

67690-56

10-12-2011

1/16



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7504P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

EPA Reg. Number:

67690-56

Date of Issuance:

OCT 12 2011

NOTICE OF PESTICIDE:

X Registration
Reregistration
(under FIFRA, as amended)

Term of Issuance:
Conditional

Name of Pesticide Product:
SP5114

Name and Address of Registrant (include ZIP Code):

Sepro Corporation
11550 North Meridian Street, Suite 600
Carmel, Indiana 46032-4565
Attn. Tyler Koschnick

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A), provided that you:

- 1. Submit and/or cite all data required for registration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

Page 1 of 2

Signature of Approving Official:

Handwritten signature of Tony Kish

Date:

OCT 12 2011

Tony Kish, Product Manager, Team 22
Fungicide Branch, Registration Division (7504P)

Make the following change to the label:

2. Submit by 10/12/2012 a one year GLP study for storage stability (830.6317) and corrosion characteristics (830.6320).
3. Make the following changes to the label:
 - a. Change the product registration number to “EPA Reg. No. 67690-56
 - b. On pages 3, 5 and 6, make “NOTE TO PHYSICIAN” a part of the First Aid box.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A copy of the label stamped “Accepted with Comment” is enclosed for your records.

[Base label for all containers]



ACCEPTED
with COMMENTS
In EPA Letter Dated

OCT 12 2011
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
01690-510

SP5114

TURF GROWTH REGULATOR

Active Ingredients

- paclobutrazol: (±)-(R*,R*)-β-[(4-chlorophenyl)methyl]-α-(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol 7.0%
- trinexapac-ethyl: 4-(cyclopropyl-alpha-hydroxymethylene)-3,5-dioxo-cyclohexanecarboxylic acid ethyl ester..... 3.5%

Other Ingredients 89.5%
TOTAL 100.0%

Contains 0.56 pounds of paclobutrazol per gallon of product.
Contains 0.28 pounds of trinexapac-ethyl per gallon of product.

KEEP OUT OF REACH OF CHILDREN

DANGER / PELIGRO

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

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER. Causes irreversible eye damage. Do not get in eyes or clothing. Wear protective eyewear when handling. Harmful if swallowed. Avoid contact with skin, eyes, or clothing. 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.

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth, if possible.

- Call a poison control center or doctor for further treatment advice.

HOTLINE NUMBER

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 **INFOTRAC** at **1-800-535-5053**.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

ENVIRONMENTAL HAZARDS

For terrestrial uses: 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 washwaters.

DIRECTIONS FOR USE

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. Use only according to label directions.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep from freezing. Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

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

Container Disposal

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Refillable Container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

See attached booklet for complete storage and container disposal directions including triple rinsing and pressure rinsing instructions.

Refer to inside of 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 *Terms and Conditions of Use, Warranty Disclaimer, Inherent Risks of Use* and *Limitation of Remedies* inside label booklet. If terms are unacceptable, return at once unopened.**

EPA Reg. No. 67690-XX
FPL031511

EPA Est. No. _____
SPC - _____

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

Turf Growth Regulator

Net contents _____

Refillable/Nonrefillable container _____

[Front label or front of label booklet, ALL containers]



SP5114

TURF GROWTH REGULATOR

FOR GROWTH MANAGEMENT AND QUALITY IMPROVEMENT OF TURFGRASSES.

Active Ingredients

paclobutrazol: (±)-(R*,R*)-β-[(4-chlorophenyl)methyl]-α-(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol	7.0%
trinexapac-ethyl: 4-(cyclopropyl-alpha-hydroxymethylene)-3,5-dioxo-cyclohexanecarboxylic acid ethyl ester.....	3.5%

Other Ingredients 89.5%

TOTAL 100.00%

Contains 0.56 pounds of paclobutrazol per gallon of product.

Contains 0.28 pounds of trinexapac-ethyl per gallon of product.

KEEP OUT OF REACH OF CHILDREN

DANGER / PELIGRO

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

SPECIALTY CHEMICAL: Do not ship or store with food, feeds, drugs or clothing.

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 *Terms and Conditions of Use, Warranty Disclaimer, Inherent Risks of Use* and *Limitation of Remedies* at the end of the label booklet. If terms are unacceptable, return at once unopened.**

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If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
<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 INFOTRAC at 1-800-535-5053.</p>	

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

EPA Reg. No. 67690-XX
FPL031511

EPA Est. No. _____
SPC - _____

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

Turf Growth Regulator

Net Contents _____
Refillable/Nonrefillable container _____

[Label booklet text; ALL containers]

PRECAUTIONARY STATEMENTS**Hazards to Humans and Domestic Animals**

DANGER. Causes irreversible eye damage. Do not get in eyes or clothing. Wear protective eyewear when handling. Harmful if swallowed. Avoid contact with skin, eyes, or clothing. 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**DANGER / PELIGRO**

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

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HOTLINE NUMBER

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 **INFOTRAC** at **1-800-535-5053**.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category B or C on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants;
- Chemical-resistant gloves (such as butyl rubber or barrier laminate \geq 14 mils);
- Shoes plus socks; and
- Protective eyewear.

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 washwaters.

DIRECTIONS FOR USE

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. Use only according to label directions.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170).

The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter treated area without footwear or protective eyewear until sprays have dried.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep from freezing. Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

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

Container Disposal

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity \leq 5 gallons) 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 $\frac{1}{4}$ 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 this procedure two more times.

Triple rinse containers too large to shake (capacity >5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ 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, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call INFOTRAC at 1-800-535-5053.

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- INFOTRAC: 1-800-535-5053

Steps to be taken in case material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing, and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Avoiding Injurious Spray Drift

Apply only when there is little or 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 blowing toward desirable susceptible crops or ornamental plants near enough to be injured. 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.

Product Information for Growth Regulation of Perennial Turfgrasses

SP5114 integrates patented[†] synergy of turf growth regulator technology for use on perennial turfgrasses. SP5114 reduces stem elongation and leaf blade length in perennial turfgrasses resulting in a more compact and dense growth form. Growth regulation from SP5114 results from suppression of the plant hormone, gibberellic acid (GA), responsible for cell elongation in most plants.

SP5114 can be used on turfgrass grown in the following areas: golf courses (tees, fairways, greens, and rough), athletic fields, commercial and industrial areas, parks, and boulevards.

SP5114's patented site of action plant growth regulator (PGR) synergy results in growth suppression, improved turfgrass color and quality, extended spray intervals, and suppression of *Poa annua*. Plant physiological advantages to applications of SP5114 include:

1. Multiple plant sites of uptake: SP5114 is absorbed by plants via roots, stems, and leaves; and
2. Multi-site activity within gibberellic acid (GA) biosynthesis pathway: SP5114 inhibits GA production at both early and late stages in the pathway.

Turf growth regulator absorption via the roots and foliage allows for more efficient uptake by the plant ensuring an optimal amount of active ingredient is available for GA inhibition. Additionally, blocking GA biosynthesis early and late in the biological pathway regulates GA more efficiently than at a single site within this cycle.

†The synergy derived from the combination of Type II Class A and Type II Class B PGRs is protected by United States Patent No. 7,135,435. Additional patent rights pending.

Apply broadcasts treatments to medium to high quality turfgrass areas. Follow an appropriate fertility program for the desired turf species, in conjunction with SP5114 applications, to provide the best turfgrass enhancement and reduce potential for discoloration.

Benefits of SP5114 Applications to Turfgrass

- 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.
- Suppression of *Poa annua* (annual bluegrass) in cool-season turfgrasses.
- Improved water use efficiency of warm and cool season turfgrass resulting in pre-drought stress conditioning.

NOTICE TO USER: Turfgrass responses to SP5114 may vary within turfgrass species due to the large number of cultivars and varieties available. Neither the manufacturer nor seller has determined if SP5114 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 SP5114 to a small test area to determine growth response and desired level of growth regulation prior to large scale applications.

Use Precautions for Perennial Turfgrasses

- SP5114 is NOT for use on turf being grown for sale or other commercial use as sod, or for commercial seed production or for research purposes.
- DO NOT use on residential lawns.
- DO NOT apply to bermudagrass putting greens or overseeded bermudagrass putting greens.
- DO NOT apply to shrubs, bedding plants, and/or food plants.
- NOT for use on turfgrasses under stress due to temperature and moisture extremes and disease, and/or insect pressures.
- Delay applications of SP5114 to newly seeded turfgrasses until turf is well established and actively growing.
- DO NOT apply SP5114 until 6 to 8 weeks after turfgrass sprigging or laying sod. Turfgrass must be well established and actively growing prior to application.
- DO NOT apply to saturated soils or when a significant moisture event is anticipated.
- Delay applications for 4 weeks after treatment of a preemergence herbicide.
- Additional turfgrass growth regulation may occur when SP5114 is tank mixed or used in conjunction with demethylation inhibitor (DMI) or sterol inhibiting fungicides.
- DO NOT apply to areas where *Poa annua* is the desired turfgrass species or areas containing greater than 80% *Poa annua*.
- DO NOT apply to turf used for livestock production.
- Multiple applications of SP5114 can be made yearly, but do not apply more than 449 fl oz/A of SP5114 per acre per year.
- **Chemigation:** DO NOT apply SP5114 through any type of irrigation system.

Application Timing

Apply SP5114 to actively growing turfgrass. Make spring applications after resumption of active seasonal growth of turfgrass. Schedule the final application of the season a minimum of 4 weeks before the onset of inactive grass growth or winter dormancy. To avoid delayed spring transition of bermudagrass, apply to overseeded turfgrasses in dormant bermudagrass stands at least 4 weeks prior to expected bermudagrass green-up.

Irrigation

Apply when rainfall is not expected, or irrigation can be delayed, for at least 2 hours after application or until product has dried on the leaf surface. For best results, subsequent rainfall or irrigation should occur within 24 hours after application. Avoid mowing turfgrass areas treated with SP5114 until after rainfall or irrigation occurs.

Turf Color and Post Treatment Turf Management

Turfgrass treated with SP5114 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. Manage treated areas to encourage the growth of a healthy vigorous turf.

Application Directions

Mixing Directions

Add SP5114 to a spray tank half filled with clean water while agitating. Allow sufficient mixing time to ensure consistent mixing of SP5114. Finish filling the spray tank. Continue agitation throughout the spraying operation to ensure uniform application. SP5114 should be applied using a boom-type sprayer with bypass and/or mechanical agitation calibrated to deliver 20 to 100 gallons/acre of spray solution (0.5 to 2.5 gallons/1,000 ft²). In-line strainers and nozzle screens should be 50 mesh or larger. The use of a coloring agent or foam to mark areas already sprayed is suggested for uniform application without skips and overlaps. Performance may be improved with the addition of a readily available nitrogen (N) source at 0.125 to 0.5 lbs N/1,000 ft² or iron (Fe) at suggested label rates to the spray mix.

SP5114 + Tank Mixtures

SP5114 can be tank mixed and is compatible with most commonly-used pesticides and foliar nutrient products. However, test compatibility of SP5114 with tank mix partners before use.

NOTE: Test the compatibility of SP5114 in any tank-mix combination 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.

SP5114 FOR GROWTH REDUCTION OF PERENNIAL TURFGRASS SPECIES

A multiple application program using SP5114 provides growth reduction of perennial turfgrass species resulting in decreased mowing frequency and turfgrass clippings. For cool-season grasses, begin initial applications in early spring following resumption of active growth. For warm-season grasses, begin initial applications when the grass has completely recovered from winter dormancy and is growing vigorously. For both warm and cool-season grasses, discontinue applications a minimum of 4 weeks before the onset of inactive grass growth or winter dormancy. Use lower rate range in early spring and late fall applications to avoid excessive growth regulation. Refer to Table 1 for rates for growth regulation of perennial turfgrass species.

TABLE 1 Rate Ranges for Growth Regulation of Perennial Turfgrass Species With SP5114 Using a Multiple Application Program			
Turfgrass Species	Early Spring/Late Fall Applications	Repeat Applications	
	Rate of SP5114 (fl. oz./A) ^{2,3}	Rate of SP5114 (fl. oz./A) ²	Treatment Interval
Cool-Season Turfgrasses			
Bentgrass (golf course fairway)	20 – 25	20 – 35	2 to 6 weeks
Bentgrass putting greens	10 – 15	10 – 20	2 to 4 weeks
Kentucky Bluegrass/ Perennial Ryegrass Mixture	20 – 25	20 – 30	2 to 6 weeks
Perennial Ryegrass ¹	20 – 25	20 – 40	2 to 6 weeks
Warm-Season Turfgrasses			
Hybrid Bermudagrass ⁴	10 – 20	15 – 30	2 to 6 weeks

¹ For perennial ryegrass overseeded fairways, delay applications until perennial ryegrass is well established (3 to 4 weeks after germination). To avoid delayed spring green-up of bermudagrass, conduct final spring application a minimum of 4 weeks prior to expected bermudagrass green-up.

² Utilize higher rates in the rate range for perennial turfgrass species maintained at higher mowing heights.

³ Use lower rate ranges during early spring or late fall when turfgrass growth and vigor are reduced.

⁴ Initiate applications in the spring after the turf has fully greened up and recovered from dormancy. Discontinue applications approximately 1 month before the onset of winter dormancy.

SP5114 FOR *POA ANNUA* (ANNUAL BLUEGRASS) SUPPRESSION TO PERENNIAL TURFGRASSES

A growth regulation program using SP5114 suppresses *Poa annua* in cool season turfgrasses. Research has demonstrated that programmed applications of SP5114 are effective at suppressing *Poa annua* populations in cool-season turfgrasses when compared to formulations of trinexapac-ethyl which have shown to have minimal impact on reducing *Poa annua* populations. This program provides a gradual increase in cool-season turfgrass populations while reducing *Poa annua* populations over one to several growing seasons. Temporary initial discoloration of *Poa annua* is possible with aggressive rates of SP5114, especially during temperature extremes. To maximize seedling establishment during interseeding or overseeding practices, delay applications of SP5114 for 14 days prior to and/or after date of seeding. Refer to Table 2 for rates for *Poa annua* suppression in cool-season turfgrasses using SP5114.

- **Bentgrass (golf course fairway)**

Apply SP5114 for *Poa annua* suppression in fairway height bentgrass at a rate of 20 to 25 fl. oz./A in early spring following resumption of active growth of the grass. Repeat applications of 20 to 35 fl. oz./A of SP5114 at 2 to 6 week intervals until late summer or early fall. Reduced rates of SP5114 should be considered in bentgrass fairways with high populations of *Poa annua* or when temporary *Poa annua* discoloration cannot be tolerated. Normal management practices such as fertilization, aeration and interseeding/overseeding will encourage growth of bentgrass.

- **Bentgrass Putting Greens**

Annual turfgrass species, such as *Poa annua* are more strongly regulated by applications of SP5114 often resulting in transitory yellowing or temporary discoloration. Therefore, reduced rates of SP5114 should be used on bentgrass putting greens with high populations of *Poa annua* (>50%) or when temporary *Poa annua* discoloration cannot be tolerated. Over time, programmed applications of SP5114 throughout the growing season will suppress *Poa annua* populations, resulting in increased populations of bentgrass. Follow normal management practices such as fertilization, aeration and interseeding/overseeding that encourages growth of bentgrass. Use of SP5114 on bentgrass greens may increase putting speed without reducing the height of cut.

- **Bentgrass Greens with less than 50% *Poa annua* (Annual Bluegrass):** Apply SP5114 to bentgrass as part of an overall greens management program both for growth regulation and *Poa annua* suppression. Apply SP5114 at 10 to 15 fl. oz./A in the spring months after bentgrass greens are growing vigorously and have been mowed 3 or 4 times. Repeat applications of 10 to 20 fl. oz./A of SP5114 every 2 to 4 weeks through early fall.
- **Bentgrass Greens with more than 50% *Poa annua* (Annual Bluegrass):** Apply SP5114 to bentgrass as part of an overall greens management program both for growth regulation and *Poa annua* suppression. An initial application of SP5114 at 10 fl. oz./A should be made in the spring months after bentgrass greens are growing vigorously and have been mowed 3 or 4 times. Repeat applications of 10 to 15 fl. oz./A of SP5114 should be made at 2 to 4 week intervals through early fall.

- **Kentucky bluegrass, Perennial ryegrass mixtures**

Apply SP5114 for *Poa annua* suppression in Kentucky bluegrass and perennial ryegrass mixtures at a rate of 20 to 25 fl. oz./A in early spring following resumption of active growth of the grass. Repeat applications of 20 to 30 fl. oz./A of SP5114 every 2 to 6 week intervals until late summer or early fall. Reduced rates of SP5114 should be considered in Kentucky bluegrass, perennial ryegrass mixtures with high populations of *Poa annua* or when temporary *Poa annua* discoloration cannot be tolerated. Normal management practices such as fertilization, aeration and interseeding/overseeding will encourage growth of bluegrass and/or ryegrass.

- **Perennial ryegrass**

Apply SP5114 for *Poa annua* suppression in perennial ryegrass at a rate of 20 to 30 fl. oz./A in early spring following resumption of active growth of the grass. Repeat applications of 20 to 40 fl. oz./A of SP5114 every 2 to 6 week intervals until late summer or early fall. Reduced rates of SP5114 should be considered in perennial ryegrass with high populations of *Poa annua* or when temporary *Poa annua* discoloration cannot be tolerated. For bermudagrass overseeded with perennial ryegrass, delay applications of SP5114 until perennial ryegrass is well established (4 weeks after germination). To avoid delayed spring green-up of bermudagrass, conduct the final spring application a minimum of 4 weeks prior to expected bermudagrass green-up. Normal management practices such as fertilization, aeration and interseeding/overseeding will encourage growth of perennial ryegrass.

Turfgrass Species	% <i>Poa annua</i>	Initial spring application ¹	Repeat applications ¹	
		Rate of SP5114 (fl. oz./A)	Rate of SP5114 (fl. oz./A)	Treatment Interval
Bentgrass (golf course fairway)	0 - 80%	20 - 25	20 - 35	2 to 6 weeks
Bentgrass Putting Greens	< 50%	10 - 15	10 - 20	2 to 4 weeks
Bentgrass Putting Greens	> 50%	10	10 - 15	2 to 4 weeks
Kentucky Bluegrass/ Perennial Ryegrass Mixture	0 - 80%	20 - 25	20 - 30	2 to 6 weeks
Perennial Ryegrass ²	0 - 80%	20 - 30	20 - 40	2 to 6 weeks

¹ Apply in early spring following resumption of active growth of the grass. Discontinue fall applications 4 weeks before the onset of inactive grass growth or winter dormancy.

² For perennial ryegrass overseeded fairways, delay applications until perennial ryegrass is well established (4 weeks after germination).

Dollar Spot (*Sclerotinia Homoeocarpa*) Suppression by SP5114 in Creeping Bentgrass

One of the active ingredients in SP5114 is structurally similar to triazole fungicides that provide Dollar Spot control. Programmed applications of SP5114 for turf growth suppression or *Poa annua* suppression have also been shown to suppress Dollar Spot incidence in creeping bentgrass fairways, greens and tees. Research results have shown SP5114 applications at labeled rates and application intervals can significantly reduce Dollar Spot incidence and populations when compared to untreated control plots. SP5114 must not be used to replace labeled fungicides for the control of Dollar Spot; rather programmed use of SP5114 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.

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