

# No More Destructive Unsightly Rings

# Monstar<sup>®</sup> SC

## Finally, a product for Fairy Ring control



**Type 1**

Most destructive type. Kills turf due to the fungi causing soil to become hydrophobic and the roots cannot take up any water.



**Type 2**

Dark green rings appear due to increase nutrients of decomposition of organic matter or the fungi.



**Type 3**

Mushroom symptoms, in ring or arc formation.

Usually seen after heavy rainfall or irrigation.



**COLIN CAMPBELL (CHEMICALS) PTY LTD**

100% Australian owned & operated. Established 1940

**The Key to Professional Turf**

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# MONSTAR TRIAL PICTURES

## Untreated Plots



Type 1 fairy ring is active on day of application

1st application 27-2-13  
0 DAT

DAT= Days after treatment

## Monstar 200mL per 100m<sup>2</sup>



8 DAT

Type 1 fairy ring has reduced on untreated slightly

Monstar treated area has been greatly reduced and minimal damage is seen.



15 DAT

Type 1 fairy ring has increased on the untreated plot but Monstar treated area has been greatly reduced to only a few symptoms

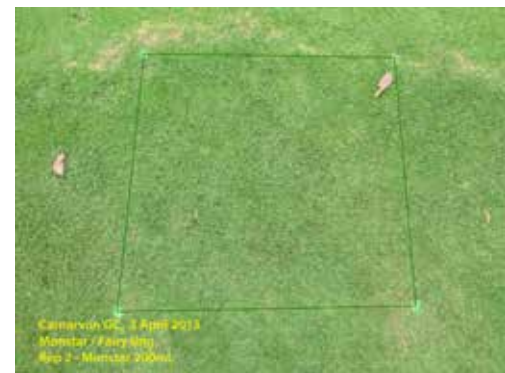


2nd application 18-3-13

16 DAT (2nd app)

The untreated is still showing signs of type 1 and new damager is being seen.

After the 2nd application of Monstar Type 1 fairy ring has been eliminated and new symptoms are starting cause damage outside the Monstar plot.





# BEST PRACTICES FOR FAIRY RING MANAGEMENT

## What conditions favour fairy ring

- Turf which is under low fertility and low mowing heights mainly
- Turf suffering from heat/drought/soil moisture stress
- Extremes in wet/dry weather conditions favour fairy ring - this season has been perfect conditions for fairy ring
- High thatch areas
- Can occur anytime of the year. Mainly seen from spring onwards.

## How fairy ring kills turf

Fairy ring does not infect the plant directly it works in the soil. The fairy ring fungi attach to the soil and the soil and sand particles become severely hydrophobic. The soil becomes difficult to re-wet and the plant cannot take up any water or nutrients and hence suffers from drought stress (type 1) and dies.

Fairy ring is associated with the breakdown of organic matter and a build up of ammonia. The bacteria normally converts the ammonia into a nitrate form - you get the stimulated green ring commonly seen (type 2).

When you have hydrophobic soil this is not the case. The bacteria cannot live in this environment and it cannot convert the ammonia to nitrate due to hydrophobic conditions. Instead excess ammonia builds up causing death by ammonia toxicity hence dead rings appear.

Type 3 (mushrooms) appears usually after rainfall or heavy irrigation. In saying this type 3 symptoms can quickly turn into type 1 or type 2 fairy ring with the onset of any heat stress conditions and are seen where mushrooms were present.

Type 2 & 3 symptoms can turn into type 1 if left untreated and can all types can be present at once (see picture).

## Best Application of Monstar

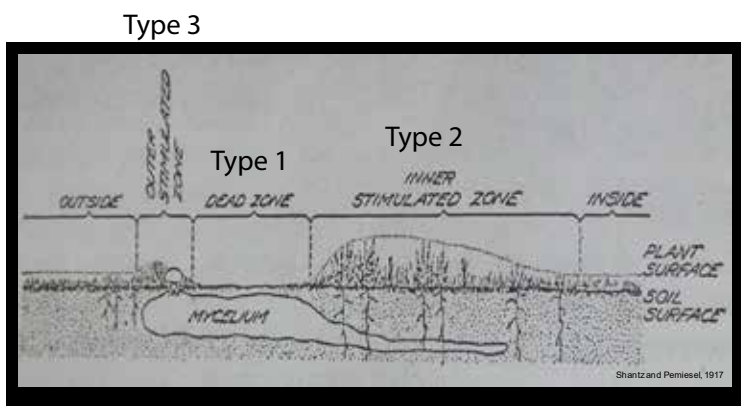
- Apply Monstar with a good soil wetting agent
- Irrigate turf before application
- Aerify or spike area to be treated.
- Apply Monstar as per permit rates up to 200mL per 100m<sup>2</sup>. Apply with 400L water per hectare and water in to affected area 5mm irrigation - however do not puddle up the area get Monstar to the target area).
- A follow up second application may be needed 2-4 weeks later if needed

Recovery can take time after an application. Monstar kills the fungi but the profile is still hydrophobic and until this is cured the turf cannot recover fully. Hand watering areas with wetting agent tablets can also aid in recovery.

Monitor soil moisture levels with a moisture meter as areas infected can retain less moisture than healthy areas.

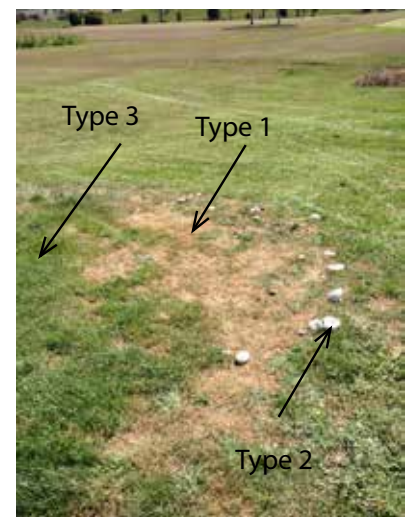
Full recovery can take time especially from type 2 rings as the nitrogen is depleted.

Preventative sprays- Minimal work has been done as fairy ring may not appear in the same area or at all each year. However if fairy ring is a chronic problem map your area with symptoms and timings. Apply Monstar and wetting agent in these areas to prevent fairy ring using this information.



This picture taken from Fidazna GCSAA Webcast Feb 2014

Classic example of a cross-section of fairy ring in turf.



All types of Fairy Ring in one area

# Getting the Best Results on Fairy Ring

DIRECTIONS FOR USE			
Crop	Disease	Rate	Critical Comments
Recreational turf: Golf Greens, bowling greens, sports ovals and areas	Fairy Ring	150mL-200mL/100m <sup>2</sup> Plus 250mL soil wetting agent per 100m <sup>2</sup>  Spray at least 400L water / ha to ensure even coverage and follow up with 5-10mm irrigation or rain immediately	Coring affected areas before application may assist penetration. Apply when ring becomes apparent and repeat 2-4 week intervals up to a maximum of 3 applications per season. Use higher rate for severe infections

**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.**

## How Monstar works

**GROUP 7 Fungicide**

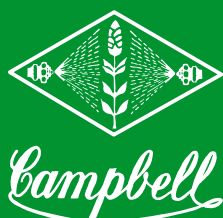
Monstar brings a new resistance group to the turf industry. Monstar is a Group 7 Fungicide. Also known as the SDHI class. Monstar works on the disease by stopping the fungi from producing energy following infection hence the fungi cannot grow and reproduce. Monstar is a locally systemic fungicide.

## Other Aspects of Monstar

- Unscheduled signal heading
- Unique mode of action
- Liquid formulation
- No phytotoxicity of turf
- Stable pH of 3-11
- Excellent tank mix properties
- Curative and preventative properties
- Used in USA for over 15 years



**Available in a 1L and 5L pack size**



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