiotic stress
- Stronger leaf and stem structure
- More homogeneous germination

Insight

Turf Growing

What would you do with a quarter of a million pounds?

£250,000 extra margin for **every 100 hectares of turf grown**. That's what Tim Cannon has been able to achieve using Maxstim complex biostimulants.

It has taken years of research and working with some of the most prestigious sports venues in the UK and Europe to create the synergistic response required to enable turfgrass to thrive.

Tim Cannon, **Senior Agronomist**

After nearly 40 years of growing turf Tim has tested numerous inputs but his discovery of Maxstim he describes as **'ground-breaking'** and revolutionised how he was able to manage the speed, cost and consistency of growing turf, without compromising on the quality. He was so impressed that he asked to join the company. He now has a key role in our specialist team to aid in the development of sustainable agricultural solutions.

Growing turf on a large commercial scale has huge challenges and turf growers need all the help they can get to ensure they have the correct quantity and quality of harvestable turf every month.

Products used to achieve outstanding turf growth

Tim used two products Maxstim Turf and Cynosa™

Turf is a complex biostimulant with a wide range of bioactive components including our unique bioflavonoids and polyphenols, creating better root development and early growth.

Cynosa™ contains ortho silicic acid enabling plants to assimilate silicon to strengthen plant structures and increase resistance to disease.

Advantages observed with Maxstim:

- ✓ Observable improvement in germination and faster emerging crops
- ✓ Greater root density and improved turf sod strength
- ✓ Robust leaf structure with vibrant green appearance and no signs of abiotic or biotic stress
- ✓ Better utilisation of nitrogen fertiliser inputs leading to a 20% reduction in use
- ✓ Turf was grown to a harvestable condition in 7 months which enabled the production of a second crop of turf

> **£250,000 extra profit for every 100 hectares grown**

With the increasing costs of inputs and production, we would love to show you how you can **increase your profits.**

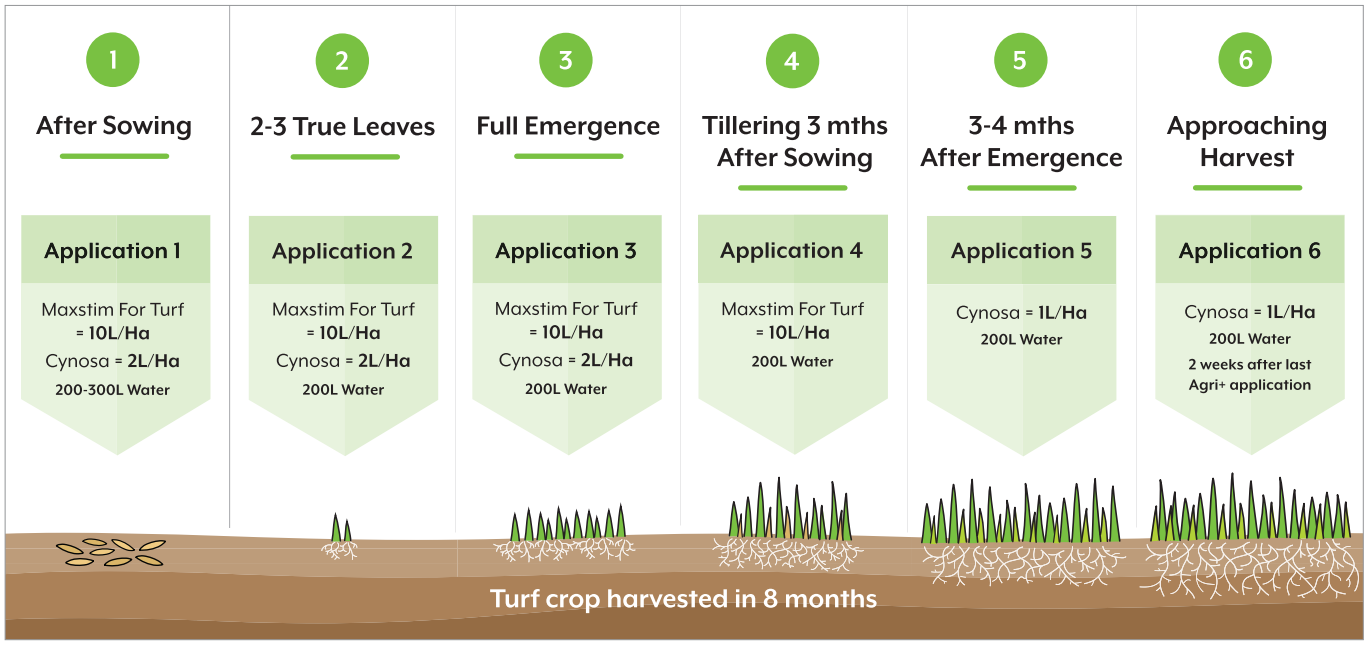
Insight

Growing Turf and Complex Biostimulants

Where do Maxstim biostimulants fit into the process of growing turf?

Maxstim products help you save money, use less fertiliser, reduce waste and get to harvest quicker while maintaining good quality turf.

This is how Maxstim fits into your production process.



- ✓ Replace DAP phosphate used at seeding with a reduced rate of non-hygroscopic phosphate
- ✓ Improve seed bed preparations to maintain an even depth for the seed and non-hygroscopic phosphate
- ✓ Maintain a seed bed fertiliser with low N, no phosphate, high potash with Magnesium and Calcium
- ✓ Apply **Maxstim For Turf** at 10 lit/ha and **Cynosa** at 2 lit/ha in 200 -300 lit water immediately after sowing
- ✓ Apply irrigation as and when needed to ensure germination and even emergence

Production process

- ✓ Apply herbicides as required
- ✓ Apply **Maxstim For Turf** at 10 lit/ha and **Cynosa** at 2 lit/ha in 200 lit water as the crop reached full emergence with plants having 2-3 true leaves combined with required rates of trace elements
- ✓ Applied regular applications of coated slow-release Nitrogen, K, Mg, Ca, SO3, compound fertiliser, but at a reduced rate. Approximately 15-20% reduction in applied rate during the growing season
- ✓ Apply **Maxstim For Turf** at 10 lit/ha and **Cynosa** at 2 lit/ha in 200 lit water, combined with required rates of trace elements, when the crop was at a full tillering stage
- ✓ Apply irrigation as and when needed to ensure constant growth of the crop
- ✓ Apply **Maxstim For Turf** at 10 lit/ha in 200 lit water, with required rates of trace elements. The application is made at about 3 months from the initial pre-emergent application after sowing
- ✓ Apply **Cynosa** at 1 lit/ha in 200 lit water with trace elements, possibly a fungicide and liquid feed. Application 2 weeks after the last Maxstim For Turf application
- ✓ Apply **Cynosa** at 1 lit/ha in 200 lit water with trace elements, possibly a fungicide and liquid feed. Application 2 weeks after the last Cynosa application.

TURF CROP HARVESTED AFTER 8 MONTHS

Advantages observed growing turf using Maxstim:

- ✓ Observable improvement in germination and faster emerging crops
- ✓ Greater root density and improved turf sod strength
- ✓ Robust leaf structure with vibrant green appearance and no signs of abiotic or biotic stress
- ✓ Better utilisation of nitrogen fertiliser inputs leading to a 20% reduction in use
- ✓ Turf was grown to a harvestable condition in 8 mths enabling the production of a 2nd crop of turf

With the increasing costs of inputs and production, we would love to show you how you can **increase your profits with the use of Maxstim biostimulants.**

Insight

Maxstim Delivers Improved Profit Margins for Turf Growers

The differences and improvements seen when using Maxstim biostimulants

Our six application process provided the following great results:

After Sowing

APPLICATION 1

Maxstim For Turf = 10L/Ha
Maxstim Cynosa™ = 2L/Ha

- There was a marked improvement in germination providing a homogenous establishment of the plants
- The crops were emerging faster
- The plants had a far greater root mass, providing a clear increase in fibrous roots for the plant to use
- Leaf numbers from initial first leaf emergence were faster to appear and therefore the plant had both more roots and leaves in a shorter time helping advance the physical structure.

2-3 True Leaves

APPLICATION 2

Maxstim For Turf = 10L/Ha
Maxstim Cynosa™ = 2L/Ha

- Further increases in root density and leaf numbers
- The plants were able to maintain growth and development at a faster rate
- The plant leaf structure was more robust, providing better opportunity for photosynthesis to take place
- The plants started to tiller faster, providing a greater crop density

Full Emergence

APPLICATION 3

Maxstim For Turf = 10L/Ha
Maxstim Cynosa™ = 2L/Ha

- Better utilisation of fertiliser inputs. Reduced amounts provided frequently in combination with the Maxstim gave a faster and improved use of the inputs to provide better plant growth
- Improved tillering and root development
- Crop was now providing full soil cover, the turf sward was well established
- Leaf number and leaf area production was increasing considerably
- There were no abiotic stress pressures seen in the crops

Tillering 3mths After Sowing

APPLICATION 4

Maxstim For Turf = 10L/Ha

- A continuation for all the attributes for the third application
- The crop was now providing a strong sward
- Root density and strength was above average for the age of the crop
- The crop provided a green vibrant appearance with no abiotic or biotic stresses visible

3-4 mths After Emergence

APPLICATION 5

Maxstim Cynosa™ = 1L/Ha

- Cynosa was applied to maintain growth and provide an increase in the utilisation of the liquid feeds and trace elements
- The plants remained green and vibrant with better leaf structure and rigidity

Approaching Harvest

APPLICATION 6

Maxstim Cynosa™ = 1L/Ha

- Cynosa was applied a second time to further maintain growth and provide an increase in the utilisation of the liquid feeds and trace elements
- The plants remained green and vibrant with better leaf structure and rigidity

Harvest achieved in 8 months

Advantages observed growing turf using Maxstim:

- ✓ Observable improvement in germination and faster emerging crops
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With the increasing costs of inputs and production, we would love to show you how you can **increase your profits with the use of Maxstim biostimulants.**

Insight

Turf & Root Development Claim

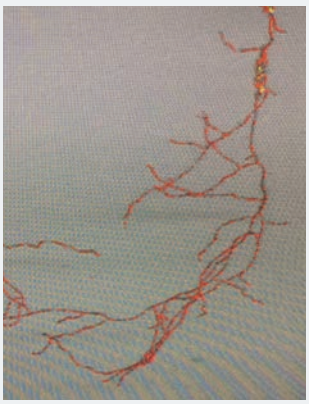
A major benefit of using Maxstim products is significant root mass increase.

Better root development has a big impact on the plants ability to seek nutrients, moisture and withstand abiotic stress.

We are not just looking for primary root development to improve anchorage. We want to fundamentally change the plant's root architecture by promoting the initiation of a larger number of new white roots significantly increasing the total root surface area.

Not only does this give better access to all the key inputs but will greatly improve the interaction with the soil microbiome. Changing the way a plant develops its root system can fundamentally affect the whole rhizosphere.

Untreated - Rye Grass



Treated - Rye Grass

How Maxstim affects root development

Maxstim bioactive components greatly influences root architecture by promoting lateral growth. This has been measured quantitively by our research team, using fractal analysis, where significant root length, number of tips and the number of forks present were significantly increased compared to untreated plants.

The same significant improvements can be observed in a range of plants, from those used in amenities and in crops, from numerous field trials:

Where	What	Observations
Le Golf National, France	Turf	After 9 weeks the average root increase throughout the course was 36%
Dunmurry Golf Club	Turf	More root growth with no sign of stress or disease
France Galop, Chantilly Race Course	Turf	After two treatments there was significant new white root development
Portugal	Raspberries	Significant root increase, and a 10.3% increase in harvest

Raspberry Trial - Portugal

CONTROL

MAXSTIM

Plants treated with **Maxstim** had a significant increase in their root systems, you can see clearly how strong and dense they are growing compared to the control plants.

The benefits of improved root development are:

- ✓ Superior overall plant health
- ✓ Improved nutrient use efficiency
- ✓ Better resistance to stress and disease
- ✓ More foliage
- ✓ Increased crop yield

> **Maxstim provides a significant increase in root mass**

Maxstim complex biostimulants improve root development for a large variety of plants, encouraging quick development of new and denser roots and improving plant health.

Amphenox

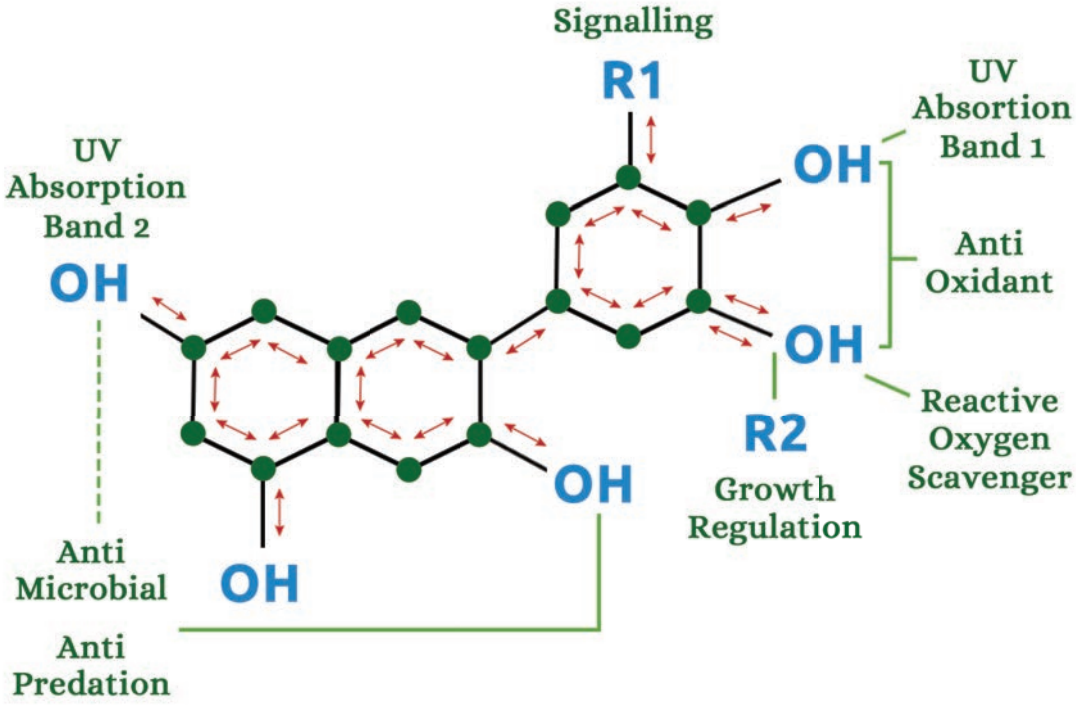
Research & Development

powered by Amphenox™

Maxstim has developed production techniques that create abundant bioactive compounds:

- ✓ Bioflavonoids
- ✓ Polyphenols
- ✓ Glycosides
- ✓ Antioxidants

Bioflavonoid chemical structure



Amphenox bioflavonoids are highly bioactive molecules.

They influence:

- ✓ Defence
- ✓ Mechanisms
- ✓ Abiotic stress
- ✓ Stress management
- ✓ Cell growth
- ✓ Hormone signalling
- ✓ Protein metabolism
- ✓ Plant growth

RNA Sequencing enables us to identify the key gene pathways that Amphenox influences.

For more information on how you can incorporate Maxstim complex biostimulants into your yearly growing program please call Tim or Tony on:

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