

67690-51

5/11/2010

1 of 2



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

5-11-10

Amy Dugger-Ronyak  
SePRO Corporation  
11550 N. Meridian Street, Suite 460  
Carmel, IN 46032

Subject: Label Amendment  
EPA Reg. No.: 67690-51 / SP5100 Turf Growth Regulator

Dear Ms. Dugger-Ronyak:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided you make the following label changes:

1. To the Hazards to Humans and Domestic Animals section, delete "Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.". This language is duplicated in the User Safety Recommendations section.
2. On page 10, change "Applications should be made" to "Applications must be made".
3. On page 11, delete "General" from "General Information for Growth Regulation of Perennial Turfgrasses". Delete "General" from "General Use Precautions for Applications to Perennial Turfgrasses". Change "SP5100 should not be applied until 6 to 8 weeks after turfgrass" to "SP5100 must not be applied until 6 to 8 weeks after turfgrass". Change "Turfgrass should be well established..." to "Turfgrass must be well established...". The phrase "should" is subjective and may let the user misuse the product.
4. On page 12, change "Spring applications should be made" to "Spring applications must be made". Change "The final application of the season should be timed" to "The final application of the season must be timed". Change "Applications to overseeded turfgrasses in dormant bermudagrass stands should be" to "Applications to overseeded turfgrasses in dormant bermudagrass stands must be".
5. On page 13, change "should be made at 2 to 6 week intervals" to "may be made at 2 to 6 week intervals". Change "An initial application of SP5100 should be made" to "An initial application of SP5100 may be made". At the bottom of the page, change "should be made at 3 to 6 weeks" to "may be made at 3 to 6 weeks".

- 6. On page 14, change “should be made at 3 to 6 week intervals” to “may be made at 3 to 6 week intervals”. Change “Fall applications should be discontinued” to “Fall applications must be discontinued”. Change “Note: late summer... are not recommended...” to “Note: late summer... are not to be used...”.
- 7. On page 15, change “Tank Mix General Use Precautions” to “Tank Mix Use Precautions”. Change “Rainfall or irrigation should be delayed” to “Rainfall or irrigation must be delayed”. At the bottom of the page, change “should be made at 2 to 6 week intervals” to “may be made at 2 to 6 week intervals”.
- 8. On page 16, change “An initial application of SP5100 should be made” to “An initial application of SP5100 may be made”. Change “should be made at 2 to 4 week intervals” to “may be made at 2 to 4 week intervals”. Change “should be made at 3 to 6 week intervals” to “may be made at 3 to 6 week intervals”.
- 9. On page 17, change “should be made in early fall” to “may be made in early fall”. Change “Fall applications should be discontinued 4 weeks” to “Fall applications must be discontinued 4 weeks”. Change “SP5100 should not be used to replace” to “SP5100 must not be used to replace”. Delete “other similar areas” from “building structures, gravestones, fences, or other similar areas”. Use sites must be specified.

The alternate brand name “Cutless MEC” is acceptable.

A stamped copy of the label is enclosed for your records. You must submit one copy of the final printed label before you release the product for shipment. Products shipped after 12 months from the date of this letter must bear the new revised label. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA. Your release for shipment of the product constitutes acceptance of these conditions. This label supersedes all other previously accepted labels. If you have any questions please call Erik Kraft at 703-308-9358 or email at Kraft.Erik@epa.gov.

Sincerely,



Erik Kraft  
Acting Product Manager 20  
Fungicide Branch  
Registration Division

# SP5100

Turf Growth Regulator

EPA Reg. No. 67690-51

**Registration Notes:** Based on EPA Notice of Registration date 02/26/2010.

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:**

5-11-10

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

67690-51

4021

[Base label for Nonrefillable, Rigid containers, 5 gal or less]



**NOTIFICATION**

APR 19 2010

**SP5100**

**Turf Growth Regulator**

**FOR GROWTH MANAGEMENT AND QUALITY IMPROVEMENT OF PERENNIAL COOL AND WARM SEASON TURFGRASSES ON GOLF COURSES.**

**Active Ingredient:**

flurprimidol:  $\alpha$ -(1-methylethyl)- $\alpha$ -[4-(trifluoromethoxy)phenyl]-5-pyrimidinemethanol ..... 16.0%

**Other Ingredients** ..... 84.0%

**TOTAL** ..... 100.0%

Contains 1.3 pounds active ingredient per one (1) U.S. gallon.

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**PRECAUTIONARY STATEMENTS**

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**Hazards to Humans and Domestic Animals**

**Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.**

**Keep Out of Reach of Children**

**WARNING / AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail).

<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 - 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call <b>INFOTRAC</b> at <b>1-800-535-5053</b>.</p>	

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment water or rinsate.

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**DIRECTIONS FOR USE**

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**Not for use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.**

<p><b>STORAGE AND DISPOSAL</b></p> <p>Do not contaminate water, food, or feed by storage or disposal.</p> <p><b>Pesticide Storage:</b> Store in original container only. In case of leak or spill, contain material and dispose as waste.</p> <p><b>Pesticide Disposal:</b> Wastes resulting from use of this product may be used on site according to use directions or disposed of at an approved waste disposal facility.</p> <p><b>Nonrefillable Container Disposal (rigid, 5 gallons or less):</b> Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat the procedure two more times. Then offer the container for recycling (if available) or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.</p>
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**Refer to label booklet for additional precautionary information and directions for use.**

leaf 21

**Notice:** Read the entire label before using. Use only according to label directions. **Before buying or using this product, read *Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies* inside label booklet.**

For additional information on our products, please visit [www.sepro.com](http://www.sepro.com).

EPA Reg. No. 67690-51  
FPL022610

EPA Est. No. \_\_\_\_\_  
SPC - \_\_\_\_\_

**SePRO Corporation** 11550 N. Meridian St., Ste. 600, Carmel, IN 46032 U.S.A.

**Turf Growth Regulator**

**Net Contents** \_\_\_\_\_

[Base label for Non-refillable, Rigid containers, greater than 5 gal]



# SP5100

## Turf Growth Regulator

**FOR GROWTH MANAGEMENT AND QUALITY IMPROVEMENT OF PERENNIAL COOL AND WARM SEASON TURFGRASSES ON GOLF COURSES.**

**Active Ingredient:**

flurprimidol:  $\alpha$ -(1-methylethyl)- $\alpha$ -[4-(trifluoromethoxy)phenyl]-5-pyrimidinemethanol ..... 16.0%

**Other Ingredients** ..... 84.0%

**TOTAL** ..... 100.0%

Contains 1.3 pounds active ingredient per one (1) U.S. gallon.

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### PRECAUTIONARY STATEMENTS

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#### Hazards to Humans and Domestic Animals

**Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.**

#### Keep Out of Reach of Children

### WARNING / AVISO

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<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call <b>INFOTRAC</b> at <b>1-800-535-5053</b>.</p>	

### **ENVIRONMENTAL HAZARDS**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment water or rinsate.

### **DIRECTIONS FOR USE**

**Not for use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.**

### **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from use of this product may be used on site according to use directions or disposed of at an approved waste disposal facility.

**Nonrefillable Container Disposal (rigid, larger than 5 gal):** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, treatment area, or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling (if available) or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Refer to label booklet for additional precautionary information and directions for use.**



**Notice:** Read the entire label before using. Use only according to label directions. **Before buying or using this product, read *Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies* inside label booklet.**

For additional information on our products, please visit [www.sepro.com](http://www.sepro.com).

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FPL022610

EPA Est. No. \_\_\_\_\_  
SPC - \_\_\_\_\_

**SePRO Corporation** 11550 N. Meridian St., Ste. 600, Carmel, IN 46032 U.S.A.

**Turf Growth Regulator**

**Net Contents** \_\_\_\_\_

[Front label, ALL containers]



# SP5100

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Contains 1.3 pounds active ingredient per one (1) U.S. gallon.

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**Refer to inside of label booklet for additional precautionary information and directions for use, including storage and disposal.**

**Notice:** Read the entire label before using. Use only according to label directions. **Before buying or using this product, read *Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies* inside label booklet.**

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**Turf Growth Regulator**

**Net Contents** \_\_\_\_\_

[Label booklet text]

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## PRECAUTIONARY STATEMENTS

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### Hazards to Humans and Domestic Animals

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### Keep Out of Reach of Children

## WARNING / AVISO

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants;
- Shoes plus socks; and
- Protective eyewear.

#### User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment water or rinsate.

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### DIRECTIONS FOR USE

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It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all directions for use carefully before applying this product. Use only according to label directions.

**Not for use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.**

#### Avoid Spray Drift

Applications should be made only when there is no hazard for spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible plants. **Do not spray when wind is greater than 10 mph.** Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors

determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions.

### **General Information for Growth Regulation of Perennial Turfgrasses**

SP5100 Turf Growth Regulator is a Type II Class B plant growth regulator (PGR) which reduces leaf blade length and stem internode elongation in turfgrasses resulting in a more compact growth form. Growth regulation results from suppression of gibberellic acid biosynthesis. Under normal growing conditions root growth and lateral expansion of turf are not affected. An appropriate fertility program for the desired turf species should be followed in conjunction with SP5100 applications to provide best turfgrass enhancement and reduce potential for discoloration. Broadcast treatments should be made on medium to high quality turfgrass areas of uniform species composition. Turf containing significant amounts of coarse textured species such as tall fescue, orchardgrass, timothy, dallisgrass, etc., may respond unevenly to SP5100 treatment.

### **Benefits of SP5100 Applications to Perennial Turfgrasses may include:**

- Shoot growth suppression of warm and cool season turfgrasses resulting in decreased mowing frequency and turfgrass clippings;
- Increased turfgrass density, wear resistance, and improved color on warm and cool season turfgrass species resulting in improved turf quality;
- Suppressed growth of *Poa annua*, reducing populations and shifting competitive growth advantage towards perennial turfgrasses;
- Improved water use efficiency of warm and cool season turfgrass resulting in pre-drought stress conditioning.

**NOTICE TO USER:** The rates indicated may need to be adjusted within the approved rate ranges on this label to achieve the desired level of growth regulation on turfgrass species listed on this label. Turfgrass response to SP5100 may vary within turfgrass species due to the large number of cultivars and varieties available. The specified rate ranges permit the users to adjust the application rate to best address the growth conditions of the turfgrass being treated. Neither the manufacturer nor seller has determined if SP5100 can be used safely or effectively on turfgrass species not mentioned on this label. For turfgrass species not listed on this label the user should apply SP5100 to a small test area to determine growth response and desired level of growth regulation prior to large scale applications.

### **General Use Precautions for Applications to Perennial Turfgrasses**

- Do not apply to putting greens other than those where bentgrass is the desired turf species.
- Do not apply to bermudagrass putting greens, including those which are overseeded.
- Do not apply this product to sod farms, turfgrasses grown for seed, including plants or plant materials grown for sale or research purposes.
- Do not apply to shrubs, bedding plants, and/or food plants.
- Do not apply during prolonged periods of temperature (heat or cold) or moisture stress. Also avoid applications during periods of extreme disease and insect pressure.
- Applications of SP5100 to newly seeded turfgrasses should be delayed until turf is well established and actively growing.
- SP5100 should not be applied until 6 to 8 weeks after turfgrass sprigging or laying sod. Turfgrass should be well established and actively growing prior to application.
- Do not apply to saturated soils or when a significant moisture event is anticipated. SP5100 may accumulate in low lying areas and cause prolonged and excessive growth regulation in those areas.

- Do not apply to areas where *Poa annua* is the desired turfgrass species or areas that contain >80% *Poa annua*.
- Additional turfgrass growth regulation may occur when SP5100 is tank mixed or used in conjunction with demethylation inhibitor (DMI) or sterol inhibiting fungicides.
- Do not apply to turf used for livestock production.
- Do not apply more than 3.0 lbs AI/A/year or 295.4 fl. oz./A/year of SP5100.
- **Chemigation:** Do not apply SP5100 through any type of irrigation system.

### **Application Timing**

Spring applications should be made after resumption of active seasonal growth of turfgrass. The final application of the season should be timed at least 4 weeks before the onset of inactive grass growth or winter dormancy. Applications to overseeded turfgrasses in dormant bermudagrass stands should be completed 4 weeks prior to expected bermudagrass green-up.

### **Irrigation**

SP5100 is primarily root absorbed. To maximize growth regulator activity, treated areas should receive 0.25 to 0.5 inch of rain or supplemental irrigation within 24 hours following application and prior to the first mowing after treatment.

### **Turf Color and Post-Treatment Turf Management**

Turfgrass treated with SP5100 may appear darker green in color. This color change, which appears 1 to 2 weeks after treatment, may persist an additional 3 to 6 weeks. Treated areas should be managed to encourage the growth of a healthy vigorous turf.

### ***Poa annua* (Annual Bluegrass) Conversion to Perennial Turfgrasses**

Applications of SP5100 followed by management practices designed to encourage vigorous growth of perennial turfgrasses can reduce the *Poa annua* (annual bluegrass) competition in cool season turf and increase the cover of more desirable perennial species. *Poa annua* is more sensitive to SP5100 treatments and is therefore more strongly suppressed than perennial turfgrass species. Discoloration of some *Poa annua* biotypes can be expected from treatments that provide a desired level of growth regulator activity in perennial grass species. This effect becomes visible 7 to 10 days after treatment and lasts 3 to 6 weeks. The degree of discoloration will be proportional to the *Poa annua* composition of the turf. Application of SP5100 in conjunction with soluble nitrogen fertilizers will also minimize discoloration. Application timing, rate ranges, and precautions for perennial grass conversion through selective reduction of *Poa annua* are provided in the *Poa annua* (Annual Bluegrass) Conversion to Perennial Turfgrasses section of this label.

### **Application Directions**

#### **Mixing Directions**

Add SP5100 to a spray tank half filled with clean water. Begin agitation allowing sufficient mixing time to ensure complete dispersion and mixing of SP5100. Finish filling the spray tank. Continue agitation throughout the spraying operation to ensure uniform application. SP5100 should be applied using a boom-type sprayer with bypass and/or mechanical agitation calibrated to deliver 40 to 200 gallons/acre of spray solution (1 to 4.6 gallons/1000 ft<sup>2</sup>). In-line strainers and nozzle screens should be 50 mesh or larger. The use of a coloring agent to mark areas already sprayed is suggested for uniform application without skips and overlaps. Performance may be improved with the addition to the spray mix of a readily available nitrogen (N) source at 0.125 to 0.5 lbs N/1000 ft<sup>2</sup> or iron (Fe) at labeled rates.

## SP5100 + Tank Mixtures

SP5100 can be tank mixed and is compatible with most commonly-used pesticides and foliar nutrient products. However, compatibility of SP5100 with tank mix partners should be tested before use.

**NOTE:** The compatibility of SP5100 in any tank-mix combination should be tested before use. To determine the physical compatibility with other products, use a jar test as described below:

Using a quart jar, add the proportionate amounts of the products to 1 quart of water. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure sequence for adding required ingredients to the spray tank.

**Read and follow all label directions for each tank mix product.**

### **SP5100 Rates for Growth Reduction of Perennial Turfgrass Species – Multiple Application Program**

The maximum number of seasonal applications is determined by the sum of the rates applied, not to exceed 3.0 lbs ai/A or 295.4 fl. oz. SP5100/A.

#### ➤ **Cool Season Turfgrasses**

- Bentgrass (Golf Course Fairway Type Turf)

**Multiple application program:** Apply SP5100 to fairway height bentgrass at a rate of 24.6 to 49.2 fl. oz./acre in early spring following resumption of active growth. Repeat applications of 12.3 to 49.2 fl. oz./acre of SP5100 should be made at 2 to 6 week intervals until late summer or early fall.

- Bentgrass Putting Greens

**Multiple application program:** Apply SP5100 to bentgrass as part of an overall greens management program. An initial application of SP5100 should be made after bentgrass greens are growing vigorously and have been mowed 3 or 4 times. Apply SP5100 at a rate of 12.3 to 24.6 fl. oz./acre. Repeat applications of 6.1 to 24.6 fl. oz./acre should be made at 2 to 4 week intervals.

- Kentucky Bluegrass and Perennial Ryegrass

**Multiple application program:** Apply SP5100 to Kentucky bluegrass and perennial ryegrass at a rate of 36.9 to 49.2 fl. oz./acre in early spring following resumption of active growth. Repeat applications of 24.6 to 49.2 fl. oz./acre should be made at 2 to 6 week intervals until late summer or early fall.

#### ➤ **Warm Season Grasses**

- Seashore Paspalum

**Multiple application program:** Apply SP5100 to Seashore paspalum at a rate of 12.3 to 49.2 fl. oz./acre when paspalum has completely recovered from winter dormancy and is growing vigorously. Repeat applications of 12.3 to 49.2 fl. oz./acre of SP5100 should be made at 3 to 6 week intervals until late summer or early fall.

160421

- Tifway (419), TifSport, and GN-1 Bermudagrass

**Multiple application program:** Apply SP5100 to Tifway, TifSport, and GN-1 bermudagrass at a rate of 12.3 to 36.9 fl. oz./acre when bermudagrass has completely recovered from winter dormancy and is growing vigorously. Repeat applications of 12.3 to 36.9 fl. oz./acre of SP5100 should be made at 3 to 6 week intervals until late summer or early fall.

- Zoysiagrass

**Multiple application program:** Apply SP5100 at a rate of 12.3 to 36.9 fl. oz./acre for growth regulation of zoysiagrass when the grass has completely recovered from winter dormancy and is growing vigorously. Repeat applications of 12.3 to 36.9 fl. oz./acre of SP5100 should be made at 3 to 6 week intervals. NOTE: late summer or early fall applications of SP5100 are not recommended for growth regulation of zoysiagrass.

<b>TABLE 1 Rate Ranges for Growth Regulation of Perennial Turfgrass Species with SP5100 Using a Multiple Application Program</b>			
<b>Turfgrass Species</b>	<b>Initial Spring Application<sup>†</sup> (Fl. Oz. SP5100/A)</b>	<b>Repeat Applications<sup>†</sup></b>	
		<b>(Fl. Oz. SP5100/A)</b>	<b>Treatment Interval</b>
<b>Cool Season Turfgrasses</b>			
Bentgrass (golf course fairway)	24.6 to 49.2	12.3 to 49.2	2 to 6 weeks
Bentgrass putting greens	12.3 to 24.6	6.1 to 24.6	2 to 4 weeks
Kentucky Bluegrass/ Perennial Ryegrass	36.9 to 49.2	24.6 to 49.2	2 to 6 weeks
<b>Warm Season Turfgrasses</b>			
Seashore Paspalum	12.3 to 49.2	12.3 to 49.2	3 to 6 weeks
Tifway, TifSport, and GN-1 Bermudagrass	12.3 to 36.9	12.3 to 36.9	3 to 6 weeks
Zoysiagrass	12.3 to 36.9	12.3 to 36.9	3 to 6 weeks; not in late summer/fall

<sup>†</sup> Apply in early spring following resumption of active growth of the grass. Fall applications should be discontinued 4 weeks before the onset of inactive grass growth or winter dormancy.

**Application Information - SP5100 Tank Mixes With Primo<sup>®</sup> MAXX (Trinexapac-Ethyl)**

Tank mixing SP5100 with Primo<sup>®</sup> MAXX can provide enhanced growth suppression and improved turfgrass quality of perennial turfgrass species, versus using either product alone. Plant physiological advantages of tank mixing these two PGRs include:

1. Different mode of action within the gibberellic acid (GA) biosynthesis pathway; and
2. Difference in plant site of uptake.

PGR absorption via the foliage (Type II Class A; Primo<sup>®</sup> MAXX) and roots (Type II Class B; SP5100) maximizes plant uptake of each material ensuring sufficient active ingredient is available for GA inhibition.

Blocking GA biosynthesis early and late in the pathway potentially regulates GA more efficiently than higher application rates of individual compounds. Turfgrass response from SP5100 tank mixes with Primo<sup>®</sup> MAXX at reduced rates may be greater than with normal use



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rates of either product applied alone. This combination of plant growth regulators and its use are protected by United States Patent No. 7,135,435. Additional patent rights pending.

**Tank Mix General Use Precautions**

- Do not apply to bermudagrass putting greens.
- If *Poa annua* is the desired turf species or >25% of turfgrass stand, do not use unless *Poa annua* discoloration or injury can be tolerated.
- Rainfall or irrigation should be delayed at least 1 hour after application or until product has dried on the leaf surface but should occur within 24 hours after application.
- Desirable growth regulation during early spring or late fall when turfgrass growth and vigor are reduced may be obtained with lower rates of both products.

**NOTICE TO USERS:** To the extent consistent with applicable law, this label makes no warranties concerning the performance of Type II Class A PGRs, including Primo<sup>®</sup> MAXX. Read and follow all label directions including Directions for Use, Precautionary Statements, and Restrictions and Limitations for Primo<sup>®</sup> MAXX.

<b>TABLE 2</b>			
<b>Rate Ranges for SP5100 Plus Type II Class A PGR Tank Mixes</b>			
<b>Turfgrass Species</b>	<b>Fl. Oz. SP5100/A</b>	<b>Primo<sup>®</sup> MAXX (Trinexapac-ethyl)</b>	<b>Treatment Interval</b>
<b>Cool Season Turfgrasses</b>			
Bentgrass (golf course fairway)	6.1 to 24.6	½ labeled use rate	2 to 6 weeks
Bentgrass putting greens	6.1 to 12.3	½ labeled use rate	2 to 6 weeks
Kentucky Bluegrass/ Perennial Ryegrass	12.3 to 24.6	½ labeled use rate	2 to 6 weeks
<b>Warm Season Turfgrasses</b>			
Seashore Paspalum	12.3 to 24.6	½ labeled use rate	3 to 6 weeks
Tifway, TifSport, and GN-1 Bermudagrass <sup>††</sup>	6.1 to 24.6	½ labeled use rate	3 to 6 weeks
Zoysiagrass	12.3 to 24.6	½ labeled use rate	3 to 6 weeks

<sup>†</sup> Do not use on bermudagrass putting greens.

**Poa annua (Annual Bluegrass) Conversion to Perennial Turfgrasses**

- **Multiple Application Program** - A multiple application perennial grass conversion program using SP5100 provides *Poa annua* suppression and cool season turf conversion. This program provides a gradual perennial grass conversion reducing *Poa annua* populations over one to several growing seasons. To maximize seedling establishment, do not apply SP5100 two (2) weeks prior to and/or 2 weeks after interseeding or overseeding of perennial turfgrasses.

The maximum number of seasonal applications is determined by the sum of the rates applied, not to exceed 3.0 lbs ai/A or 295.4 fl. oz. SP5100/A.

- **Bentgrass (Golf Course Fairway type turf)**

Apply SP5100 to fairway height bentgrass at a rate of 24.6 to 49.2 fl. oz./acre in early spring following resumption of active growth of the grass. Repeat applications of 12.3 to 49.2 fl.oz./acre of SP5100 should be made at 2 to 6 week intervals until late summer or early fall. Normal management practices such as fertilization, aeration and interseeding/overseeding will encourage growth of bentgrass.

- Bentgrass Putting Greens

Because annual turfgrass species such as *Poa annua* are more strongly regulated by SP5100, careful use of SP5100 on putting greens with a high percentage of *Poa annua* can shift the competitive balance between bentgrass and *Poa annua* to favor bentgrass. Follow normal management practices such as fertilization, aeration and interseeding/overseeding that encourages growth of bentgrass. Use of SP5100 on bentgrass greens may increase putting speed without reducing the height of cut.

- Bentgrass Greens with less than 50% *Poa annua* (annual bluegrass): Apply SP5100 to bentgrass as part of an overall greens management program. An initial application of SP5100 should be made in the spring months after bentgrass greens are growing vigorously and have been mowed 3 or 4 times. Apply SP5100 at a rate of 12.3 to 24.6 fl. oz./acre. Repeat applications of 12.3 to 24.6 fl. oz./acre of SP5100 should be made at 2 to 4 week intervals through early fall.
- Bentgrass Greens with more than 50% *Poa annua* (annual bluegrass): Apply SP5100 to bentgrass greens at a rate of 12.3 fl. oz./acre in the spring months after bentgrass greens are growing vigorously and have been mowed 3 or 4 times. Repeat applications of 12.3 to 24.6 fl. oz./acre of SP5100 should be made at 2 to 4 week intervals through early fall.

- Kentucky Bluegrass, Perennial Ryegrass

Apply SP5100 to Kentucky bluegrass and perennial ryegrass at a rate of 36.9 to 49.2 fl. oz./acre in early spring following resumption of active growth of the grass. Repeat applications of 24.6 to 49.2 fl. oz./acre of SP5100 should be made at 3 to 6 week intervals until late summer or early fall. Normal management practices such as fertilization, aeration and interseeding/overseeding will encourage growth of bluegrass and/or ryegrass.

TABLE 3 Rate Ranges for <i>Poa annua</i> (Annual Bluegrass) Conversion to Perennial Turfgrasses with SP5100 Using a Multiple Application Program				
Turfgrass Species	% <i>Poa annua</i>	Initial Spring Application <sup>†</sup>	Repeat Applications <sup>†</sup>	
		Fl. Oz. SP5100/A	Fl. Oz. SP5100/A	Treatment Interval
Bentgrass (golf course fairway)	0 - 80%	24.6 to 49.2	12.3 to 49.2	2 to 6 weeks
Bentgrass Putting Greens	Less than 50%	12.3 to 24.6	12.3 to 24.6	2 to 4 weeks
	More than 50%	12.3	12.3 to 24.6	2 to 4 weeks
Kentucky Bluegrass/ Perennial Ryegrass Fairways	0 - 80%	36.9 to 49.2	24.6 to 49.2	3 to 6 weeks

<sup>†</sup> Apply in early spring following resumption of active growth of the grass. Fall applications should be discontinued 4 weeks before the onset of inactive grass growth or winter dormancy.

- **Alternative Spring/Fall Application Program** - The alternative spring/fall application program selectively suppresses *Poa annua* growth in perennial turfgrass species. Injury or discoloration of *Poa annua* is expected within 7 to 10 days of application. Cultural practices such as fertilization, aeration and interseeding/overseeding should be performed

in conjunction with SP5100 applications to encourage growth of the perennial turfgrass species.

- **Bentgrass or Kentucky Bluegrass/Perennial Ryegrass fairways with less than 50% *Poa annua* (annual bluegrass):** An alternative spring/fall treatment program for management of *Poa annua* in fairways containing less than 50% *Poa annua* is to apply 73.8 fl. oz./acre of SP5100 following resumption of active bentgrass or Kentucky Bluegrass/Perennial Ryegrass growth in the spring. A second application of 49.2 fl. oz./acre of SP5100 should be made in the early fall. Interseed/overseed with Bentgrass or Kentucky Bluegrass/Perennial Ryegrass 3 to 4 weeks following early fall application.
- **Bentgrass or Kentucky Bluegrass/Perennial Ryegrass fairways with more than 50% *Poa annua* (annual bluegrass):** Apply SP5100 at a rate of 49.2 to 73.8 fl. oz./acre in late summer or early fall. Interseed/overseed with bentgrass or Kentucky Bluegrass/Perennial Ryegrass 3 to 4 weeks following late summer or early fall application. Apply an additional 49.2 fl. oz./acre of SP5100 the following spring after resumption of active growth of bentgrass or Kentucky Bluegrass/Perennial Ryegrass.

<b>Turfgrass Species</b>	<b>% <i>Poa annua</i></b>	<b>Spring/Fall application<sup>†</sup> (Fl. Oz. SP5100/A)</b>
Bentgrass or Kentucky Bluegrass/Perennial Ryegrass Fairways	Less than 50%	73.8 in spring; 49.2 in fall
	More than 50%	49.2 to 73.8 in late summer or early fall; 49.2 the following spring

<sup>†</sup> Apply in early spring following resumption of active growth of the grass. Fall applications should be discontinued 4 weeks before the onset of inactive grass growth or winter dormancy.

### **Dollar Spot (*Sclerotinia Homeocarpa*) Suppression by SP5100 in Creeping Bentgrass**

The active ingredient in SP5100 is from the pyrimidine class of chemistry which is structurally similar to pyrimidine fungicides that provide Dollar Spot control. Programmed applications of SP5100 for turf growth suppression or *Poa annua* conversion have also been shown to suppress Dollar Spot incidence in creeping bentgrass fairways, greens and tees. Research results have shown SP5100 applications at labeled rates and application intervals can significantly reduce Dollar Spot incidence and populations when compared to untreated control plots. SP5100 should not be used to replace labeled fungicides for the control of Dollar Spot; rather programmed use of SP5100 may result in longer or improved control of Dollar Spot in conjunction with conventional fungicides, or delays in the appearance of Dollar Spot disease, thus leading to the potential for an overall reduction in annual fungicide use.

### **Edging and Banding Applications for Growth Regulation of Perennial Turfgrass Species**

SP5100 can be applied to turfgrass in edging and banding applications along the perimeter of lawns, landscape beds, sidewalks, curbs, parking lots, driveways, posts, mailboxes, building structures, gravestones, fences, or other similar areas. SP5100 should be applied in a 6 inch band width with a single nozzle sprayer. Repeat at 8 to 12 week intervals. The maximum number of seasonal applications is determined by the sum of the rates applied, not to exceed 3.0 lbs ai/A or 295.4 fl. oz. SP5100/A.

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TABLE 5 SP5100 Edging/Banding Rates for Growth Regulation of Perennial Turfgrass		
Turfgrass Species	Fl. Oz. SP5100/A	Fl. Oz. SP5100 per 1 Gallon of Water in Backpack Sprayers <sup>1</sup>
<b>Cool Season Turfgrasses</b>		
Bentgrass	49.2 to 98.4	1.2 to 2.5
Kentucky Bluegrass	73.8 to 147.6	1.9 to 3.7
Perennial Ryegrass	73.8 to 147.6	1.9 to 3.7
Tall Fescue	73.8 to 147.6	1.9 to 3.7
<b>Warm Season Turfgrasses</b>		
328 Hybrid Bermudagrass	36.9 to 49.2	0.9 to 1.2
419 Hybrid Bermudagrass	49.2 to 98.4	1.2 to 2.5
Common Bermudagrass	73.8 to 147.6	1.9 to 3.7
Seashore Paspalum	49.2 to 98.4	1.2 to 2.5
St. Augustinegrass	49.2 to 98.4	1.2 to 2.5
Zoysiagrass	49.2 to 98.4	1.2 to 2.5

<sup>1</sup>For backpack sprayers. Assuming a spray volume of 40 gallons per acre, one (1) gallon of spray solution will treat 2,180 linear feet with a six (6) inch band width.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from use of this product may be used on site according to use directions or disposed of at an approved waste disposal facility.

**Nonrefillable Container Disposal (rigid, 5 gallons or less):** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat the procedure two more times. Then offer the container for recycling (if available) or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container Disposal (rigid, larger than 5 gal):** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, treatment area, or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling (if available) or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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**TERMS AND CONDITIONS OF USE**

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If terms of the following *Warranty Disclaimer*, *Inherent Risks of Use* and *Limitation of Remedies* are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent consistent with applicable law, use by the buyer or any other user constitutes acceptance of the terms under *Warranty Disclaimer*, *Inherent Risks of Use*, and *Limitation of Remedies*.

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**INHERENT RISKS OF USE**

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It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of SePRO Corporation or the seller. To the extent consistent with applicable law, all such risks shall be assumed by buyer.

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To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories) shall be limited to, at SePRO Corporation's election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

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