



We create chemistry

# Turf Solutions

Your guide to healthy, quality turf.





# Xzemplar<sup>®</sup>

Fungicide

## The new standard for dollar spot control.

Dollar spot is done. With **Xzemplar<sup>®</sup>** fungicide, the days of spraying fairways and tees every 10 to 14 days for dollar spot are over. This best-in-class fungicide knocks down dollar spot immediately and provides one of the longest residuals in the industry—up to 28 days.

**Xzemplar** fungicide delivers both preventive and curative properties to ensure dollar spot-free fairways, tees and greens. The go-to solution for superintendents around the country, **Xzemplar** fungicide has set a new standard for control of one of the toughest turf diseases.

### Preventive dollar spot treatment with Xzemplar fungicide



Untreated

21-day trial Source: University of Wisconsin, 2014



Xzemplar 8.3 mL/100m<sup>2</sup>

### Curative dollar spot treatment with Xzemplar fungicide



Untreated

Source: University of Connecticut, September 3, 2013, 4 DAT



Xzemplar 8.3 mL/100m<sup>2</sup>

#### Active ingredient

Fluxapyroxad – 300 g/L

#### Fungicide class

SDHI or Succinate-Dehydrogenase Inhibitors (Group 7)

#### Formulation

Suspension concentrate (SC)

#### Packaging

2 x 2.02 L

(1 bottle treats 2.4 to 3 hectares)

#### Signal Word

Contains allergen soy

**For use on golf courses only.**

## Current labelled diseases controlled with Xzemplar fungicide

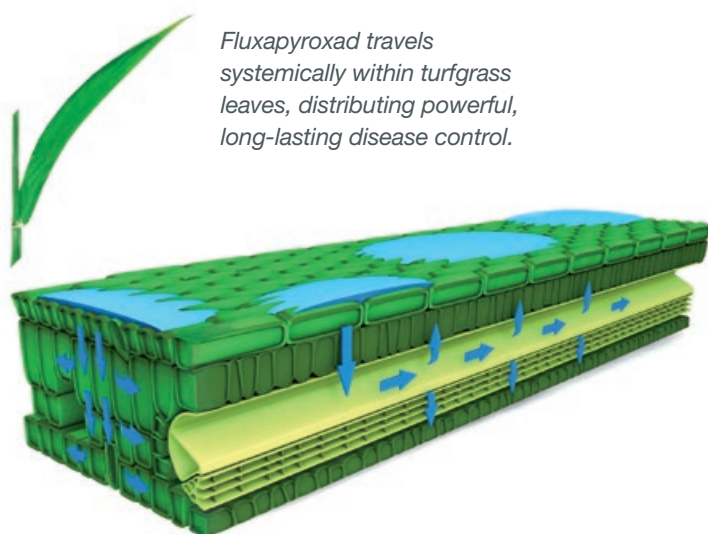
Disease	Application interval	Rate (ml/100 m <sup>2</sup> )
Brown patch	14 – 21 days	6.7
Brown ring patch*	21 – 28 days	8.3
Dollar spot*	14 – 21 days	6.7
Dollar spot*	21 – 28 days	8.3
Fairy ring*	21 – 28 days	8.3
Leaf spot	21 – 28 days	8.3
Microdochium patch (suppression)	Single application in the fall prior to snow cover	8.3
Pink snow mold (suppression)	Single application in the fall prior to snow cover	8.3
Summer patch*	21 – 28 days	8.3

\*Refer to label for additional instructions.

## Continuous redistribution in the plant.

The unique chemistry inside **Xzemplar** fungicide powers its ability to deliver preventive and curative properties. In addition to being tightly bound to the waxy leaf surface, making it rainfast, fluxapyroxad is redistributed to areas of the leaf that are not directly sprayed. Its unique molecular design lets it enter the transpiration stream and travel systemically within the leaf.

This redistribution, along with its high level of activity, ensures long-lasting preventive and curative effects from fluxapyroxad, resulting in reliable, more consistent disease control.



## One active ingredient. Two key benefits.

Most fungicides on the market provide either quick knockdown or long residual activity. **Xzemplar** fungicide provides both. This rare combination is the result of its novel active ingredient fluxapyroxad—the latest in carboxamide technology.

### Key Features and Benefits

- Immediate knockdown
- Long residual of up to 28 days
- Preventive and curative properties
- Flexible spectrum of disease control
- Non-DMI that can be used anytime subject to label restrictions

### Vincelli ratings

- Brown patch: 3.5/4
- Fairy ring: 3/4
- Summer patch: 2.5/4



## Cool-season 28-day fairway program

Timing	Product	Active ingredient	Rate /100 m <sup>2</sup>	Key diseases and benefits
1 May 15	<b>Cadence fungicide</b>	Boscalid	5.6 g	Dollar spot ( <i>Sclerotinia homoeocarpa</i> )
2 Jun 15	<b>Maxtima fungicide</b>	Mefentrifluconazole	12.5 ml	Anthrachnose ( <i>Collectotrichum cereale</i> ), Dollar spot ( <i>Sclerotinia homoeocarpa</i> ), Microdochium patch ( <i>Fusarium</i> ) <sup>1</sup> ( <i>Microdochium nivale</i> ), Take-all patch <sup>1</sup> ( <i>Gaeumannomyces graminis</i> )
3 Jul 15	Renovo™ fungicide + Secure® fungicide	Thiophanate-methyl + Fluazinam	60 ml + 16 ml	Anthrachnose ( <i>Collectotrichum cereale</i> ), Brown patch ( <i>Rhizoctonia solani, zaeae</i> ), Dollar spot ( <i>Sclerotinia homoeocarpa</i> )
4 Aug 15	<b>Xzemplar fungicide</b>	Fluxapyroxad	8.3 ml	Brown patch ( <i>Rhizoctonia solani, zaeae</i> ), Dollar spot ( <i>Sclerotinia homoeocarpa</i> )
5 Sep 15	<b>Maxtima fungicide</b>	Mefentrifluconazole	12.5 ml	Anthrachnose ( <i>Collectotrichum cereale</i> ), Dollar spot ( <i>Sclerotinia homoeocarpa</i> ), Microdochium patch ( <i>Fusarium</i> ) <sup>1</sup> ( <i>Microdochium nivale</i> ), Take-all patch <sup>1</sup> ( <i>Gaeumannomyces graminis</i> )
6 Oct 15	<b>Xzemplar fungicide</b>	Fluxapyroxad	8.3 ml	Dollar spot ( <i>Sclerotinia homoeocarpa</i> ), Microdochium patch ( <i>Fusarium</i> ) ( <i>Microdochium nivale</i> )
7 Nov 1	<b>Insignia® Pro fungicide + Medallion® fungicide</b>	Pyraclostrobin + Mefentrifluconazole + Fludioxonil	25 ml + 60 ml	Gray snow mold ( <i>Typhula</i> spp.), Microdochium patch ( <i>Fusarium</i> ) ( <i>Microdochium nivale</i> ), Pink snow mold ( <i>Microdochium nivale</i> ), Plant health

<sup>1</sup>Suppression.

Start date to be determined by making first application when soil temperatures are 10°C and turf has been mowed a minimum of three times. For improved fairy ring control, apply a soil wetting agent 1-2 weeks prior to beginning fungicide applications.

Apply **Xzemplar** fungicide in a program alternating or tank mixing with other registered fungicides that have a different mode of action. Follow **Xzemplar** fungicide label instructions on sequential use specific to target pathogens and other Group 7 products.

## Regional Turf Spray Programs from BASF.

Find the best disease solutions for your turfgrass with a customized rotation management plan tailored to your region with BASF Regional Turf Spray Programs at **BetterTurf.ca**

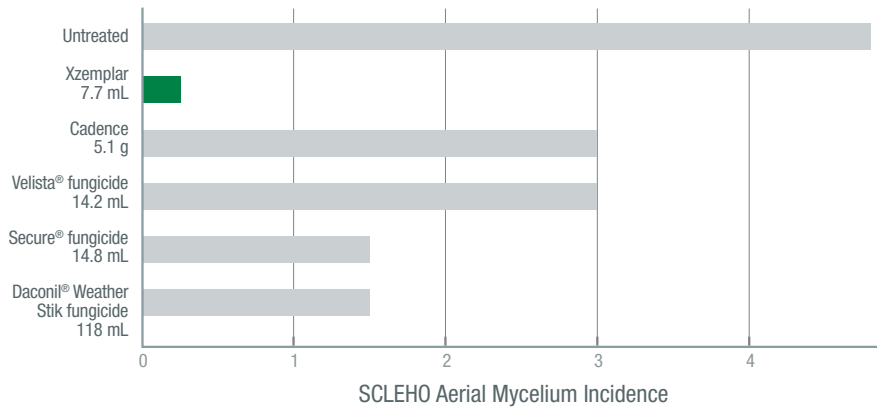
# The cornerstone of your dollar spot program.

The most effective way to control dollar spot is to stay ahead of it. With **Xzemplar** fungicide as the cornerstone of your spray program, coupled with other BASF fungicides, you're equipped with one of the industry's strongest lines of defense against dollar spot. Just seven critical applications of BASF fungicides will help protect your turf from dollar spot and reduce resistance risk. Using a rotation of different FRAC groups is critical to reduce resistance risk.

### Start early.

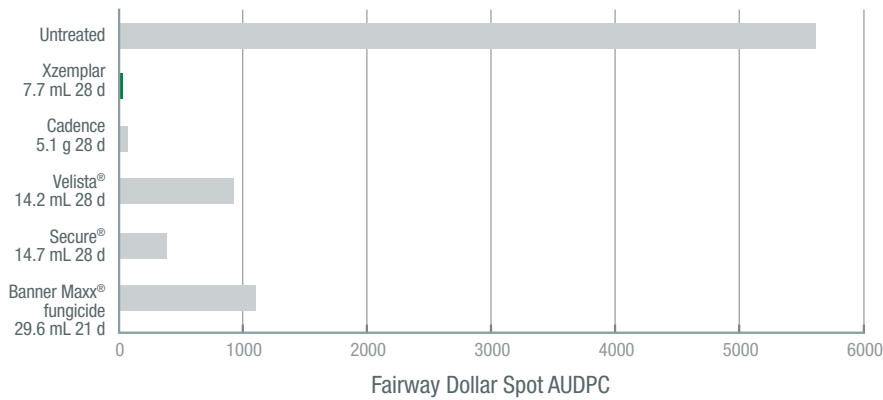
Treat your fairways with one application of **Cadence**® fungicide in the late spring and alternate with **Maxtima**® fungicide for exceptional safe-on-turf dollar spot control. Finish strong with **Xzemplar** in the fall to help maintain championship conditions your players will enjoy all season.

### Curative dollar spot control\*



Note: Observations 4 days after treatment on March 3, 2013 Source: John Inguagiato, Ph.D., University of Connecticut, 2013

### Preventive dollar spot control\*



Source: Joseph Roberts, Getaneh Achenef, Joseph Doherty and Cody Beckley, University of Maryland Turfgrass Pathology, 2016

\*All treatment units are per 100 m<sup>2</sup>

Cool-season turf disease control with **Xzemplar** fungicide.

Research from key universities has demonstrated the effectiveness of **Xzemplar** fungicide in controlling dollar spot.





# Maxtima®

Fungicide

A game-changing DMI that brings turf safety into the modern era.

Maxtima® fungicide is the new turf-safe, broad-spectrum demethylase inhibitor (DMI) you can afford to spray at any temperature, on any turf, anywhere on your course to bring disease-free playing conditions to more areas than ever before.

## How Maxtima works.

Powered by Revyso®<sup>1</sup>, Maxtima is a DMI systemic fungicide that provides fast control of key diseases and long-lasting protection.

## This unique chemistry delivers:

- Enhanced binding power: Molecule flexes to accommodate differing binding pocket structures, enhancing performance on DMI-resistant diseases
- Proven turf safety
- Powerful residual for long-lasting control of the diseases that affect warm- and cool-season turf
- Favourable regulatory profile for lower use rates coupled with lower toxicity to non-target organisms

## Diseases controlled

Anthracnose, brown patch, brown ring patch, dollar spot, fairy ring, gray snow mold, summer patch, take-all patch and suppression of pink snow mold and microdochium patch

### Active ingredient

Mefentrifluconazole – 400 g/L

### Fungicide class

DMI or Demethylation Inhibitors (Group 3)

### Formulation

Suspension concentrate (SC)

### Packaging

2 x 3.16 L

### Rate

6.25 to 25 ml/100 m<sup>2</sup>

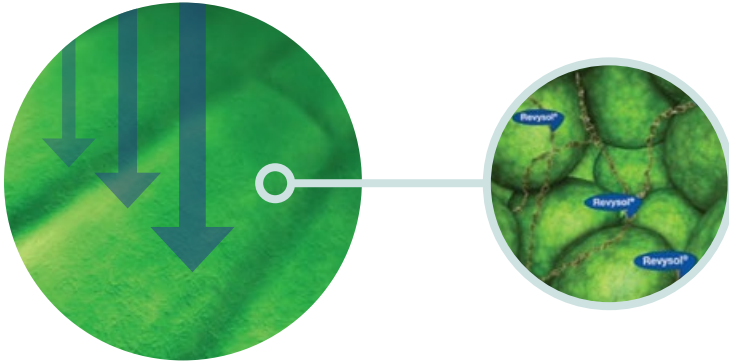
Maximum 7.5 L/ha annually

### NC State University, 2022 ratings\*

- Anthracnose: 4/4
- Dollar Spot: 4/4
- Fairy ring: 4/4
- Summer patch: 3/4

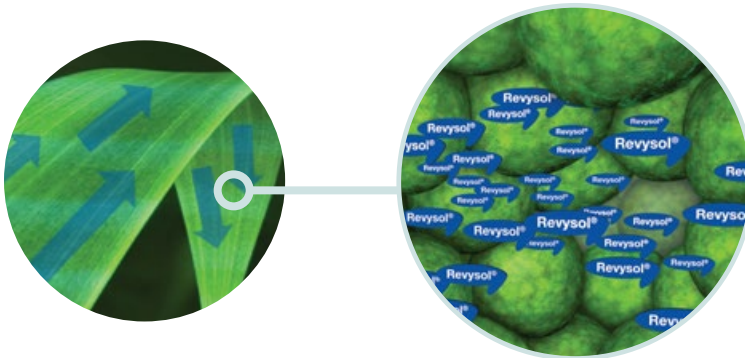
\* 1 – Good control when disease pressure is low  
2 – Good control when disease pressure is moderate, excellent control when disease pressure is low  
3 – Good control under high disease pressure, excellent control when pressure is moderate  
4 – Excellent control when conditions are highly favourable for disease development

## Strong efficacy



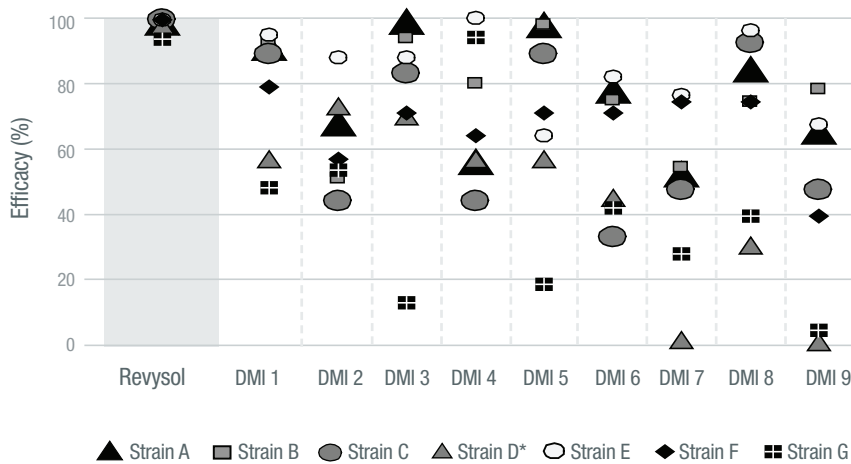
Rapid uptake of Revysol provides outstanding and quick action to stop infection.

## Long-lasting protection



After uptake, the majority of Revysol is well-protected in the inner leaf. Slow release from this inner-leaf reservoir provides long-lasting protection.

## Revysol provides outstanding activity against DMI-resistant Septoria isolates



Efficacy of various DMI compounds against highly adapted strains of *Zymoseptoria tritici* in the glasshouse (inoculation one day after application; 33% of the registered dose rate). \*Strain D = Phenotype with increased efflux

## Controls the toughest diseases.

Superior control of anthracnose, brown patch, dollar spot, fairy ring, gray snow mold, summer patch and take-all patch.

## Strong residual.

Strong residual coupled with fairway price.

## Advanced turfgrass safety.

Advanced turfgrass safety on any turf, in any season.

## Unique DMI chemistry.

Rotation partner for greens, fairways and tees.







**Intrinsic<sup>®</sup>**  
Brand Fungicides

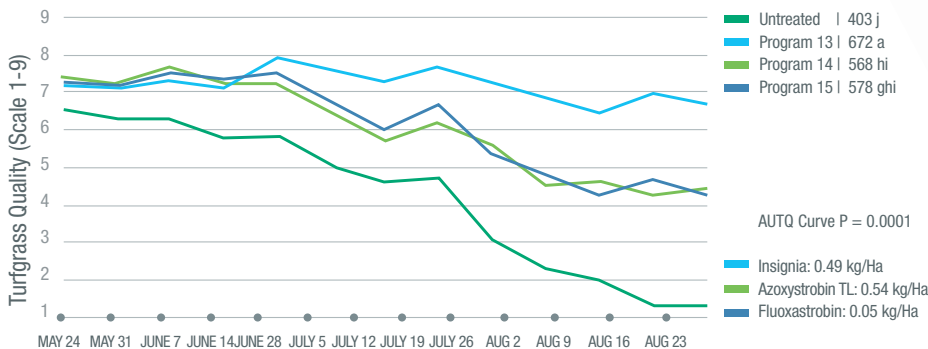
# Intrinsic brand fungicides: The power within.

For healthy, quality turf that's impressive from the inside out, superintendents rely on Intrinsic<sup>®</sup> brand fungicides. The Intrinsic brand is an innovative line of fungicides that provide superior, broad-spectrum control and a strong foundation of plant health benefits that make it easier for turf to handle the toughest pressures for championship conditions—all year long.

## Rely on proven solutions to maximize turf health.

- Protect your greens with Honor<sup>®</sup> fungicide, the broadest spectrum label available in Canada
- Control key diseases, like gray snow mold, pink snow mold and microdochium patch, on greens, tees and fairways with Insignia<sup>®</sup> Pro fungicide

## Disease control for healthier turfgrass with Insignia.



Source: Summer Stress Bentgrass Trial, Clemson, 2010. Strobilurins applied May 31 and June 21. All other products in the rotation were exactly the same in Programs 13, 14 and 15. AUTQ = Area under the Turfgrass Quality Curve

## Disease resistance:

Controls up to 20 diseases with up to 28 days of residual control

## Greater growth efficiency:

Proven **Plant Health Benefits**<sup>1</sup> for longer, stronger roots

## Stress tolerance:

Faster recovery time from extreme temperatures, drought and mechanical stress



<sup>1</sup> Plant Health Benefits refer to products that contain the active ingredient pyraclostrobin.



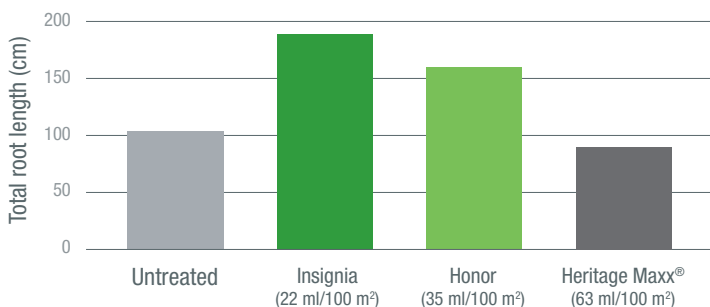
## Improved plant health with pyraclostrobin.

- Net photosynthesis: A reduction in the turf's rate of respiration results in an increase in carbon available for growth and development
- Increased nitrate reductase activity
- Reduced ethylene production
- Increased activity of stress-reducing enzymes (antioxidants)

## Benefits with Intrinsic applications.

- Enhanced root growth
- Reduced canopy temperatures
- A turf stand better able to withstand environmental and mechanical stress

## Increased root length with Intrinsic.



Source: Arizona State University, Umeda, 2010



# Honor<sup>®</sup>

Fungicide

## Controls turf diseases while helping turf mitigate and recover from minor stress.

Honor<sup>®</sup> fungicide offers 28 days of control for 20 turf diseases, including summer patch, anthracnose and dollar spot.

- Multiple modes of action for control of dollar spot
- Unique Intrinsic<sup>®</sup> **Plant Health Benefits**<sup>1</sup> can help turf mitigate environmental and mechanical stress

### How Honor works.

Honor contains both Groups 7 and 11 fungicide active ingredients and is formulated as a dry granule, to dissolve in solution quickly and easily. Honor binds tightly to the waxy cuticle of turf and translocates quickly into the plant, making it rapidly rainfast. Honor protects against diseases by disrupting the fungal cells' ability to produce energy, thereby stopping spore germination and fungal growth. Translaminar and locally systemic, Honor protects the entire leaf surface.

### Diseases controlled.

Anthracnose, bentgrass dead spot, brown patch, brown ring patch, dollar spot, fairy ring, fusarium patch/pink snow mold, gray leaf spot, gray snow mold/typhula blight, leaf spot, melting out, powdery mildew, pythium blight, pythium root dysfunction, rapid blight, red thread, rhizoctonia leaf or sheath spot, rust, summer patch, take-all patch

<sup>1</sup> **Plant Health Benefits** refer to products that contain the active ingredient pyraclostrobin.

### Timing

Apply Honor prior to the onset of disease. To optimize the **Plant Health Benefits**<sup>1</sup> of Intrinsic, apply prior to environmental or mechanical stress.

### Active ingredient

Boscalid – Group 7  
Pyraclostrobin – Group 11

### Packaging

2 x 1.42 kg

### Rate

16.8 to 35 g/100m<sup>2</sup>  
Refer to label for specific disease rate

### NC State University, 2022 ratings\*

- Anthracnose: 4/4
- Dollar Spot: 4/4
- Fairy ring: 4/4
- Summer patch: 4/4

\* 1 – Good control when disease pressure is low  
2 – Good control when disease pressure is moderate, excellent control when disease pressure is low  
3 – Good control under high disease pressure, excellent control when pressure is moderate  
4 – Excellent control when conditions are highly favourable for disease development



## Enhanced root growth



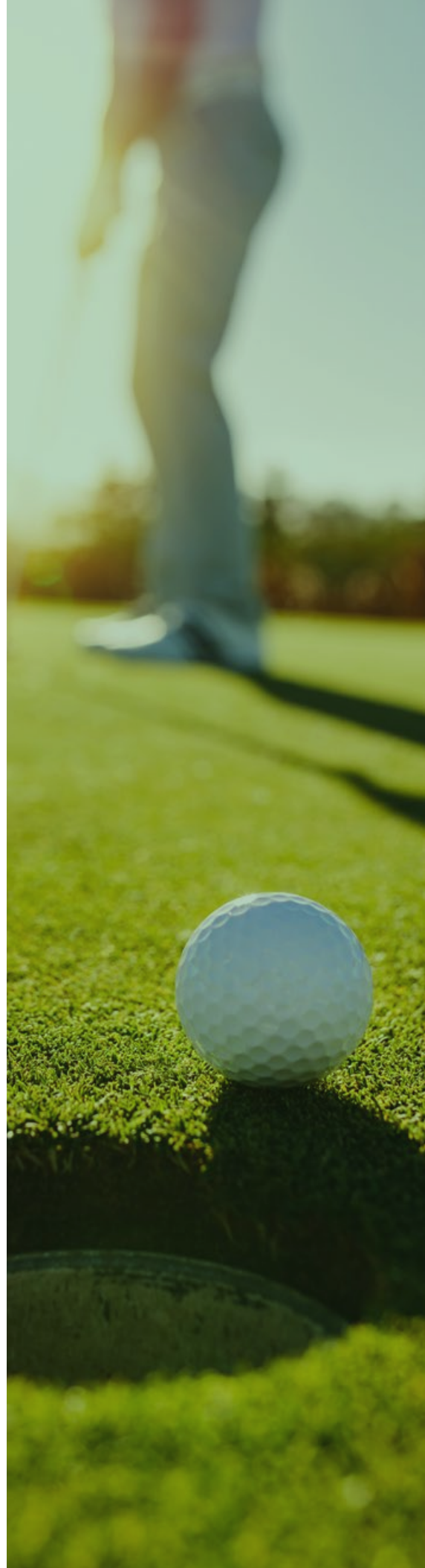
Untreated

Honor

Azoxystrobin

## Aerification recovery

	After 1 week	After 2 weeks	After 3 weeks
<b>Honor</b>	25%	58%	67%
<b>Azoxystrobin</b>	19%	47%	55%
<b>Untreated</b>	13%	50%	55%



# Insignia® Pro

Fungicide

Enhanced snow mold control in turfgrass.

New Insignia® Pro fungicide combines two liquid snow mold control products in a convenient premix to provide enhanced control of both pink and gray snow mold.

- As an Intrinsic® brand fungicide, it provides **Plant Health Benefits**<sup>1</sup> for broad-spectrum disease control, stronger roots and higher stress tolerance to survive the winter
- Reduces fall environmental stress to promote carbohydrate production and root growth for survival during extended periods of ice cover in winter
- Comparable performance in snow mold trials to treatment combinations with 3 to 10 times the active ingredient load
- Offers a shorter re-entry interval, compared to competitors, for flexibility and convenience
- Apply with fludioxonil for additional protection under high pressure situations

<sup>1</sup> **Plant Health Benefits** refer to products that contain the active ingredient pyraclostrobin.

## Active ingredients

Pyraclostrobin – Group 11

Mefentrifluconazole – Group 3

## Packaging

One case of Insignia Pro contains:

2 x 2.53 L jugs

1 case will treat 2 to 3 hectares.

## Diseases Controlled

Pink snow mold

Gray snow mold

## How it works

Insignia Pro uses two active ingredients that are rapidly absorbed by the leaves. They control snow mold by interfering with sterol and cell membrane biosynthesis and inhibiting fungal spore germination, mycelial growth and sporulation.



# Premis® 200 F

Fungicide

Controls anthracnose and a broad spectrum of summer diseases.

With broad-spectrum control of up to 21 days, Premis® 200 F fungicide can be used whenever you need it, even during stress periods, and is an ideal rotational partner with Honor® fungicide for summer disease control.

## How Premis works.

Premis delivers exceptional value while controlling a broad spectrum of diseases even in the summer heat. It is quickly absorbed by leaves and crowns of treated turfgrass which makes it rapidly rainfast. For maximum efficacy, apply Premis preventively.

## Active ingredient

Triticonazole (Group 3)

## Packaging

2 x 3.2 L per case

## Diseases controlled

Anthracnose, dollar spot, red thread, rust and suppression of algae, fusarium patch and snow mold

## Rate

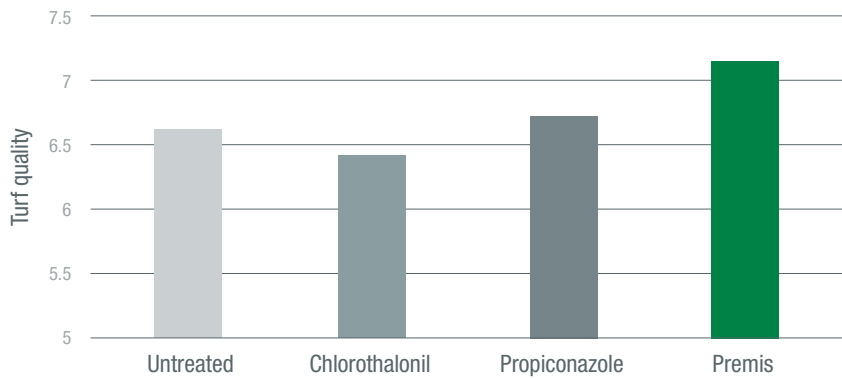
- Anthracnose: 16 to 21 ml/100 m<sup>2</sup>
- Dollar spot: 16 ml/100 m<sup>2</sup>

# Summer performance.

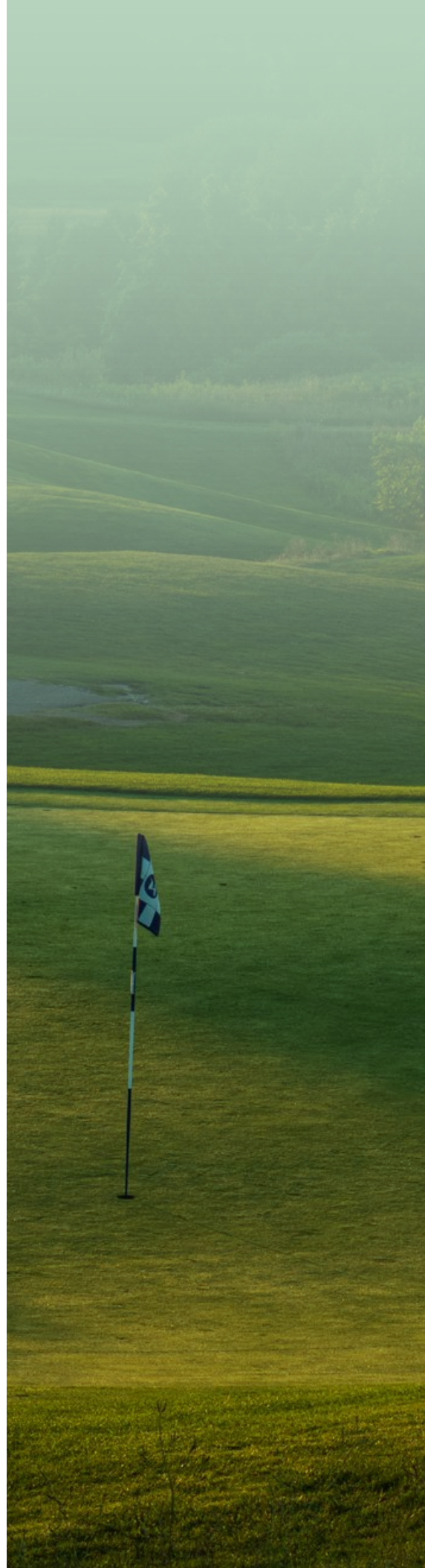
Premis can be used whenever it is needed, even during periods of extreme summer stress.

As a result, turf quality ratings for Premis are high, as shown in this North Carolina State University trial. Turf treated with Premis is free to grow a thick and rich canopy, which can help to suppress algae.

## Turf quality on a bentgrass/annual bluegrass putting green



Products were applied on a 14-day spray interval. Turf quality was evaluated 14 days after last application.  
Source: North Carolina State University, 2000





# Cadence® WDG

Fungicide

## The proven dollar spot specialist.

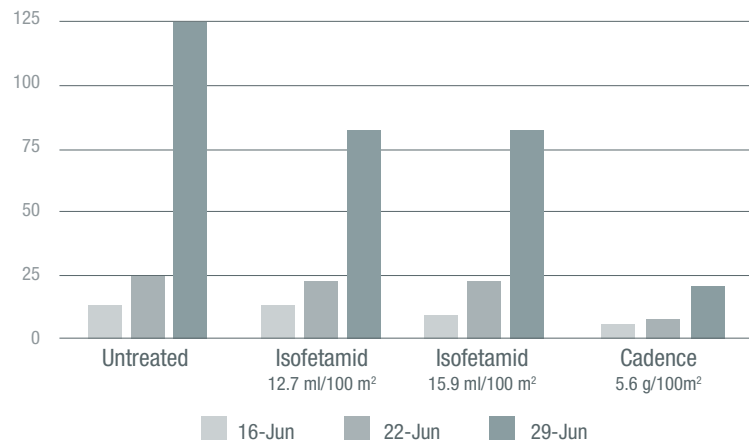
Cadence® fungicide provides proven, cost-effective dollar spot control with a short re-entry interval and is available in convenient packaging.

### How Cadence works.

Cadence prevents dollar spot infection by disrupting the fungal cells' ability to generate energy. Cadence protects the entire leaf with upwardly systemic and translaminar movement in the plant and is rainfast in just one hour.

### Cadence performance on dollar spot compared to competitor.

#### Mean number of dollar spot lesions



Source: OJ Noer Turfgrass Research and Education Facility, Madison, WI, 2015

### Active ingredient

Boscalid (Group 7)

### Packaging

3 x 162 g envelopes  
(1 case of 486 g treats  
2.14 to 3.76 acres)

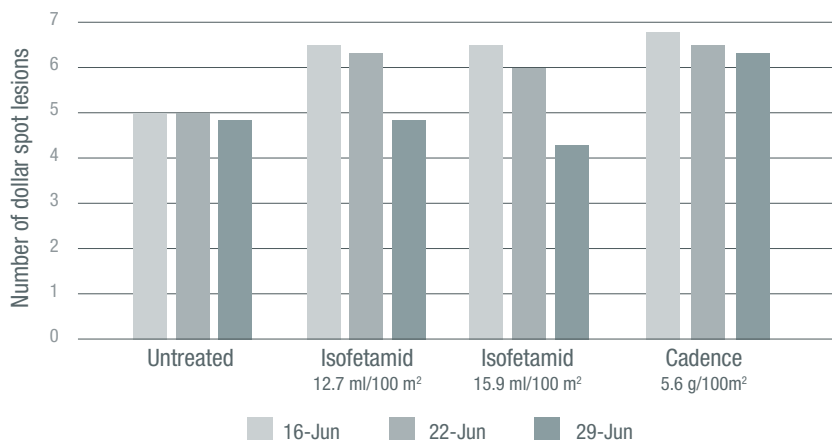
### Rate

3.2 to 5.6 g/100 m<sup>2</sup> for a  
14 to 28-day interval

### Vincelli rating

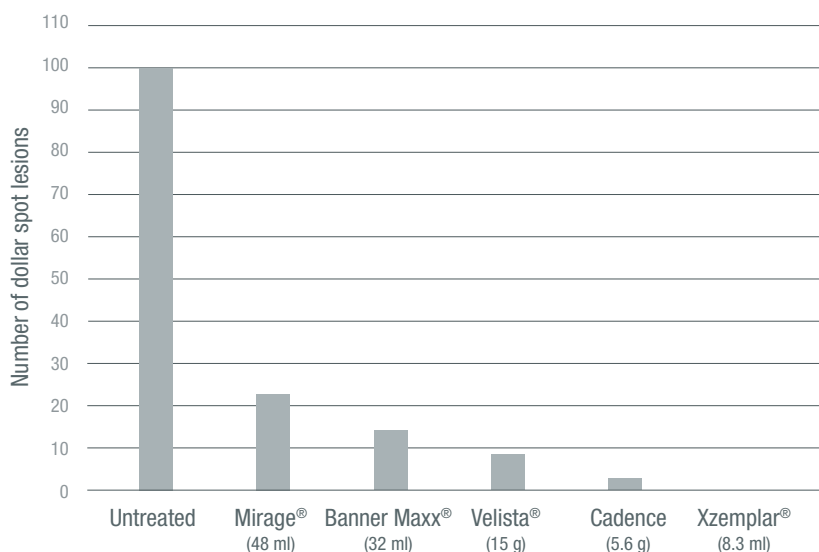
■ Dollar spot: 4/4

## Mean turfgrass quality



Source: OJ Noer Turfgrass Research and Education Facility, Madison, WI, 2015

## Dollar spot control on a bentgrass fairway



Applications were made at 21-day intervals on June 9, June 30 and July 21. Observations were made on August 11.  
Source: Rutgers, 2015

## Timing

- For optimal dollar spot control, apply Cadence before symptoms appear for up to 28 days of control
  - Preventive applications protect turf quality, keep disease pressures low and prevent the development of resistance
- If dollar spot develops before a preventive application of Cadence, tank-mix Cadence with chlorothalonil to stop active mycelium and provide extended residual control





# VisionPro HD

Colourant

The next generation of turf colourant.

Vision Pro™ HD turf colourant gives your turf a natural, consistent green colour throughout the application period. Vision Pro HD does not break down in UV light and is a compatible tank-mix partner.

## Timing

Vision Pro HD can be applied any time turf would benefit from a natural green colour. The ideal time to apply is in early spring and/or late fall.

## Packaging

4 x 3.78 L

## Rate

1.2 to 2.4 L/ha







We create chemistry

# Regional Turf Spray Programs from BASF.

Find the best disease solutions for your turfgrass with a customized rotation management plan tailored to your region with BASF Regional Turf Spray Programs at [BetterTurf.ca](http://BetterTurf.ca)

For more information on our turf solutions, contact your local BASF Turf representative or visit [www.BetterTurf.ca](http://www.BetterTurf.ca)

## Always read and follow label directions.

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