



Turf Science in Action

An integrated approach
to Anthracnose control

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Fast action to tackle Anthracnose threat

New trials have shown the combination of fast action fungicide and liquid fertilizer treatments is the optimum way to tackle the increasing threat of Anthracnose and prevent damage to turf playing surface quality.

Anthracnose disease pathology

Two forms of Anthracnose (*Colletotrichum graminicola*) frequently attacks turf quality:

Foliar blight

Infects leaves, causing tan/yellow irregular patches. Most common in summer and can be confused with symptoms of drought. Favoured by hot, dry weather.



Basal rot
Principally attacks the crown, but causes older leaves to yellow and die. Young leaves may go red. Used to be more prevalent in autumn and winter but is now regularly seen throughout the summer, especially during periods of heat and drought stress.

Basal rot

Why do we need a new approach?

- The severity of Anthracnose disease attack has increased significantly over the past 10 years.
- Anthracnose is one of the most difficult turf diseases to control. The spread of infection can be very quick.
- The damage to fine turf can be extensive and cause serious loss in surface quality – including smoothness and turf cover.
- Increasing periods of prolonged hot dry weather are more likely to trigger outbreaks.
- Reductions in nutritional inputs may have made turf plants more susceptible to disease.
- To improve plant health and its ability to withstand disease attacks

Anthracnose high risk situations:

↑ ✗ High proportion of <i>Poa annua</i>	↑ ✗ Areas of high wear and compaction
↑ ✗ Drought stress	↑ ✗ Insect or nematode feeding damage
↑ ✗ Inadequate nutrition	↑ ✗ Excessively low cutting height

When visible infection can be seen on the turf plant, it is dead or in the process of dying and turf quality will be lost

What can we do to help? - Relieve environmental stress

↻ Alleviate compaction and reduce excess thatch	➡ Suitable aeration programme when the turf is not under stress.
💧 Ensure adequate moisture for healthy plant growth without over watering	➡ Irrigation scheduling; wetting and water conservation agent programmes
🌿 Provide adequate and appropriate nutrition	➡ An iTurf programme
🌱 Encourage less susceptible turf species such as fescue and bent grasses	➡ Appropriate ProSelect overseeding programme e.g. ProSelect 4 Greens 80/20
🌿 Promote plant health and vigour	➡ Turf management programme to include Primo Maxx

A proactive integrated approach to Anthracnose turf disease management can reduce the risk of disease outbreak. Use the GreenCast website disease forecasting system and an iTurf programme to identify periods of Anthracnose foliar blight risk to time activities and preventative applications more effectively – www.greencast.co.uk

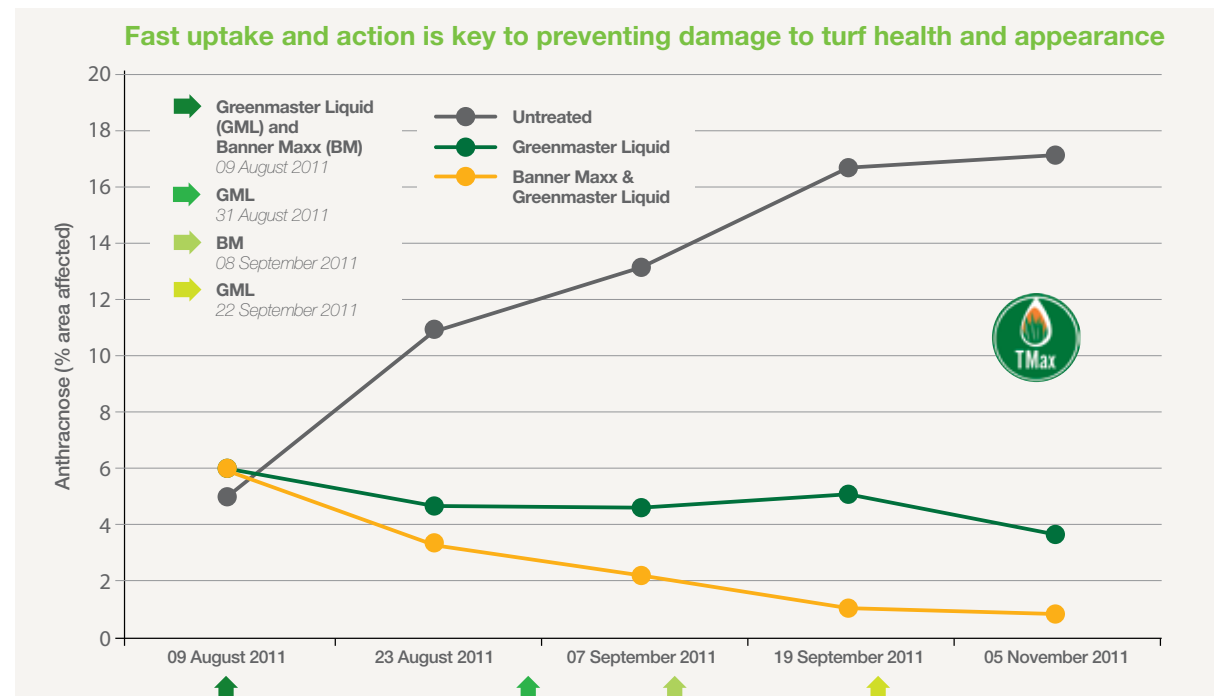
Rapid response

NEW Research

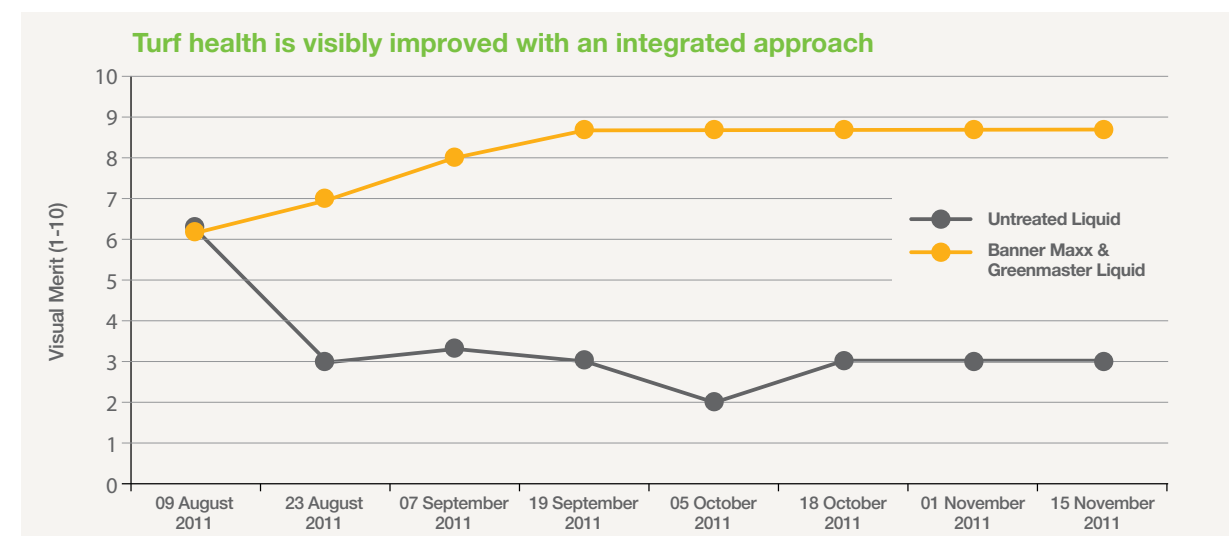
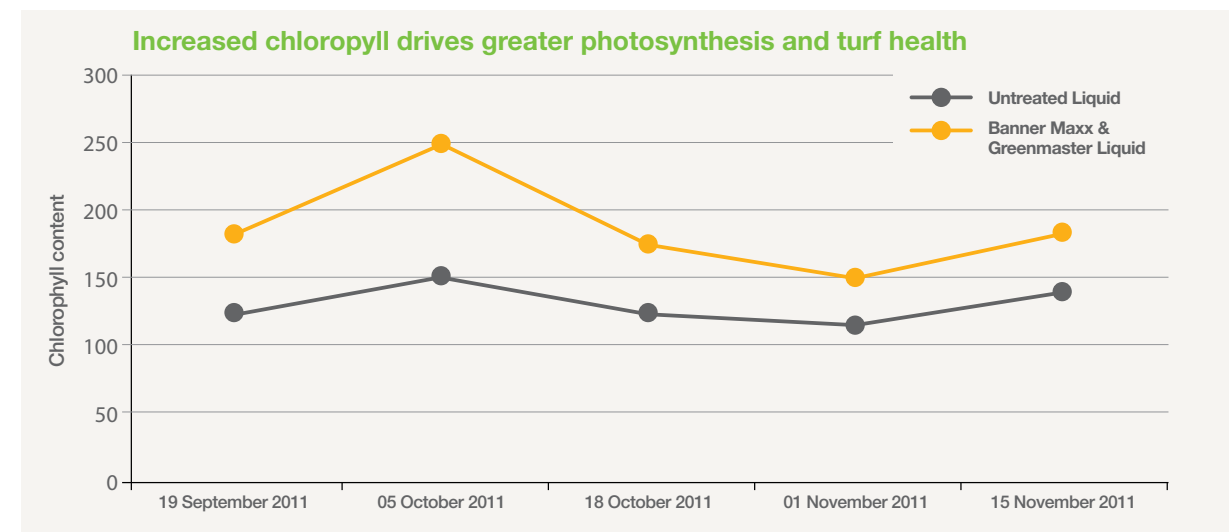
Replicated trials at the STRI - and supported by R&D at Everris and Syngenta research facilities - has demonstrated that, where there is a risk of Anthracnose attack, a rapid response with fast uptake fertilizer and fungicide inputs can effectively minimise damage from infection.




Comparing results from a number of fungicide and fertilizer inputs, the trials highlight the synergistic effects of fast-acting Greenmaster Liquid, Spring and Summer and Greenmaster Liquid, NK fertilizers 80 l/ha and rapid uptake Banner Maxx 3 l/ha.



Greenmaster liquids and Banner Maxx reduced the level of Anthracnose infection and improved turf quality. Used together, the results were even greater control of disease (above) and improvements in turf health and quality (right).

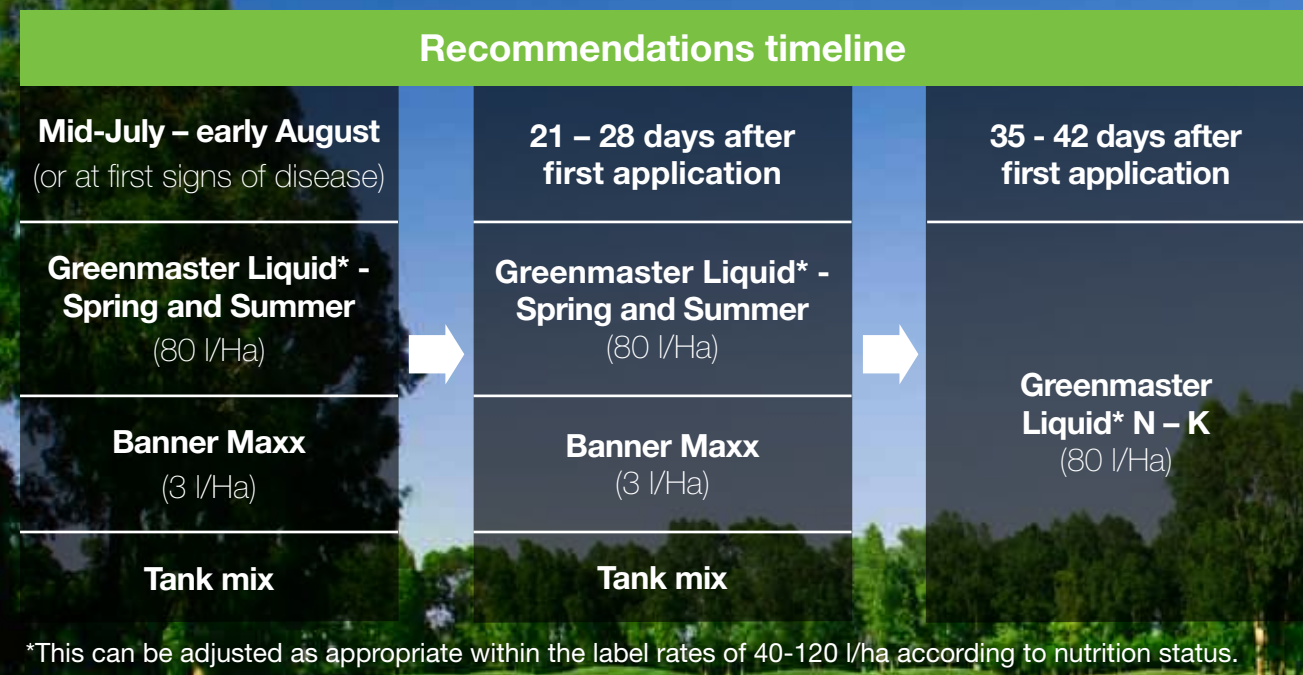


Why Greenmaster Liquid?	Why Banner Maxx?
 <p>TMax formulation spreads and sticks on the leaf. Enables better movement of nutrients into the leaf and within the plant.</p>	<p>Rapid systemic movement within the plant to the point of infection</p>
<p>Movement of nutrients into the leaf through small, but constantly open, transcuticular pores; more efficient than standard liquids relying on stomatal entry to the leaf.</p>	<p>Proven activity on Anthracnose</p>
<p>Uptake by both leaf and root even in variable environmental conditions</p>	<p>Maxx formulation provides very fast uptake into the plant leaf</p>
<p>Helps to make previously locked-up nutrients available</p>	<p>Works effectively even in cool conditions when plants are growing less actively</p>
<p>Contains trace elements and balanced nutrients to enhance plant health and to reduce plant stress</p>	<p>Also targets a broad-spectrum of other turf pathogens, to relieve stress on plants and reduce risk of disease outbreak.</p>
<p>Products have been tested for biological and physical compatibility in a tank mix.</p>	
<p>Combination of Greenmaster Liquid and Banner Maxx are shown to have a synergistic effect for the enhanced control of Anthracnose.</p>	

Why are we seeing improved results with combined fast acting nutrition and fungicide applications?

- A healthy plant with correct nutritional status promotes better uptake of active ingredient. A healthy plant is also able to recover from disease faster and reduce scarring.
- Providing instant relief of nutritional stress promotes healthier turf, which is able to withstand the reduced pressure of pathogen attack as a result of the fungicide treatment.
- Increased chlorophyll levels improve the grass plants ability to produce and store carbohydrates in stressful situations
- When disease is active, products have to work quickly before damage occurs in the turf sward.
- The TMax and Maxx technologies of Greenmaster Liquid and Banner Maxx help both products to work quickly and more efficiently.
- The two products together improve turf health, including chlorophyll content, turf colour and, ultimately, turf quality.

Recommendations



Greenmaster Liquid	Banner Maxx
<p>Water volume: 400 l/ha</p>	
<p>Nozzle recommendation: Syngenta Turf Foliar Nozzle</p>	



For optimal turf health maintain adequate nutrition through the season using the iTurf programme in conjunction with an Everris soil analysis.



To optimise Banner Maxx application time use the GreenCast disease forecasting system on www.greencast.co.uk

Further info on iTurf programmes and soil analysis can be found on www.everris.com