Nufarm Agriculture Inc. | Canada

TURF PRODUCT GUIDE 2025

Solutions | Expertise | Value

Nufarm

Grow a better tomorrow

LESS MOWING, LESS CLIPPINGS

IMPROVE TURFGRASS QUALITY AND APPEARANCE

MORE EVENLY REGULATE POA IN MIXED STANDS

Anuew™

Anuew is a proven plant growth regulator breakthrough, saving superintendents time with less mowing and fewer clippings while improving the overall playability of greens, tees and fairways.

EXCEL
NUFARM LEADERSHIP PROGRAM

INVESTING IN THE FUTURE

The EXCEL Leadership Program offers leading development opportunities for assistant superintendents.

Founded by Nufarm and GCSAA

Nufarm
Grow a better tomorrow

We're here to help you grow a better tomorrow.

Find known and trusted solutions inside, and know our products come backed with Nufarm service and support.

Plant Growth Regulator

Fungicides

Herbicides

Fungicides

■ = key diseases controlled
S = key diseases suppressed
see product label for complete list

	Affirm™ WDG	Tourney®
Anthracnose	■	■
Brown patch	■	■
Dollar spot		■
Fairy ring	■	■
Grey snow mould	S	■
Leaf spot / melting out	■	
Pink snow mould	S	■
Red thread	■	
Rusts		
Summer patch (Poa patch)		■
Take-all patch		
Waitea patch (brown ring patch)	■	■
Yellow patch	■	

Herbicides

■ = key weeds controlled
S = key weeds suppressed
see product label for complete list

	Velocity® SP	Trillion®	2,4-D Amine 600	MCPA Amine 600	SureGuard® EZ
Annual bluegrass	■				
Annual sow-thistle			■	S	■
Bedstraw		■			
Black medic (yellow clover)		■			
Bluebur			■	■	
Burdock			■	■	
Buttercup		■			
Clover		■			
Cocklebur			■	■	
Common chickweed		■	S	S	■
Daisy fleabane			■	S	
Dandelion	S	■	S	S	■
Devil's paint brush		■			
English daisy		■			
False flax			■	■	
Flixweed			■	■	
Goat's beard			■	S	
Ground daisy		■			
Ground ivy (creeping Charlie, knotweed)		■			
Heal-all		■	S	S	
Kochia			■	S	■
Lamb's-quarters			■	■	■
Mustards (except dog and tansy)			■	■	
Narrow-leaved hawk's beard			■		
Plantain (common)		■	■	S	
Poison ivy		■			
Prickly lettuce			■	■	
Ragweeds		■	■	■	■
Redroot pigweed			■	■	■
Russian pigweed			■	■	
Russian thistle			■		S
Shepherd's-purse		■	■	■	
Stinging nettle			■	S	
Stinkweed (field pennycress)			■	■	
Sweet clover			■		
Thyme-leaved spurge			■		
Vetch				■	
White clover	S	■			
Wild radish			■	■	
Wild sunflower			■	■	

Your best solution to manage turfgrass growth, improve quality and appearance.

Anuew™

CHALLENGE

As input costs continue to rise maintaining top quality turf conditions is becoming more difficult. What if you could improve playing conditions while saving labour and dollars with less applications, less mowing and less clippings?

NUFARM SOLUTION

Anuew™ is a proven plant growth regulator breakthrough, saving superintendents time with less mowing and fewer clippings while improving the overall playability of greens, tees and fairways. Anuew Plant Growth Regulator is a late-stage inhibitor with a novel mode of action that can be used on all managed turf areas to improve turfgrass quality, density and appearance. Anuew is more active and longer lasting than other late-stage growth regulators on cool-season turf, providing more regulation activity at lower doses. It is also the only PGR that can evenly regulate Poa in mixed stands.

REGISTERED USES

Turfgrass on golf courses, sod farms, sports fields, municipal sites and cemeteries

USE SITE	TURF TYPE	SLOWS VERTICAL GROWTH, REDUCES MOWING INTERVALS, IMPROVES COLOUR AND QUALITY	
		FAIRWAYS & ROUGHS 280–350 GDD INTERVAL	GREENS & TEES 280–300 GDD INTERVAL
		g/100 m²	g/100 m²
Golf course	Bent grass	4.20–8.41	1.40–5.60
	Annual and perennial *Poa annua* cultivars	2.80–5.60	1.40–5.60
	Kentucky bluegrass Perennial ryegrass Tall fescues Fine fescue	5.60–11.21	N/A
		g/100m² (280–350 GDD)	
Sod farms Sports fields Municipal sites Cemeteries	Kentucky bluegrass Perennial ryegrass Tall fescues Fine fescue	5.60–11.21	

NOTES

- This is a GDD model with a base temperature of 0° Celsius.
- Since turfgrass response can be influenced by a variety of factors, it is recommended that the initial evaluation of Anuew should be limited to a small area. The acceptability of the turfgrass response should be determined using a lower use rate and longer interval before gradually moving to higher rates and shorter intervals until a desired level of regulation is achieved.
- Anuew is an effective growth regulator on Poa annua and you may experience over regulation and temporary yellowing with early season applications.

ACTIVE INGREDIENT

> prohexadione-calcium (27.5%)

FORMULATION

> wettable granules

CHEMICAL FAMILY

> acylcyclohexadiones

PACKAGE SIZE

> 4 x 4 x 680 g case

RAINFAST

> 4 hours

APPLICATION / SEASON

> do not exceed 21.82 kg/ha or 218.2 g/100 m² of Anuew per year

SURFACTANT NEEDED

> no

PCP

> 34508

BENEFITS

- Fast improvement of turfgrass density and appearance
- Long lasting and more active at lower application rates
- Late-stage inhibitor that evenly regulates Poa in mixed stands

PERFORMANCE TIPS

- Treat actively growing turfgrass
- For best results-wait at least one day after applying Anuew before resuming mowing and do not irrigate treated area for 4 hours after application
- Maximize the time the applied spray mixture remains as a moist film on the turfgrass foliage by avoiding treatments during warm, low humidity and windy conditions. Longer drying times enhance absorption of Anuew.
- Use of a non-ionic surfactant at 0.125% v/v may improve performance consistency under hot, quick drying conditions
- If the water source used for the spray mixture is high (greater than 140 ppm or 140 mg/L) in calcium, add 0.45 kg of ammonium sulfate for every 0.45 kg of Anuew used in the spray tank. Use a high quality, spray-grade ammonium sulfate product to avoid nozzle plugging.

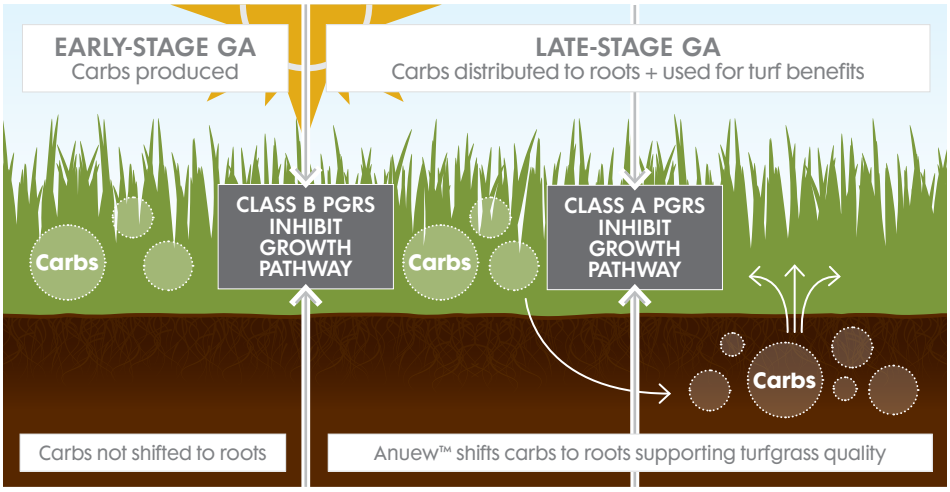
ANUEW USE SUMMARY

Apply Anuew when turf is green and actively growing. Re-application of Anuew should be based on a Growing Degree Day (GDD) model using environmental data from the use location. Research has shown that 280–350 GDD should be used for reapplication timings for common golf situations. Apply in sufficient volume of water to provide uniform and complete wetting of the turfgrass foliage.

Always read and follow label directions.

HOW CAN I BENEFIT FROM A LATE-STAGE INHIBITOR?

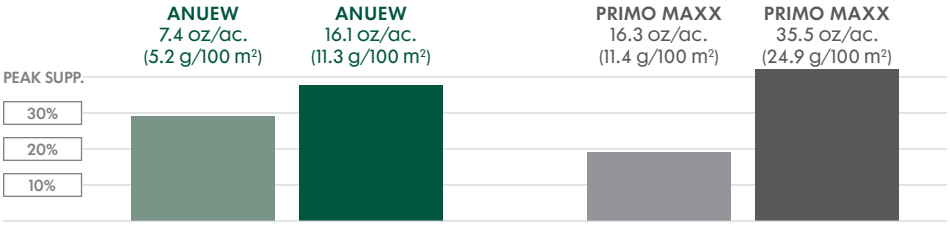
Unlike early-stage inhibitors, Anuew shifts carbohydrates to the plant roots to visibly improve turfgrass quality, density and appearance.



ANUEW OUTPERFORMS THE COMPETITION

SAVE LABOUR WITH REDUCED MOWINGS AND CLIPPINGS

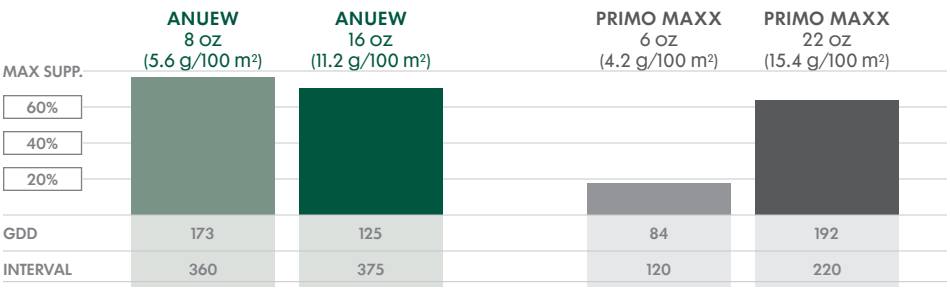
Anuew is more active than Primo Maxx® at lower application rates. On bentgrass, it delivered nearly 20% more suppression at less than half the dose (209.8 g Anuew vs. 462.1 g Primo Maxx). Anuew also achieved 38% regulation using only 456.4 g/acre.



B. Kreuser, University of Nebraska-Lincoln, 'L-93' Creeping Bentgrass Fairway
Applied Jun 19 and Aug 11, final clippings collected Sept 15

MORE EVENLY REGULATE POA IN MIXED STANDS

Anuew PGR is the only class A inhibitor to evenly regulate Poa in mixed stands. Due to its unique metabolism, Anuew strongly regulates fast-growing Poa, providing the benefit of more even growth in mixed bentgrass/Poa stands.



Maximum suppression, Poa focus
J. Borger, Penn State University, 2016

LEGEND

PRE-EMERGE · POST-EMERGE · RESIDENTIAL · COMMERCIAL · TURF · GOLF TURF · SOD FARMS · CURATIVE · PREVENTIVE

Manage basal rot anthracnose and rhizoctonia diseases with Affirm's unique biological mode of action.

Affirm™ WDG

CHALLENGE

Managing turfgrass disease and disease resistance development are both of high importance. When many of the products available to control troublesome disease work through the same mode of action, it can be difficult to create a fungicide rotation program that works well at tackling the disease and managing development of resistance. Canadian superintendents need additional products with unique FRAC numbers to include in their programs.

NUFARM SOLUTION

Affirm™ WDG biological fungicide offers a unique mode of action to control many tough turf diseases while helping to mitigate disease resistance development. Affirm has been a proven leader in the United States, delivering excellent control to anthracnose and rhizoctonia diseases. In Canada, superintendents can also count on Affirm for Waitea patch control and snow mould suppression. Plus, Affirm may be tank-mixed with Tourney® for increased dollar spot control.

REGISTERED USES

Turfgrass on golf courses, sod farms, commercial and industrial lawns – creeping bentgrass, creeping fescues, Kentucky bluegrass, perennial ryegrass, and *Poa annua*, plus outdoor ornamentals

DISEASES CONTROLLED	APPLICATION RATES g/100 m²	APPLICATION NOTES	VINCELLI RATING
Anthracnose	27	Apply in 6–8 L of water per 100 m² on 14-day interval. Preventive and curative use: Apply when conditions favour disease development or turf has a history of disease and at first appearance of disease symptoms.	3
Brown ring patch/ Waitea patch			3
Red thread			4
Brown patch	27	Apply in 6–8 L of water per 100 m² on 14-day interval. Preventive use: Apply before disease symptoms are observed when conditions favour disease or turf has a history of disease.	3.5
Leaf spot and melting out Yellow patch			L
Fairy ring (types I and II)	27	Apply in 11–17 L of water per 100 m² on 7- to 14-day interval. Tank-mix with non-ionic surfactant applied at 130–190 mL/100 m². Preventive and curative use: Apply when conditions favour disease development or turf has a history of disease and at first appearance of disease symptoms.	2
Grey snow mould (suppression)	27	For snow mould suppression, apply in minimum of 8 L of water per 100 m² in fall. Reapply on 21-day interval in late fall or early winter.	L
Pink snow mould (suppression)			3.5

ACTIVE INGREDIENT
> polyoxin D zinc salt (11.3%)

FORMULATION
> water-dispersible granule

CHEMICAL FAMILY
> polyoxins

PACKAGE SIZE
> 3 x 1.09 kg bag
> 1 bag treats 1 acre (at 27 g/100 m²)

RAINFAST
> avoid application when heavy rain is forecast

APPLICATION / SEASON
> 3

SURFACTANT NEEDED
> non-ionic surfactant for root diseases

PCP
> 32920

FRAC
> 19

BENEFITS
- Unique FRAC 19 offers a new tool for disease resistance management rotation programs
- Bio-fungicide that controls all rhizoctonia diseases, anthracnose, and suppresses grey and pink snow mould
- Works through contact and translaminar activity for up to 14 days of control
- Tank-mix compatible, good partner with Tourney for control of listed diseases and dollar spot
- Excellent rotation partner for managing resistance to SDHI and DMI fungicides

PERFORMANCE TIPS
- Combine with a DMI fungicide for best control of anthracnose and dollar spot
- To prevent disease from spreading onto golf greens, always treat aprons and fairway approaches
- In high pH situations (8 or above) performance could be compromised and an acidifying agent is recommended


Jeff Sexton, Madisonville Country Club, Bugwood.org

ANTHRACNOSE CONTROL

Although anthracnose can be found on fairways, tees, and rough, it is most prone on golf greens and most devastating to creeping bentgrass and annual bluegrass. Anthracnose may develop in two forms: basal rot or foliar blight. Disease symptoms vary greatly ranging from small, irregular spots 1–10 centimeters to large circular patches up to 1 meter in diameter. In the case of basal rot look for dark and rotten leaf sheaths, crowns, and stolons. Foliar blight will start at the leaves, dying back from tips of the oldest leaves before progressing to newer growth. Since anthracnose is stress induced, close mowing and excessive traffic make course greens a prime host candidate. Untreated, anthracnose may cause severe turf damage.

PREVENTIVE CONTROL >> % INFESTED ON BENTGRASS/POA

AFFIRM WDG 27 g/100 m² /VS/ **UNTREATED**
B. Clarke, Rutgers Poa/bent green 2008.

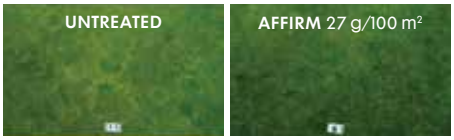
AFFIRM WDG August 10 /VS/
AFFIRM WDG September 1 /VS/
UNTREATED
J. Geunhwa, Univ Wisc 2005. Affirm WDG applied at 27 g/100 m². 14 day treatments applied June 20, July 5, August 1 and August 15.

WAITEA PATCH CONTROL

Waitea patch occurs when temperatures are around 26°C. Temperatures around 32°C during the day often result in more dramatic symptom patterns. This is a rhizoctonia-like fungus also known as brown ring patch. The disease looks superficially like yellow patch, which can lead to early mis-diagnoses. Unlike yellow patch, Waitea patch typically develops in asymmetrical patches. The outer edge of the patch may turn brown but in many cases the predominate symptom pattern is yellow rings from 3–30 centimeters in diameter. Infected areas tend to be soft and sunken as the pathogen degrades thatch on greens. If left untreated or treated too late, it causes a major change in the putting surface that will take the greens a long time to recover from.

CURATIVE CONTROL >> % DISEASE

AFFIRM WDG 27 g/100 m² /VS/ **UNTREATED**
Torrey Pines GC, F. Wong (UC-R) and L. Stowell (Pace). Applied May 12.



Poa green, Torrey Pines GC, San Diego CA. Brown ring patch is caused by the fungus Waitea circinata. Two weeks after treatment, May 26. Photo by L. Stowell


William M. Brown Jr., Bugwood.org

SNOW MOULD CONTROL

Grey snow mould: Grey snow mould is usually found in areas with the greatest snow accumulation. You'll notice white crusted areas of grass in which blades are dead, bleached and matted together. The bleached areas range from 7–30 centimeters across. A key indicator is the presence of hard pinhead-sized fungal bodies called sclerotia. Light to dark brown in colouring, sclerotia are embedded in the leaves and crown of infected grass plants. Grey snow mould typically only damages the blades of grass.

Pink snow mould: Fungal spores are web-like and pile up on the leaves of infected grasses, producing a white to pink to salmon colour on circular patches of matted grass. On taller-mown turf, disease patches may not be circular. Pink snow mould does not produce sclerotia. Under severe conditions, the fungus can kill the crowns and roots of grass as well as the blades. Unlike grey snow mould, snow cover is not necessary for pink snow mould infection.

SNOW MOULD >> % DISEASE ON BENTGRASS

AFFIRM WDG + TOURNEY /VS/ **UNTREATED**
Applied November 5 to bentgrass at 27 g/100 m² Affirm WDG + 11.2 g/100 m² Tourney. Fred Vaughn, Horseshoe Valley, ON, 2013

SNOW MOULD >> % DISEASE ON BLUEGRASS

AFFIRM WDG + TOURNEY /VS/ **UNTREATED**
Applied November 15 to bluegrass at 27 g/100 m² Affirm WDG + 11.2 g/100 m² Tourney. Fred Vaughn, Barrie, ON, 2013

LEGEND

PRE-EMERGE · POST-EMERGE · RESIDENTIAL · COMMERCIAL · TURF · GOLF TURF · SOD FARMS · CURATIVE · PREVENTIVE

Exceptional broad-spectrum control of tough turfgrass diseases from one of the most active, low use rate fungicides on the market.

Tourney®

CHALLENGE

Maintaining top quality turf is a tough job. Every season brings new disease challenges for sod farmers and superintendents. In the high value turfgrass market, diseases pose one of the biggest challenges, leaving supers looking for options for broad-spectrum disease control.

NUFARM SOLUTION

Tourney® fungicide delivers broad-spectrum disease control for exceptional turf quality while reducing the overall environmental load. The active ingredient, metconazole, is one of the most active and has the lowest use rate, compared to other demethylation inhibitor (DMI) fungicides.

REGISTERED USES

Turfgrass on golf courses and sod farms

DISEASES CONTROLLED	APPLICATION RATES mL/100 m²	INTERVAL days	APPLICATION NOTES	VINCELLI RATING
Anthracnose basal rot Anthracnose foliar blight	8.4	14	Use preventively when conditions favour disease development. Apply in 8 L of water per 100 m² for foliar blight and 8–16 L of water per 100 m² for basal rot.	3
Brown patch	8.4–11.2	14	Use preventively when conditions favour disease development. Apply in 8 L of water per 100 m².	3
Dollar spot	8.4–11.2	10–21	Use higher rates when the turf is under high dollar spot pressure. Apply in 8 L of water per 100 m².	4
Fairy ring	11.2	21	Apply as soon as possible after first symptoms appear. Apply in 16 L of water per 100 m². Symptoms may take several weeks to disappear following an application.	3
Grey snow mould*	11.2	—	Apply in late fall before snow cover. Make the application before the turfgrass enters dormancy (usually after the last mowing of the season) and before the first snow fall. Apply in 8 L of water per 100 m².	2
Pink snow mould*				3.5
Summer patch	11.2	14–21	Use preventively when conditions favour disease development in the spring and fall. Apply in 16 L of water per 100 m².	3
Waitea patch	11.2	14–21	Use preventively when conditions favour disease development. Apply in 8 L of water per 100 m².	3

* For best pink and grey snow mould control, Tourney must be tank-mixed with another fungicide active on snow mould (i.e. Affirm™ or chlorothalonil). See label for tank-mix partners.

ACTIVE INGREDIENT
> metconazole (50.0%)

FORMULATION
> water-dispersible granule

CHEMICAL FAMILY
> demethylase inhibitor (DMI)

PACKAGE SIZE
> 4 x 2.27 kg jug
> 1 jug treats 5 acres (at 11.2 g/100 m²)

RAINFAST
> 2 hours

APPLICATION / SEASON
> 1

SURFACTANT NEEDED
> no

PCP
> 30928

FRAC
> 3

BENEFITS

- Systemic activity works quickly to control a broad spectrum of the toughest turf diseases
- Low use rates lessen the environmental load
- Most active DMI on the market, providing fast, effective and consistent control for 14 to 21 days
- Works as a preventive fungicide to prevent spore formation and inhibit mycelial growth
- Use in a regularly scheduled spray program for optimal disease control and in combination and/or rotation with fungicides that have a different mode of action (not Group 3)

PERFORMANCE TIPS

- Apply as a foliar spray when targeting foliar diseases or as a drench when targeting crown and/or root diseases

TIMING

- Spring: broad-spectrum clean up
- Summer: broad-spectrum control
- Fall: clean up
- Winter: snow mould control

SPRING CLEANUP PROGRAM

A spring application of Tourney will control up to 6 key diseases, including dollar spot, summer patch, basal rot and foliar blight anthracnose, brown patch and Waitea patch. Tourney is xylem mobile, so a high volume spray targeting soil-borne diseases also protects against foliar disease such as dollar spot and anthracnose.

Early season dollar spot control: This is the most important dollar spot spray of the season. Early application reduces the primary inoculum of the dollar spot pathogen, which delays the development of an epidemic until mid-summer when dollar spot naturally goes dormant. Apply 8.4–11.2 g in 8 L of water/100 m². Tourney may be mixed with Pinpoint for exceptional dollar spot control.

SUMMER FAIRY RING CONTROL

One of more than 60 different fungi can cause fairy ring symptoms. All of these fungi feed on dead, organic matter (not grass roots) in thatch and soil. As the fungi thrive, the root zone becomes hydrophobic and water cannot penetrate. Ultimately, grass dies from the drought conditions.

Not only is it important to use an effective fungicide against tough diseases like fairy ring, it is also important to use a product that persists in the soil where the fungi survive.

Apply 11.2 g in 16 L of water/100 m² as soon as possible after the first symptoms appear.

FALL BEST PRACTICES – TIPS FOR REDUCING LATE SEASON TURF STRESS

- Adhere to fungicide programs (especially late-season)
- Increase mowing heights
- Strict water management – water deeply and infrequently but don't over water
- Syringing greens
- Use fans to improve air circulation
- Limit play or even close course for a few days
- Limit use of heavy machinery
- Increase nutrition to the plant
- Avoid topdressing until temperatures ease
- Delay core aerification until later in the season

FALL APPLICATION, TWO IMPORTANT BENEFITS

Stress recovery: Over summer, higher temperatures cause considerable turf stress above and below the surface – significantly weakening the plant's root system and, in turn, increasing turf susceptibility to disease outbreaks.

- Cooler temperatures alone aren't enough to help root systems recover from the stress induced by oppressive heat and humidity. Fungicides are essential to maintain and protect plant health.

Cleanup: The end of the season is time to prepare for the following season.

- A late season application of Tourney cleans up many diseases, including anthracnose and brown patch, the final season application can also help take down inoculum levels and reduce disease potential the following spring.

Apply 8.4–11.2 g in 8–16 L of water/100 m².

SNOW MOULD / BARRIE, ON >> % CONTROL

80% TOURNEY 11.2 g /VS/
84% CHLOROTHALONIL 303 g /VS/
97% TOURNEY + CHLOROTHALONIL 11.2 g + 303 g

SNOW MOULD / HORSESHOE VALLEY, ON >> % CONTROL

84% TOURNEY 11.2 g /VS/
72% CHLOROTHALONIL 303 g /VS/
95% TOURNEY + CHLOROTHALONIL 11.2 g + 303 g

WINTER SNOW MOULD CONTROL

Snow mould occurs during periods of cold weather but is not limited to snow-covered turf, as the name implies. Snow mould has been observed year-round in cool, humid regions, and nearly all turfgrass species are susceptible. Snow mould can be known as Microdochium patch or pink snow mould and Typhula blight or grey snow mould. Tourney fungicide is an integral component for a proven and consistent snow mould control program.

Apply 11.2 g in 8 L of water/100 m² in late fall.

For best performance on snow mould species, apply Tourney in late fall, before snow cover (usually after last mow of the season), make an application in combination with Affirm or chlorothalonil or other fungicides active on snow mould.

LEGEND

PRE-EMERGE · POST-EMERGE · RESIDENTIAL · COMMERCIAL · TURF · GOLF TURF · SOD FARMS · CURATIVE · PREVENTIVE

The only post-emergent herbicide that selectively reduces annual bluegrass populations.

Velocity® SP

CHALLENGE

Annual bluegrass (*Poa annua*), commonly known as Poa, is found on many golf courses and has a number of attributes that make it unappealing to turf managers. There are many ecotypes of annual bluegrass that each grow at different rates and when mixed with creeping bentgrass can contribute to uneven playing surfaces, create management challenges and increase overwintering risks. Transitioning annual bluegrass out of fairways and tees can be a tough task.

NUFARM SOLUTION

Velocity® SP herbicide is the best way to convert Poa-infested turf back to creeping bentgrass. A post-emergent herbicide, Velocity gives golf course superintendents an effective way to make a gradual transition from annual bluegrass infested turf to pure stands of creeping bentgrass. In addition, Velocity provides secondary benefits by suppressing dollar spot, dandelion and white clover.

REGISTERED USES

Golf course and sod farms – creeping bentgrass, Kentucky bluegrass, perennial ryegrass, and tall fescue

BEST MANAGEMENT PRACTICES

- Use lower rates and wider application interval for slowest conversion
- Vary your spray patterns to reduce overspray into Kentucky bluegrass collars
- Dollar spot suppression at 31 g/ha rate and higher
- Establish small marked plots and take photos of the same areas all season long to monitor species population shifts
- If you have difficultly re-establishing divots from seed while using Velocity reduce the rate and increase number of application to offset the lower rate (example, instead of 31 g applied every 28 days, modify to 16 g every 21 days)
- Don't make applications if soil is at field capacity or heavy rain is forecasted within 24 hours

ACTIVE INGREDIENT

> bispyribac sodium (76.1%)

FORMULATION

> water-dispersible granule

CHEMICAL FAMILY

> pyrimidinyl(thio)benzoate

PACKAGE SIZE

> 5 (4 x 56.7 g) soluble packets (one case)
> 1 packet treats 18 acres (at 31 g/ha)

RAINFAST

> avoid application when heavy rain is forecast

APPLICATION / SEASON

> do not apply more than a total of 370.8 g/ha per season

SURFACTANT NEEDED

> no

PCP

> 28833

WSSA GROUP

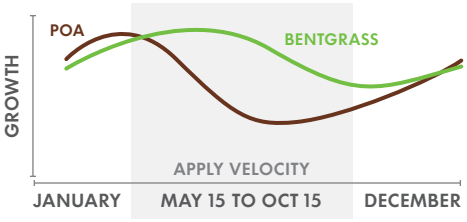
> 2

BENEFITS

- The only option available in Canada for golf courses and sod farms to remove annual bluegrass
- Selectively reduces the presence of Poa with certain species of turf including creeping bentgrass, perennial ryegrass, Kentucky bluegrass and tall fescue
- Part of a programmed approach to gradually transition Poa-infested turf back to pure stands
- Offers suppression of dandelion, white clover, and dollar spot

TIMING

- Apply May 15–October 15 once daily temperatures reach 21°C
- Do not apply if freezing air temperatures are predicted within 3 days of application

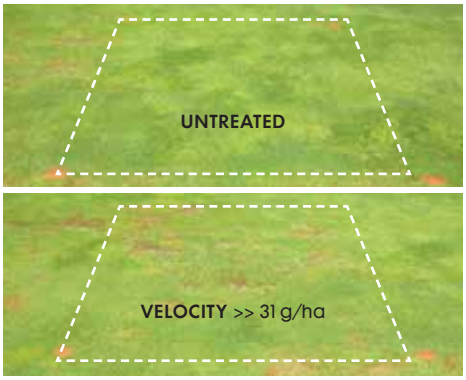


 This guide is intended to provide a product overview. See product labels for complete details and labeled use listing.

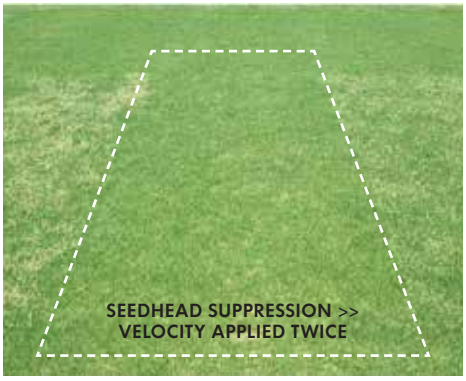
WHEN FACED WITH THE CHALLENGES OF MANAGING MIXED STANDS, CONSIDER A VELOCITY TRANSITION PROGRAM

Velocity SP is the only post-emerge herbicide to selectively remove annual bluegrass and offers 5 transition programs to convert turf back to pure stands. Pick your program depending on your infestation level and desired speed of conversion.

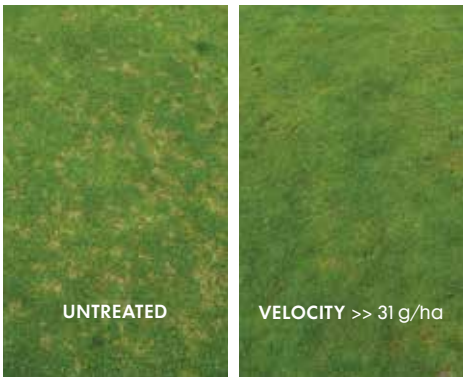
FIVE PROGRAM OPTIONS	PROGRAM RATES AND RECOMMENDATIONS
CREEPING BENTGRASS AND PERRENIAL RYEGRASS PROGRAMS	
PROGRAM 1 Slow Steady Removal of Small Poa Seedlings	• 16 g/ha every 21 to 28 days throughout the summer • In the fall, 1 application of 31 g/ha as late in the season as possible (without getting into freezing temperatures)
PROGRAM 2 Conversion Over 4 Years – 4 Applications Per Year	• 31 g/ha application – 2 applications in spring and 2 applications in fall on a 14-day interval • You'll see a dramatic reduction in Poa (expect a minimum of 75% over that time) in 4 years • Some yellowing to bentgrass may occur at 31 g/ha rate
PROGRAM 3 Complete Removal in 1 Season	• 31 g/ha every 7–10 days • Use only when complete removal of Poa is acceptable • Some yellowing to bentgrass may occur at 31 g/ha rate
PROGRAM 4 Quick Removal of Light Infestations (<15%)	• 93 g/ha 4 times every 14 days • Use for light infestations (<15%) for quick removal of Poa • Yellowing of bentgrass will occur at 93 g/ha rate
KENTUCKY BLUEGRASS AND TALL FESCUE PROGRAM	
PROGRAM 5	• 16–31 g/ha every 7–14 days • Begin early in the season – based on temperature and timing • Shorter mowing height will increase the tolerance of Kentucky bluegrass • Rates less than 31 g/ha greatly help to reduce any negative effects on all cultivars of Kentucky bluegrass



Wade Hampton Golf Course. Velocity applied at 31 g/ha. Pictures taken 14 days after fourth application.



Michigan State University. Velocity applied at 31 g/ha September 1 and October 1.



Michigan State University. Velocity applied monthly at 31 g/ha beginning on May 18. Pictures taken on August 24.

LEGEND

PRE-EMERGE · POST-EMERGE · RESIDENTIAL · COMMERCIAL · TURF · GOLF TURF · SOD FARMS · CURATIVE · PREVENTIVE

Keep container- and field-grown ornamentals and many bare ground areas weed free.

SureGuard® EZ

SureGuard® EZ provides outstanding weed control in field grown ornamentals. The liquid formulation pre-emergent herbicide controls select broadleaf and grass weeds in and around container grown ornamental decidious and coniferous trees, including non-bearing fruit and nut trees. SureGuard EZ also offers expanded vegetative management uses, including several bare ground application areas.

SureGuard EZ is proven to provide long-lasting pre-emergence control of a broad spectrum of weeds, including common chickweed and waterhemp, plus the suppression of moss and liverwort. SureGuard EZ can be applied in the late fall or winter (after two hard freezes up to bud break in the spring) to deliver control that activates in the spring and lasts through early summer.

KEY BENEFITS

- Long-lasting, pre-emergent control of annual broadleaf weeds and grasses
- Low water solubility for long residual control of tough weeds in a nursery setting
- Binds tightly to soil to reduce runoff
- Proven pre-emergent weed control that saves costly hand weeding
- Broad-spectrum control of tough broadleaf weeds
- Excellent crop safety (when used as per label)
- When tank mixed with glyphosate, provides superior knockdown and long residual control even on glyphosate resistant weeds

WEEDS CONTROLLED	APPLICATION RATES	APPLICATION NOTES
Canada fleabane Chickweed (common) Dandelion Eastern black nightshade Green foxtail Hairy nightshade Kochia Lamb's-quarters (common) Palmer amaranth Pigweed (green, redroot) Ragweed (common) Waterhemp **SUPPRESSED:** Liverwort Moss Volunteer canola (including tolerant varieties)	**Coarse-texture soil:** 298 mL/ha **Medium-texture soil:** 448 mL/ha	**Pre-emergence:** Apply prior to weed emergence. **Post-emergence:** When weeds are already emerged, apply as a tank mix with glyphosate product, present as isopropyl amine or potassium salt, at 1.2 kg a.e./ha. Apply only as a directed, shielded or hooded spray to established trees. Moisture is necessary to activate SureGuard EZ herbicide in soil for residual weed control. When adequate moisture is not received after application, weed control may be improved by irrigation with at least 1/2–1 cm of water.

ACTIVE INGREDIENT
> flumioxazin (479.2 g/L)

FORMULATION
> suspension concentrate

CHEMICAL FAMILY
> N-phenylphthalimide

PACKAGE SIZE
> 8 x 437 mL case

RAINFAST
> adequate moisture needed for activation
> avoid application when heavy rain is forecast

APPLICATION / SEASON
> two

SURFACTANT NEEDED
> as needed

PCP #
> 34035

WSSA GROUP #
> 14

KEY USES
> outdoor container- and field-grown ornamentals, bare ground non-crop areas

APPLICATION FLEXIBILITY

Apply SureGuard EZ after two hard freezes (late fall to early winter) until bud break in the spring to deliver control that activates in the spring and lasts through early summer.

MORE APPLICATION USES

Bare ground applications

- Parking areas, plant sites, substations, pumping stations, oil yards/substations and tank farms
- Brick yards, industrial plant sites, lumber yards and storage areas
- Around buildings and other structures (do not apply within any enclosed structure)
- Along fence rows; on gravel surfaces and driveways

Ornamental applications

- Established container-grown ornamental deciduous and coniferous trees, including non-bearing fruit and nut trees
- Established field-grown ornamental deciduous and coniferous trees, including Christmas trees and trees produced for reforestation
- Non-crop areas in and around ornamental nurseries

NOTE:

- Only apply over top of dormant plants after two frost events. If plant is actively growing a guard should be used so that no product touches the actively growing plant
- Do not apply to trees established less than 1 year, unless protected from spray contact by non-porous wraps, grow tubes or wax containers

SEE THE RESULTS IN FIELD-GROWN ORNAMENTALS

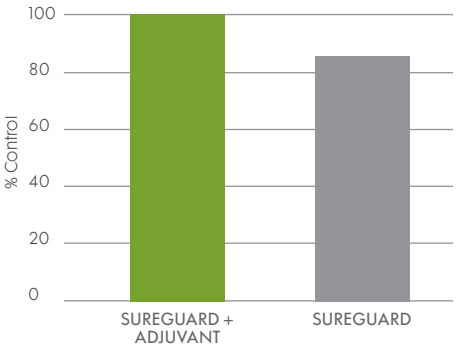
LIVERWORT CONTROL IN GROWTH ROOM

University of Guelph conducted a growth-room study of the effectiveness of 15 herbicide treatments for liverwort. SureGuard's active ingredient, flumioxazin, was observed to have excellent control of liverwort 14 days following application.

UNTREATED

SUREGUARD
107.3g ai/ha

SUREGUARD + ADJUVANT
107.3g ai/ha + 0.25% v/v



KEEP ORNAMENTALS WEED FREE

Once applied and activated by rain or irrigation, SureGuard forms a herbicide layer on the soil surface. As weeds germinate they come in contact with the herbicide layer and sunlight exposure which disrupts cell membranes and causes seedling death.

Tolerant coniferous tree species

- Cedars
- Firs
- Hemlock
- Junipers
- Pines
- Spruce
- Yew

* see label for additional species and details

Tolerant deciduous tree species

- Non-bearing fruit trees
- Ash
- Dogwood
- Lilac
- Maple
- Oak
- Poplar

* see label for additional species and details

GLYPHOSATE PARTNER

Proven to be an excellent tank mix partner with glyphosate herbicides to enhance knockdown performance and add long-lasting residual control (even on glyphosate-resistant weeds).

LEGEND

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Effective, economical weed control for turf, including golf courses and sod farms.

Trillion®

CHALLENGE

Sod farms, golf courses and other turf growers struggle to find the right solution to tackle tough weed problems. Too many brands and products fall short of providing a winning combination of effective weed control at a great price.

NUFARM SOLUTION

Trillion® turf herbicide delivers the hard-hitting answer to tough turf weeds including dandelion, chickweed, plantain and creeping Charlie. The familiar Group 4 formulation provides the performance and price you need in easy-to-handle jugs or special order totes.

REGISTERED USES

Turfgrass including golf courses, sod farms, and municipal, industrial and residential turf

WEEDS CONTROLLED	APPLICATION RATES & NOTES
Bedstraw Black medic (yellow clover) Buttercup Chickweed Clover Daisy species (English and ground) Dandelion Devil's paint brush Ground ivy (creeping Charlie) Heal-all Ironweed Knotweed Plantain Poison ivy Ragweed Shepherd's-purse	**TURF (OTHER THAN BENTGRASS):** On established turf, apply at the rate of 60 mL per 100 m^2 in 10 L of water. For larger areas apply at the rate of 5.5 L per hectare in 300 L of water. **FOR BENTGRASS:** Apply at a half rate – 30 mL per 100 m^2 in May or late August and September. Use 20 L of water per 100 m^2. Slight yellowing will occur but will disappear after about 1 week. Do not overdose bentgrass as damage or kill may occur. Make sure correct rate is applied to the whole area treated. When spraying bentgrass use a 1 nozzle sprayer. Make sure spray application does not overlap or excess material will be applied to overlapped areas and damage is more likely to occur.

PERFORMANCE TIPS

- For best results apply when weeds are growing quickly
- If weed populations do not warrant a broadcast application, consider spot treatments that target only weedy areas
- Grass seed can be safely sown 1–2 weeks after application at recommended rate
- Do not water turf within 24 hours of application
- Do not apply to newly seeded lawns until after third mowing
- Do not freeze

ACTIVE INGREDIENT

> 2,4-D (190 g a.e./L), mecoprop-p (100 g a.e./L), dicamba (18 g a.e./L)

FORMULATION

> liquid

CHEMICAL FAMILY

> phenoxy-carboxylic acid

PACKAGE SIZE

> 2 x 10 L jug, 155 L drum, 1000 L tote
> 1 jug treats 4.5 acres (at 5.5 L/ha)

RAINFAST

> do not spray if rain is forecast

APPLICATION / SEASON

> up to 2 broadcast applications

SURFACTANT NEEDED

> no

PCP

> 27972

WSSA GROUP

> 4

BENEFITS

- Consistent broad-spectrum control of tough annual and perennial turf weeds
- 3-way active ingredient formulation provides strong take-down of the toughest weeds
- Re-entry permitted once spray has thoroughly dried
- Weed control formulated specifically for turfgrass
- Excellent systemic control of emerged weeds
- Non-residual control leaves options open
- Convenient packaging options

TIMING

- May and early June, and late August and September
- Apply when weeds are actively growing and not under stress

 This guide is intended to provide a product overview. See product labels for complete details and labeled use listing.

Trusted weed control solutions.

2,4-D Amine 600
MCPA Amine 600

CHALLENGE

Every superintendent needs versatile go-to selective herbicides they can rely on for effective broad-spectrum, post-emerge control of broadleaf weeds.

NUFARM SOLUTION

Safe to desired grasses, Nufarm's 2,4-D Amine 600 and MCPA Amine 600 provide trusted, dependable, and economical solutions to most weed challenges in golf turf management. These phenoxy herbicides travel within broadleaf plants to deliver ultimate weed elimination without affecting grass species. 2,4-D Amine 600 and MCPA Amine 600 are tough on many broadleaf weeds and easy on your bottom line. Plus, they are compatible with many other herbicides, making these workhorse products a must-have staple for your weed control program.

REGISTERED USES

2,4-D Amine 600: lawns, parks, sod farms, and golf courses (roughs and fairways)

MCPA Amine 600: golf course fairways and lawns

KEY SUSCEPTIBLE WEEDS CONTROLLED See product labels for complete list	APPLICATION RATES & NOTES	
	2,4-D AMINE 600	MCPA AMINE 600
Bluebur Burdock Cocklebur False flax Flixweed Lamb's-quarters Mustards (except dog and tansy) Plantain (common) Prickly lettuce Ragweeds Redroot pigweed Russian pigweed Shepherd's-purse Stinkweed (field pennycress) Vetch Wild radish Wild sunflower	**Up to 1.9 L/ha in 100–300 L water/ha** **SUSCEPTIBLE WEEDS:** 0.6 to 0.95 L/ha **FOR LESS SUSCEPTIBLE WEEDS:** For harder to control weeds in the 2–4 leaf stage, apply 1.0 to 1.5 L/ha. **TOP GROWTH CONTROL:** 1.0 to 1.5 L/ha Use higher rates for larger weeds, dry or cold weather, or heavy infestations.	**833 mL/ha to 2.08 L/ha in 300 L water/ha** **SUSCEPTIBLE WEEDS:** 580 to 920 mL/ha **FOR LESS SUSCEPTIBLE WEEDS:** For harder to control weeds in the 2–4 leaf stage, apply 1.05 to 1.8 L/ha. **TOP GROWTH CONTROL:** 1.05 to 1.8 L/ha Use higher rates for larger weeds, dry or cold weather, or heavy infestations.

2,4-D AMINE 600

ACTIVE INGREDIENT
> 2,4-D (564 g a.e./L)

FORMULATION
> liquid

CHEMICAL FAMILY
> phenoxy-carboxylic acid

PACKAGE SIZE
> 2 x 10 L case, 200 L drum

RAINFAST
> avoid application when heavy rain is forecast

APPLICATION / SEASON
> 2

SURFACTANT NEEDED
> no

PCP #
> 14726

WSSA GROUP #
> 4

MCPA AMINE 600

ACTIVE INGREDIENT
> MCPA (600 g a.e./L)

FORMULATION
> liquid

CHEMICAL FAMILY
> phenoxy-carboxylic acid

PACKAGE SIZE
> 2 x 10 L case, 200 L drum

RAINFAST
> avoid application when heavy rain is forecast

APPLICATION / SEASON
> 2

SURFACTANT NEEDED
> no

PCP #
> 28384

WSSA GROUP #
> 4

LEGEND

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GROWING BETTER SINCE 1916

100 years and still growing

As a leader in turf and ornamental plant protection, we balance innovation and improvement in efficiency, safety and simplicity to bring you a focused product portfolio that saves time, delivers results and safeguards your success.

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