

# Chemicals

## TECHNICAL OVERVIEW

### Fungicides

Turf diseases are disorders which are usually caused by parasitic fungi invading plant tissues and robbing the grass of vital nutrients. Alternatively, they can be caused by indirect effects of fungi inhabiting the soil in the root zone and altering the availability of water and nutrients to the grass, as is the case of the fairy ring fungi. In either case they present a problem to the groundsman, who needs to take some form of remedial action in order to restore the turf to full health.

### Selectives

Selective herbicides are cost effective tools, allowing the removal of weeds over a much larger area than is possible by hand over the same period of time. As most selective herbicides kill both the foliage and root system, the removal of the weed is complete - giving a much longer lasting kill than if the foliage only is removed by mechanical means.

### Totals

Total weed control is the term used to describe the use of non-selective herbicides in situations where all vegetation is to be eliminated. It has a wide variety of applications in amenity, industrial and leisure sites.

### Moss Control

Mosses are primitive non-flowering plants. They have no root system, relying instead on sufficient moisture being present to allow direct transfer of water and nutrients through their aerial structures. Water is vital for root production, as male cells must migrate through water to fertilise the female structures. Dampness is, therefore, essential for the spread of moss. It is important to realise that mosses are themselves symptoms of poor grass growth and not the cause.

### Grass Growth Retardants

Grass control without sacrificing sward, vigour and appearance.



# FUNGICIDES

PRODUCT	CONTAINS	CONTROLS	PACK	COVERAGE	KNAPSACK OR EVENSPREY	TRACTOR MOUNTED
<p>The triple action of INSTRATA, including two multi-site contact active ingredients, will significantly reduce the risk of fungicide developing and will prove an important element of any Integrated Turf Management programme.</p>						
<b>Instrata</b>  Mapp 14154	Chlorothalonil Propiconazole Fluidioxonil	Fusarium Anthracnose Dollar Spot Brown Patch	3L	3,333m <sup>2</sup>	450ml in 25 - 50L Water per 500m <sup>2</sup>	9 Litres in 500 - 1000 Litres per Hectare
Period of use				Mode of Action - Contact/Systemic		



<p>Medallion TL offers an exciting option to provide high levels of disease control and long-lasting results from a modern bio-inspired fungicide. The exciting Contact<sup>+</sup> activity of Medallion TL can tackle damaging pathogens on the leaf, thatch and soil surface. Medallion TL is an extremely effective contact fungicide, providing a shield of protection on the leaf to prevent infection getting in and to stop disease spread. Trials have shown the innovative formulation of Medallion TL ensures the fungicide bonds onto the leaf wax layer, making it rainfast within one hour. Tight binding to the leaf coupled with rapid rainfastness ensures it won't be washed off by rainfall or irrigation, and will continue to provide long-lasting results.</p>						
<b>Medallion TL</b>  Mapp 15287	Fluidioxonil	Fusarium Anthracnose Leafspot	3L	10,000m <sup>2</sup>	300ml in 20 - 25L Water per 1,000m <sup>2</sup>	3 Litres in 250 - 500L Water per 10,000m <sup>2</sup>
Period of use				Mode of Action - Contact		



<p>'Banner Maxx' is an exceptional new fungicide offering three routes to effectively control a broad spectrum of turf diseases, fast. It delivers preventative, curative and eradicant action. Banner Maxx' utilises the unique Syngenta formulation technology, specifically designed to be gentle and safe on delicate turf grass species, yet gets to work fast and ensures the very best results. Virtually all the active ingredient in 'Banner Maxx' is absorbed within an hour of application, ensuring maximum efficacy within the plant and minimising risk of environmental loss.</p>						
<b>Banner Maxx</b>  Mapp 13167	Propiconazole	Fusarium Anthracnose Dollar Spot Brown Patch	3L	10,000m <sup>2</sup>	300ml in 40 - 100L Water per 100m <sup>2</sup>	3 Litres in 400 - 1000 Litres Water per 10,000m <sup>2</sup>
Period of use				Mode of Action - Systemic		



# Disease free turf easy as 1,2,3!

**Instrata is the first ever high performance, three-way multi-active turf fungicide**

- Genuine contact and systemic activity
- Tackles key turf diseases
- Outstanding long-lasting efficacy
- Fast acting protection with added curative and eradicator action
- Use at anytime of the year



syngenta®

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Distributed in the UK by Scotts Professional. Tel: 01473 201100 Email: [prof.sales@scotts.com](mailto:prof.sales@scotts.com)  
Instrata® is Registered Trademark of a Syngenta Group Company. Instrata (MAPP 14154) contains chlorothalonil, propiconazole and fludioxonil. All other brand names used are trademarks of other manufacturers in which proprietary rights may exist.  
Always read the label. Use pesticides safely. ©Syngenta AG December 2009. GQ 00799.

TM

# FUNGICIDES

PRODUCT	CONTAINS	CONTROLS	PACK	COVERAGE	KNAPSACK OR EVENSPREY	TRACTOR MOUNTED
<p>Now the renowned turf disease control of Heritage has got even better. Faster uptake and rapid movement through the plant means Heritage Maxx quickly gets to the site of infection and starts to tackle disease spores before damage is caused. Trial results have shown that with Fusarium Patch - the most prevalent turf disease in the UK - and even difficult to control Anthracnose, the new liquid Heritage Maxx can be more effective in preventing disease and maintaining turf quality.</p>						
<b>Heritage Max</b>  Mapp 14787	Azoxystrobing	Fusarium Anthracnose Brown Patch Leaf Spot Melting out Rusts Take all Patch Type 2 Fairy Ring	3L	12,000m <sup>2</sup>	25ml in 8-10 Litres per 100m <sup>2</sup>	2.5L in 800-1000 Litres Water per 10,000m <sup>2</sup> Soil Disease or 2.5L in 300-500 Litres Water per 10,000m <sup>2</sup> Foliar Disease
Period of use	Jan Feb Mar <b>Apr</b> May Jun Jul Aug Sep <b>Oct</b> Nov Dec	Mode of Action - Systemic				



A contact fungicide with curative and preventative action against turf diseases including Fusarium. This product has been a favourite for over 25 years. The liquid formulation is very 'rainfast' and can also prevent the build-up of morning dew on grass leaves.

<b>Chipco Green</b>  Mapp 13843	Iprodione	Fusarium Red Thread Anthracnose Dollar Spot Leaf Spot Rust	1L and 5L	500m <sup>2</sup> and 2,500m <sup>2</sup>	1 Litre in 25 Litres Water per 500m <sup>2</sup>	20 Litres in 500 Litres Water per 10,000m <sup>2</sup>
Period of use	<b>Jan</b> Feb Mar <b>Apr</b> May Jun Jul Aug Sep <b>Oct</b> Nov Dec	Mode of Action - Contact				



Dedicate® should be used preventatively or at first signs of disease. Dedicate® can be used when grass is either dormant or activity growing and displays both protective and curative activity.

<b>Dedicate</b>	Tebuconazole Trifloxystrobin	Fusarium Anthracnose Dollar Spot Rust	250ml	2,500m <sup>2</sup>	50ml in 25-50 Litres Water per 500m <sup>2</sup>	1 Litre in 400-500 Litres Water per 10,000m <sup>2</sup>
Period of use	<b>Jan</b> Feb Mar <b>Apr</b> May Jun Jul Aug Sep <b>Oct</b> Nov Dec	Mode of Action - Contact/Systemic				



Now includes  
6 diseases  
(Fusarium, Red Thread,  
Dollar Spot, Anthracnose,  
Leaf Spot and Rust),  
FULL APPROVAL for use on  
Golf courses, lawns,  
bowling greens, cricket  
pitches, tennis courts  
and professional sports  
grounds/stadiums\*  
\*see label for full details

# Chipco® Green

Rock solid dependability since 1981

- Contact action - *Rapid* control
- Very reliable turf fungicide
- Rainfast in 1 hour
- Excellent 'green-up' properties
- Reduces dew switching



Bayer Environmental Science  
A Business Operation of Bayer CropScience



**CHIPCO® GREEN**

Bayer Environmental Science, 230 Cambridge Science Park,  
Milton Road, Cambridge CB4 0WB  
Tel: 00800 1214 9451 Fax: 01223 226635  
[www.es.science.bayercropscience.co.uk](http://www.es.science.bayercropscience.co.uk)

ALWAYS READ THE LABEL : USE PESTICIDES SAFELY.  
CHIPCO® GREEN contains 255 g/l Iprodione. (MAPP 13843) (PCS 02714).  
Chipco is a registered trademark of Bayer.  
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# SELECTIVES

PRODUCT	CONTAINS	CONTROLS	PACK	COVERAGE	KNAPSACK OR EVENSPREY	TRACTOR MOUNTED
<p>Scotts 'Re-Act' can be used as a selective herbicide on all types of established managed amenity turf, and newly seeded grass.</p>						
<b>Scotts Re-Act</b>  Mapp 12231	MCPA Mecoprop P and Dicamba	Broad Leaved Weeds in Turf	5L and 10L	9,090 - 14,285m <sup>2</sup> 18,180 - 28,570m <sup>2</sup>	175ml - 275ml in 15-20 Litres Water per 500m <sup>2</sup>	3.5L - 5.5L in 300-500 Litres Water per 10,000m <sup>2</sup>
Period of use	Jan Feb <b>Mar</b> <b>Apr</b> <b>May</b> <b>Jun</b> <b>Jul</b> <b>Aug</b> <b>Sep</b> Oct Nov Dec					



<p>Intrepid 2 is a powerful selective herbicide for use on amenity turf, containing dicamba, dichlorprop-P and MCPA formulated as a liquid. The three-way mixture provides excellent broad leaved weed control but at the same time established, actively growing grass is unaffected.</p>						
<b>Intrepid 2</b>  Mapp 11594	Cicamba Dichlorprop MCPA	Broad Leaved Weeds in Turf	5L and 10L	7,700m <sup>2</sup> 15,400m <sup>2</sup>	65ml in 2.5 Litres Water per 100m <sup>2</sup>	6.5 Litres in 200-400 Litres Water per 10,000m <sup>2</sup>
Period of use	Jan Feb <b>Mar</b> <b>Apr</b> <b>May</b> <b>Jun</b> <b>Jul</b> <b>Aug</b> <b>Sep</b> Oct Nov Dec					



# SELECTIVES

PRODUCT	CONTAINS	CONTROLS	PACK	COVERAGE	KNAPSACK OR EVENSPREY	TRACTOR MOUNTED
<p>Spearhead is a selective herbicide for the control of a wide variety of broadleaved weeds in established turf. These include Spedwell, Daisy, Clover, Buttercup and Dandelion.</p>						
<b>Spearhead</b>  Mapp 09941	Clopyralid Diflufenican MCPA	Broad Leaved Weeds in Turf	5L	10,000m <sup>2</sup>	40-50ml in 4.5 Litres Water per 100m <sup>2</sup>	5 Litres in 200-700 Litres Water per 10,000m <sup>2</sup>
Period of use						



<p>Praxys is a brand new systemic post-emergence herbicide from Scotts. It combines three modern active ingredients and two different modes of action. Praxys rapidly enters target weeds, travelling through the whole plant to give complete weed destruction.</p>						
<b>Praxys</b>  Mapp 13912	Florasulam Fluroxypyr Clopyralid	Broad Leaved Weeds in Turf	5L	25,000 - 50,000m <sup>2</sup>	10-20ml in 2 Litres Water per 100m <sup>2</sup>	1-2 Litres in 200 Litres Water per 10,000m <sup>2</sup>
Period of use						
Maximum 1 application per year						



# TOTALS

PRODUCT	CONTAINS	CONTROLS	PACK	COVERAGE	KNAPSACK OR EVENSPREY	TRACTOR MOUNTED
<p>Pistol® is a barrier acting non-selective total herbicide for the control of a wide range of annual and perennial broad-leaved weeds and grasses on soft and gravel surfaces in amenity situations. Pistol® has foliar absorbed translocated activity, combined with soil acting properties, providing pre-emergence weed control. The product is applied post emergence to control a wide range of annual and perennial broad-leaved weeds and grasses on porous surfaces on land not intended to bear vegetation.</p>						
<b>Pistol</b>  Mapp 12173	Diflufenican Glyphosate	Broadleaved Weeds and Grasses	1L and 5L	2,222m <sup>2</sup> 11,111m <sup>2</sup>	45ml in 2.5-10 Litres Water per 100m <sup>2</sup>	4.5L in 200-600 Litres Water per 10,000m <sup>2</sup>
Period of use						



A low hazard total weedkiller which enters the plant quickly for improved control. For use in amenity, forestry, industrial and aquatic situations.

<b>Round-up Biactive 360</b>  Mapp 10330	Glyphosate	Broadleaved Weeds and Grasses	5L	10,000m <sup>2</sup>	250ml in 13 Litres Water per 500m <sup>2</sup>	5 Litres in 200-300 Litres Water per 10,000m <sup>2</sup>
Period of use						



Fast control of grasses and broad-leaved weeds. It can also be used for weed control around ornamental crops including trees and shrubs. Finale® is also ideal for preparing sports-turf for line-marking.

<b>Finale</b>  Mapp 10092	Glufosinate - Ammonium	Fast control of Broadleaved Weeds and Grasses	5L	10,000m <sup>2</sup>	80ml in 4.5 Litres Water per 100m <sup>2</sup>	8 Litres in 200-500 Litres Water per 10,000m <sup>2</sup>
Period of use						



**Superior *knockdown* that strikes out weeds...**



**...residual action that will bowl you over!**

- Long lasting - prevents germination for 6 months
- Resilient - controls many difficult weeds
- Rainfast in 1 hour
- Classified Non-hazard/Non-irritant to the operator
- Dual action formulation



Bayer Environmental Science  
A Business Operation of Bayer CropScience



**Pistol**

Bayer Environmental Science, 230 Cambridge Science Park,  
Milton Road, Cambridge CB4 0WB  
Tel: 00800 1214 9451 Fax: 01223 226635  
[www.escience.bayercropscience.co.uk](http://www.escience.bayercropscience.co.uk)

ALWAYS READ THE LABEL : USE PESTICIDES SAFELY.  
Pistol® contains glyphosate and diflufenican (MAPP 12173) (PCS 02530).  
Pistol is a registered trademark of Bayer.  
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# TOTALS CDA - ready to use herbicide

PRODUCT	CONTAINS	CONTROLS	PACK	COVERAGE	KNAPSACK OR EVENSPREY	TRACTOR MOUNTED						
CDA Vanquish is a ready to use, Controlled Droplet Application Herbicide that gives excellent control of annual and perennial grass and broad-leaved weeds in grass and industrial areas.												
<b>Vanquish</b>	Contact Glyphosate	Grasses and Broad Leaved Weeds	5L	3,333m <sup>2</sup>	Ready to Use	N/A						
Period of use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec



## Landscaper Lance

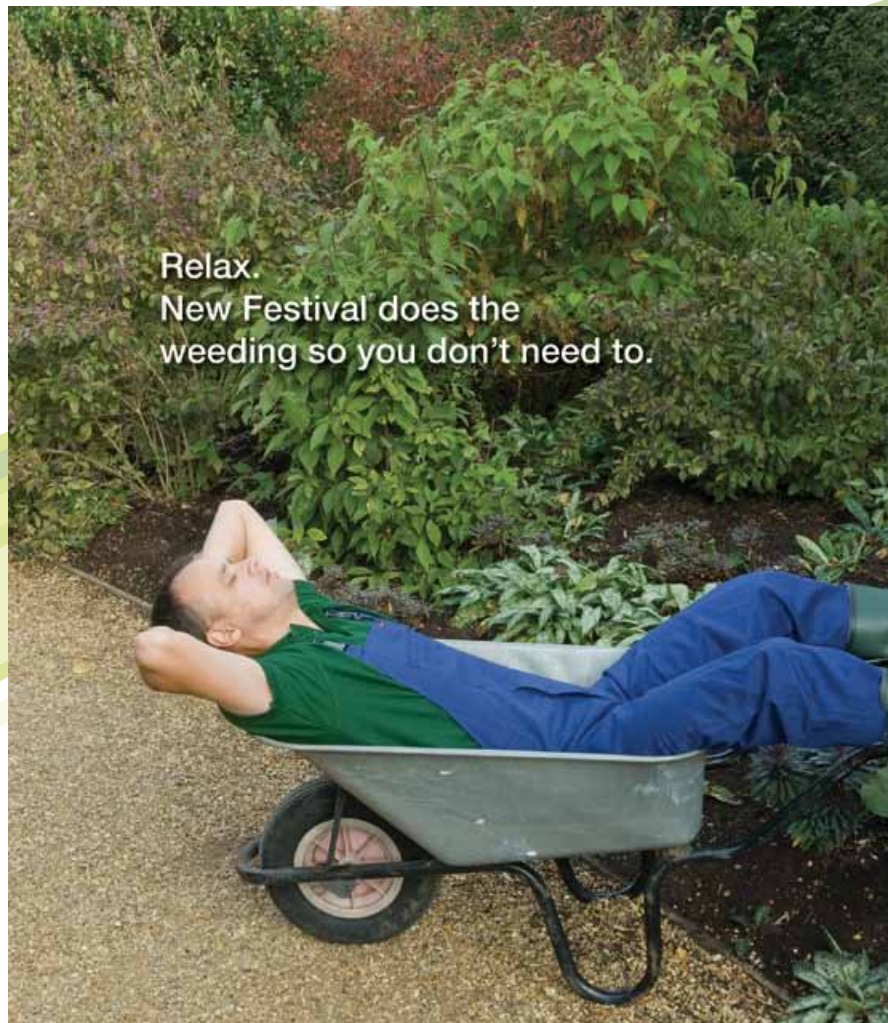
The most comprehensive CDA spray lance on the market, CDA Landscaper offers a whole range of award winning features.

### Features:

- Automatic calibration on all settings.
- Spray widths of 6", 12" 20" & 30".
- Application rates of 10, 15, 20 & 25 litres per hectare.
- Pace adjustment from 55 to 90 paces per minute with LED indicator light.
- Uphill or downhill operation with no effect on herbicide flow.
- Rechargeable NI batteries with fast change bayonet mountings.



# Festival



Relax.  
New Festival does the  
weeding so you don't need to.

- ✓ Controls and prevents weeds in ornamental trees and shrubs.
- ✓ Both pre and post emergence efficacy



- ✓ Ideal alternative to Dichlobenil products
- ✓ Up to 6 months residual action
- ✓ More cost effective than multiple glyphosate treatments

## Key Features and benefits

- Controls and prevents weeds in ornamental trees and shrubs
- Both pre and post emergence efficacy
- Ideal alternative to Dichlobenil products
- Up to 6 months residual action
- More cost effective than multiple glyphosate treatments

## Missing Dichlobenil?

Festival® is a liquid formulation pre and post emergence herbicide offering both knockdown and residual control of a wide range of weeds\* in ornamental trees and shrubs. Since the withdrawal of dichlobenil based products Festival® is an ideal substitute.

## Plant Safety

Festival® can be used on established trees and shrubs (including roses) without risk of damage so long as the label instructions are followed. Avoid direct contact with foliage when spraying.

Relax. Festival® does the weeding. Festival® will provide up to 6 months residual control of susceptible weeds\* from one application. Festival® is more cost effective than multiple glyphosate treatments.

## Dose Rates/Tank Mix

Festival® is available in 1L packs. Apply 4 or 8 L/ha in 300-1000 litres of water per hectare. Use the higher volume where weed infestation is already dense. Complete wetting of weed foliage is essential. Festival® is compatible with FINALE® in a tank mix.

Mapp 10092  
Pack size: 1 Litre



# Plant Growth Regulator

## How Primo Maxx® works

Primo Maxx® works by blocking the production of gibberellic acid late in the cycle - which effectively limits cell elongation. The result is to shorten the distance between the shoot nodes, leading to more compact growth.

Whilst the vertical growth is slowed, both root and lateral growth are boosted creating stronger, healthier and denser turf.

## The MAXX formulation advantage

The MAXX formulation has been specifically designed for turf. It is:

- Very safe to turf
- Very stable in the tank
- An easy to use liquid formulation
- Has flexible application rates for all turf surfaces
- Compatible and easily mixable with other products
- Increased and enhanced product uptake

## Grass Species

Primo MAXX is specific to turf management and has beneficial effects on all grass

species typically sown on UK golf courses. Application rates for fast growing Perennial ryegrass are higher than fine Bent, Fescue and Poa species.

## Shaded areas

Grass plants growing in shaded areas create more gibberellic acid in an attempt to reach the light - resulting in tall, etiolated growth. The application of Primo MAXX to suppress gibberellic acid production will help to minimise these effects and create a denser healthier surface.

## Tank-mix options

Primo MAXX may be safety tank mixed and applied with liquid fertilisers and nutrients. For other tank mixes, including herbicides

**TEES**

**FIRST APPLICATION:** Mid April  
**APPLICATION FREQUENCY:** Every four to eight weeks  
**HEIGHT OF CUT:** 10–18mm  
**DOSE RATE:** 0.8 l/ha for 10mm cut height, up to 1.6 l/ha for 18mm cut height  
**ADDITIONAL INFORMATION:** If tees are of dwarf perennial rye grass consider increasing the frequency of application

**FAIRWAYS**

**FIRST APPLICATION:** Mid April  
**APPLICATION FREQUENCY:** Every four to eight weeks  
**HEIGHT OF CUT:** Less than 18mm  
**DOSE RATE:** 1.6 l/ha for fine turf fairways, up to 2.4 l/ha for predominantly Perennial Ryegrass turf  
**ADDITIONAL INFORMATION:** For fairways cut at lower heights (approx 12mm or less), make more frequent applications, but reduce rates

Mid	APRIL	●	●
Early	MAY		
Mid	MAY	●	●
End	MAY		
Early	JUNE		
Mid	JUNE	●	●
End	JUNE		
Early	JULY		
Mid	JULY		
End	JULY	●	●
Early	AUG		
Mid	AUG		
End	AUG		
Early	SEPT	●	●
Mid	SEPT		
End	SEPT		
Early	OCT		

and fungicides, consult your technical advisor before application. The new liquid formulation Primo MAXX is easier to handle and measure than powder formulations. It rapidly and evenly disperses in the tank for easier and more effective spraying.

#### Application advice

Apply Primo MAXX in a water volume of 300 to 600L/Ha in a medium quality spray. Lower water volumes will increase work rates and thus improve the timeliness of applications.

#### Number 1 innovation in greenkeeping

Primo MAXX was voted the Number 1 advancement in modern greenkeeping, in a survey for Golfweek's SuperNEWS. It was cited as the first PGR that could be safely

and predictably used on all fine turf areas, which has proven an invaluable tool to save mowing labour and maximise turf colour and density.

#### Application Programme

The Primo MAXX programme can be commenced at any stage of the growing season, but ideally should start at the onset of spring growth and continue whilst grass is actively growing. Primo MAXX programme will give the best results in preventing the effects of drought - by maintaining healthy grass for longer and aiding rapid recovery - if a series of treatments are made before grass comes under stress (Pre-Stress Conditioning).

If grass growth stops during extended dry periods, Primo MAXX application periods may be

extended until moisture and growth returns. Do not apply Primo MAXX to stressed turf.

#### Grass Cutting

Primo MAXX will slow vertical grass growth within one or two weeks of initial application. Continue to mow greens as normal. On other areas of the course mowing intervals can be extended as the cumulative benefits of the Primo MAXX programme take full effect. The first noticeable difference will be far fewer clippings to remove - up to 50% less over the season. This will significantly increase mowing speed and reduce wear and tear on equipment. It will also reduce any financial burden under new composting waste legislation that may apply to golf courses.



#### ROUGH & SEMI-ROUGH

**FIRST APPLICATION:** Mid April  
**APPLICATION FREQUENCY:** Every five to eight weeks  
**HEIGHT OF CUT:** More than 18mm  
**DOSE RATE:** 2.4 l/ha for fine turf mixtures, up to 3.2 l/ha for predominantly Perennial Ryegrass turf



#### GREENS

**FIRST APPLICATION:** Mid April  
**APPLICATION FREQUENCY:** Every three to four weeks  
**HEIGHT OF CUT:** 7mm or less  
**DOSE RATE:** Apply at a rate of 0.4 l/ha throughout the season  
**ADDITIONAL INFORMATION:** Extend seasons if growth starts early or finishes late

Mid APRIL  
 Early MAY  
 Mid MAY  
 End MAY  
 Early JUNE  
 Mid JUNE  
 End JUNE  
 Early JULY  
 Mid JULY  
 End JULY  
 Early AUG  
 Mid AUG  
 End AUG  
 Early SEPT  
 Mid SEPT  
 End SEPT  
 Early OCT

Pack size  
 5 Litre  
 MAPP 11878

# Moss Control

# Jewel

Jewel by name **dual** by nature  
**dual activity** controls weeds and moss

Jewel is the first weed and mosskiller on the market. Two powerful herbicides combine to make this product unique. Jewel has a post emergence contact activity with Carfentrazone-ethyl and a systemic activity with Mecoprop-P.

It can be used on all turf grass species.

## Carfentrazone

This active ingredient is a selective broadleaf herbicide yet unlike many other broadleaf herbicides it is not a phenoxy, rather, it is in the triazolinone herbicide family. In addition it has activity against moss.

Symptoms occur on weed plants a few days after application as brown-necrotic spots. These rapidly running into one another during the following days, leading to a total necrotisation and the die away of the weed plants.

On exposure to carfentrazone-ethyl the moss species turn to a distinct off-white colour due to the loss of chlorophyll. Effects are usually visible within 14 days after application, dependent on weather conditions.

**Jewel** MAPP No. 14327.PCS No. 02953

Contains 1.5% w/w carfentrazone-ethyl and 60% w/w mecoprop-p

Pack size: 1.5kg bottle  
Application rate: 1.5kg per hectare  
Water Volume: 500 litres per hectare  
Maximum 2 applications per year

### Application

Jewel can be used from the 3-leaf stage onwards (approximately 4-6 weeks after sowing depending on climate conditions).

### Period of use

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Moss Control

Mosses are members of the Bryophyta, a group of relatively primitive non-flowering plants which infest turf to the detriment of desirable grasses. Moss usually has two major growth periods during the year with the first invasion during the autumn. The plant thrives over winter and continues to produce more spores ready to germinate in the spring when once again spores are produced ready to germinate the following autumn, thus continuing the cycle.

The establishment of moss in turf is influenced by a number of factors such as poor drainage, compaction resulting in poor aeration, bad light conditions, poor fertility, and non-competitive weakened grass. Cultural management techniques can help prevent the establishment of moss and are to be encouraged.

Preventative measures, however, are not always successful in which case it is advisable to supplement this with an effective approved chemical mosskiller.

For moss control it is recommended that following death of the moss, the turf is scarified.

# Cleanmax

## A hard surface cleaner and moss deterrent

Hard surfaces and artificial pitches can become colonised with algae, slimes, lichen, liverworts and moss, especially in shaded situations. These areas can become a safety hazard due to the slippery surface, making them dangerous especially for sports activity.

Cleanmax is a blend of organic acids and surfactants that loosen deposits acting as a safe cleaner for all types of hard surfaces. Apply using spraying equipment when no rain is expected and should be allowed to dry thoroughly. If there is significant moss cover the area may need to be brushed, hosed or pressure washed to remove dead vegetative matter after a couple of days.

Hard surfaces can become covered in algae, slime or moss especially in shaded damp conditions resulting in slippery surfaces. Paths can particularly become very dangerous for pedestrian traffic as do artificial sports surfaces such as tennis courts and astro turf games pitches.

Pack size: 5 litre

Coverage 1000m<sup>2</sup>

Cleanmax Application rate:

50 litres per ha in 500 litres of water

5 litres per 1000m<sup>2</sup> in 50 litres of water

Where there is thick build up of vegetable matter ensure that the areas are well soaked to achieve complete penetration.



Moss on pathway



Lichen on concrete



# Pest Control

## Caste Off

**Wormcast Suppression** - Earthworm casts result from the deposition of earth and decomposing organic matter. There are 25 commonly found species of earthworm in the UK, only 3 of these species are responsible for the majority of casts. Casts are produced seasonally, during the Spring and Autumn when conditions such as moisture and temperature are suitable. As much as 50 tonnes of earthworm casts can be deposited per hectare in unmanaged grassland.

Beneficial worms, which do not surface feed will remain largely unaffected by Caste Off.

### For wormcast suppression:

Powered Sprayer:  
4 L per hectare in 500 L - 1000 L water  
Knapsack Sprayer:  
40mls per 100m<sup>2</sup> in 20 L water  
Pack size: 5 litre

MAP 12832

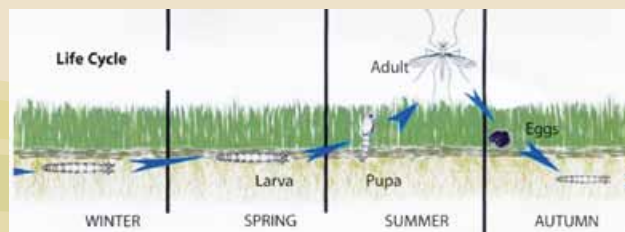


## Cyren

**Cyren is a highly effective soil insecticide for the control of leather jackets and frit fly in sports and amenity turf.**

### Leatherjacket Life Cycle

Crane Fly larvae feed on the roots of grasses. Usually very little damage is done as plants have a remarkable ability to compensate for minor root damage. However, when populations are high (estimated to be about 25-30 larvae per square metre) damage to turf areas can be extensive.



The larvae, called Leatherjackets, live in the soil. They hatch from eggs laid in the late summer. They feed during the autumn and into the spring of the following year. They stop feeding in May. Damage generally becomes noticeable during the spring, caused by feeding that occurred during the previous autumn and winter. Damage can also occur when birds scratch at the turf surface attracted to the larvae.

Knapsack Sprayer:  
15ml 2-10 litres water per 100m<sup>2</sup>  
Tractor Mounted Sprayer:  
1.5 litres in 200-1000 litres water per 10,000m<sup>2</sup>  
Pack size: 5 Litres  
Period of use

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Mapp 11028



Leatherjacket



Crane Fly



Crane Fly Eggs

# Merit<sup>®</sup> Turf

Merit<sup>®</sup> Turf is a granular insecticide for the control of Chafer grubs and Leatherjackets on golf courses, bowling greens, Cricket grounds, athletic fields, Parks & Sports Grounds, Commercial and Residential lawns, Cemeteries and other managed amenity turf situations. Merit<sup>®</sup> Turf offers very low risk to operators and non target organisms.

Merit<sup>®</sup> Turf works in the following ways:

- Insects that have ingested or absorbed the imidacloprid stop what they are doing or suspend normal behaviour.
- Insects stop feeding immediately and do not survive.
- The grubs will either be affected by eating the turf roots (where the product has been transported systemically) or by absorption through their outer body.

## Timing of Application

### Chafer Grubs

One application per year should be applied either as a preventative treatment made prior to anticipated chafer grub infestation (for example, when you see the beetle eggs in the soil) or as a curative treatment up to the 2nd instar growth stage. Alternatively when identification of damage to turf is seen.

### Leatherjackets

Applications should ideally be made prior to the egg hatching when the adult crane flies are visible. One application per year is needed for Chafer Grub and Leatherjacket control.

Pack Coverage:

10Kg Covers 3,333m<sup>2</sup> (@ 1.5 Kg/500m<sup>2</sup> RATE)

3Kg Covers 999.9m<sup>2</sup> (@ 1.5 Kg/500m<sup>2</sup> RATE)



Initial damage is caused by the grubs eating the roots of the turf. Birds and animals then pull on the loose turf to feed on the grub



# Rescue™ Herbicide

RESCUE gives clean and efficient Ryegrass removal in fine turf

- RESCUE is an exciting new selective herbicide for the control of Ryegrass infestations in turf
- RESCUE removes weed Ryegrass and some other coarse grass species, whilst leaving fine turf species and Poa annua
- Removal of coarse grass species will enhance putting surface consistency on greens, improve the visual appearance and playability of fairways and surrounds and thin out difficult roughs for better playability, easier ball location and faster play
- RESCUE has been tried and tested on all golf course types and is approved for use on all areas of the golf course
- The RESCUE Programme can help rejuvenate fine turf surfaces faster, more cost effectively and with longer lasting results than conventional cultural control
- RESCUE is rapidly absorbed into the leaves of target weed species from a foliar spray application. The active ingredient quickly moves systemically to reach growing points and into the roots, stopping cell division and killing the plant



Application rates:  
Golf course greens, tees, fairways and rough  
April - June (max dose) 1.0-1.33 l/ha  
Sept - Nov (max dose) 1.0 l/ha  
Maximum number of treatments:  
two per annum  
Water volume: 250-500 l/ha  
Nozzle type:  
Flat fan 02 or 04 producing a medium quality spray  
RESCUE is rainfast in 1 to 2 hours.  
Do not tank Mix RESCUE with any other products





# Hydra Lake Clear

Removes Blanket Weed & String Algae from Lakes, Water Traps, Natural pools & Irrigation Systems

## Features & Benefits

Hydra Lake Clear is a complex blend of bacteria, enzymes, natural minerals and sequestrants. 100% biodegradable and free from additives which can cause toxic effects or oxygen deprivation.

It works the same way as barley straw but instantly. No waiting weeks to see results and no messy smelly straw to remove.

Rapidly removes blanket weed / string algae without altering the pH of water

Harmless to all fish, birds, reptiles, invertebrates, humans, animals, mammals and water plants.

Promotes clear healthy water by chelating and absorbing nitrates, phosphates and other pollutants.

These nutrients are used as a food source for blanket weed.

Safe on all surfaces including concrete and synthetic liners. Will not effect pumps or filters.

## Initial Treatment

Broadcast **Hydra Lake Clear** to affected areas at the high curative rate, either manually or by applicator. Once the blanket weed has died, turned grey or floats free, it can either be manually removed or it left to sink to the bottom were it will decompose.

## Dilution rates:

**Ponds:** Initial Treatment 1 kilo treats up to 10,000 litres water.  
Maintenance Dosage: 1 kilo treats up to 50,000 litres water.

## Lakes/Irrigation Systems:

Initial Treatment: 25 to 50 kilos treats 1 acre.  
Maintenance Dosage: 5 to 15 kilos treats 1 acre.

Pack size: 25 kilo



*Dealing with all aquatic water problems keeping water oxygen rich and crystal clear*



# Trak-It

## Spray Pattern Indicator



Concentrated Highly Visible - Yet Discrete Green Colour Dye for Herbicides, Pesticides, Fungicides & Fertilisers

### Features & Benefits

- Eliminates skips and overlaps
- Indicates spray drift, blocked nozzles and leaks in spray equipment
- Non-toxic environmentally safe
- Water-soluble - totally compatible with all spray solutions
- Does not affect chemical performance - can be used in any spray equipment
- Temporary colour - will disappear in a few days

**Hydra Trak-It** - is a highly visible, concentrated yet discreet, temporary green colorant designed to be added to liquid spray solutions. Provides visual evidence of where a spray application has been made. Eliminates waste due to overlapping and skipping while it indicates drift and improper application. Completely soluble with all water based systems.

**Hydra Trak-It** is non-toxic, safe to use and dissipates completely after application.

Designed for use on golf courses, parks, cemeteries, athletic fields and any large turf or grass area. Is also ideal for railway, utility and highway rights-of-way and for general lawn care and landscape maintenance use.

### Dilutions & How To Use

**Dilution 1: 800** available in 1 litre dosing bottles and 5 litre containers. 25ml treats 20 litres of solution, 1 litre treats 800 litres, 5 litres treats 4,000 litres of solution.

Simply add Hydra Trak-It to tank when tank is approximately half full

Will not permanently stain skin or clothing - will wash out with soap and water.

Pack size: **5 Litre**