

# INFORMATION BULLETIN

## POA ANNUA MANAGEMENT PROGRAM FOR OVERSEEDED BERMUDAGRASS TURF — GREENS AND TEES

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

EPA Reg. No. 1471-134  
EPA Reg. No. 1471-155

5-3-88

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

1471-155  
62719-142

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fit easily Delete

*Poa annua*, a true winter annual in southern warm season turfgrass areas, reduces turf quality and increases the golf course superintendent's turf management problems. Rubigan can be used as a tool for reducing *Poa annua* populations in overseeded Bermudagrass areas, including intensively managed areas such as greens and tees. The methods by which this is accomplished can vary to ~~insert~~ into the golf course turf managers program. The following describes the Rubigan *Poa annua* management program. No program should be undertaken until this document is fully understood by the user. Read all label directions and precautions before applying Rubigan to any turf area.

### RUBIGAN: THE GROWTH EFFECT

Rubigan acts in green plants by reducing the biosynthesis of gibberellic acid. This results in a reduction in internodal elongation and a concurrent reduction in overall plant growth. In plants of high sensitivity to this effect, sufficiently high rates or prolonged use of Rubigan will result in a shift in competitive balance to desirable perennial turfgrasses of lesser sensitivity. *Poa annua* has demonstrated a significantly greater sensitivity to Rubigan than perennial turfgrass species and most of their cultivars. This response is most readily seen in *Poa*

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greens and tees.

and tees.

*annua* growing in putting greens. The proper use of this activity can assist the golf course superintendent in managing the *Poa annua* content of his putting greens and other intensively maintained turfgrass areas. Delete

### RUBIGAN POA ANNUA MANAGEMENT DIRECTIONS

Rubigan is an extremely effective locally systemic fungicide labeled for the control of a number of economically important diseases of turfgrass. These plant pathogens include dollar spot and large brown patch. The Rubigan *Poa annua* management program can be timed to coincide with fall fungicide applications for the control of late season dollar spot or brown patch in Bermudagrass areas — greens and tees.

For optimum control of *Poa annua* Rubigan should be applied in a preemergence program. Rubigan can be applied in a single application or a series of 2-3 applications to reach the 2.0-3.0 ounce per thousand square feet rate that is necessary for *Poa annua* control. Whether the single or the multiple application method is used, the final application should be made two weeks prior to the scheduled overseeding of the Bermudagrass area.

single application of 2.0 ounces of Rubigan 50W or 8.0 ounces of Rubigan A.S. or in a program of either 2 or 3 applications to reach the 3.0 ounce rate of Rubigan 50W or the 12.0 ounce rate of Rubigan A.S.

222\*\*\*\*/AS\*\*12/LABELS/US/F7060/96

spring dead spot

turf diseases

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Note: A single application of 0.5 ounces of Rubigan per thousand square feet in the ~~Spring of the year~~ following the overseeding program will help enhance the effects of the *Poa annua* management program and carry this effect through the Spring season.

Timing is the critical issue in this program. Most consistent *Poa annua* control is achieved when Rubigan is applied prior to the germination of any *Poa annua* seeds. ~~For this reason, the three application method may offer more consistent control because the initial Rubigan application is made before *Poa annua* germination. If a later overseeding date is scheduled, the three application method is the most desirable. A single 2 oz. application of Rubigan in this situation may be applied later than the optimum application timing.~~

Normal germination and growth of the overseeded grasses can be expected.

Applications of Rubigan in the above mentioned programs will result in *Poa annua* control in the range of 75 to 95 percent. Results are most apparent the following spring when *Poa annua* ~~seedhead formation is~~ visible and plant populations can be measured. ~~seedheads are~~

Remember, Rubigan is a locally systemic fungicide labelled for the control of a number of economically important diseases of turfgrass. Proper use of Rubigan prior to winter overseeding will result in the control of *Poa annua*. This effect will enable the superintendent to manage the *Poa annua* content of his intensively maintained turfgrass areas. ~~Most consistent *Poa annua* response has been observed when Rubigan is applied in a preemergence program at rates of 2.0-3.0 ounces per thousand square feet with the last application occurring two weeks prior to overseeding with cool season grasses.~~

The manufacturer makes no warranties, express or implied, concerning this product or its use which extend beyond the description on its label. All statements made concerning this product apply only when used as directed.

See the most current product label for complete use instructions.

## OVERSEEDING

Fine bladed perennial rye grasses or blends of these cultivars are suggested for overseeding. ~~Overseeding with creeping bentgrass is currently under evaluation to determine germination percentages. For the purposes of this program, perennial rye grass or rye grass blends is recommended.~~

## EXPECTED RESULTS

The applications of Rubigan in the *Poa annua* management program will coincide with the beginning of the dormancy period of Bermudagrass. ~~A yellowing of the turfgrass color may follow the application of Rubigan but is attributed to the Bermudagrass dormancy, not the Rubigan application. Normal~~

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**ELANCO**

TM

Elanco Products Company  
A Division of Eli Lilly and Company  
740 South Alabama Street  
Indianapolis, Indiana 46285

Delete

Delete

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January or February

greens and tees.

Delete

## INSERT 3

Extended periods of low temperatures and heavy rainfall after a RUBIGAN application, may result in a yellowing of the turfgrass. This effect is attributable to dormancy of the Bermudagrass, not to the RUBIGAN.

DHL PIB RUBIGAN INSERTS  
03/16/88

222\*\*\*\*/AS\*\*12/LABELS/US/F7060/100

222\*\*\*\*/AS\*\*12/LABELS/US/F7060/101

Turf and Ornamental  
Fungicide

# Rubigan®

A.S.

ACCEPTED  
With Exemption  
in EPA Letter 1471-155  
5-3-88  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
is exempted for the pesticide  
registered under EPA Reg. No.  
1471-155



Net Cont.  
One-Half G

Rubigan® A.S. is a locally systemic fungicide for control of specified diseases on turfgrass. It provides the reduction of *Poa annua* populations in maintained stands of perennial turfgrass.

For use on: Golf Courses, Parks, Athletic Fields, Commercial and Residential Turf Areas.

Active Ingredient  
fenarimol 4-(2-chlorophenyl)-2-(4-chlorophenyl)-5-pyrimidinomethanol 11.6%

Inert Ingredients 88.4%

Contains 1.5 pound active ingredient per gallon of Rubigan®—(fe. armol, Elanco)

Keep Out of Reach of Children.

**CAUTION**  
See side panel for additional precautionary statements.

EPA Est. 1471 IN 5, 37429 GA 01, 34704 NB 02  
Superscript used is first letter of lot number  
EPA Reg. No. 1471-155  
FN 7060

Directions  
Enclosed

#### Directions for Use

See literature attached to this container for complete directions for use  
Read all directions carefully before applying  
It is a violation of Federal Law to use this product in a manner inconsistent with the label  
Shake well before using.

#### Precautionary Statements

##### Hazards to Humans and Domestic Animals

##### CAUTION

Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing. Wear impermeable gloves (i.e. butyl rubber) when loading, mixing and applying.

##### Statements of Practical Treatment

If swallowed: Call a physician or poison control center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If on skin: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

If in eyes: Flush with plenty of water. Get medical attention if irritation occurs and persists.  
If inhaled: If discomfort occurs, move to fresh air. Get medical attention if breathing difficulty occurs.

##### Environmental Hazards

This product is toxic to fish. Do not apply directly to water or wetlands. Do not apply when weather conditions favor runoff or drift from the target area. Do not contaminate water by cleaning of equipment or disposal of waste.

#### STORAGE AND DISPOSAL

**Storage:** Avoid freezing. Store in original container only. In case of leak or spill use absorbent materials to contain liquids and dispose as waste.

**Pesticide Disposal:** Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse (or equivalent). Then offer for recycling 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.

WU 1761 AMX  
Elanco Products Company - A Division of Eli Lilly and Company  
Indianapolis, IN 46285, U.S.A.

Insert 1

222\*\*\*\*/AS\*\*12/LABELS/US/F7060/102

# Rubigan® A.S.

## Turf Fungicide

A locally systemic fungicide for the control of specified diseases on turfgrasses and for the reduction of *Poa annua* populations in intensively maintained stands of perennial turfgrasses.

For use on: Golf Courses, Parks, Athletic Fields, Commercial and Residential Areas.

, ornamentals

11 quarts of Rubigan A.S. per acre or 8.0

**Active Ingredient:**

fenarimol,  $\alpha$ -(2-chlorophenyl)- $\alpha$ -(4-chlorophenyl)-5-pyrimidinemethanol ..... 11.6%  
 Inert Ingredients: ..... 88.4%  
 Contains 1 pound active ingredient per gallon.  
 \*Rubigan®—(fenarimol, Elanco)

**Precautionary Statements**

Keep Out of Reach of Children.

Hazards to Humans and Domestic Animals

**CAUTION**

Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing. Wear impermeable gloves (i.e. butyl rubber) when loading, mixing and applying.

**Statements of Practical Treatment**

If swallowed: Call a physician or poison control center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If on skin: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

If in eyes: Flush with plenty of water. Get medical attention if irritation occurs and persists.

If inhaled: If discomfort occurs, move to fresh air. Get medical attention if breathing difficulty occurs.

**Environmental Hazards**

This pesticide is toxic to fish. Do not apply directly to water or wetlands. Do not apply when weather conditions favor runoff or drift from the target area. Do not contaminate water by cleaning of equipment or disposal of waste.

**STORAGE AND DISPOSAL**

**Storage:** Avoid freezing. Store in original container only. In case of leak or spill use absorbent materials to contain liquids and dispose as waste.

**Pesticide Disposal:** Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse (or equivalent). Then offer for recycling 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.

**Directions for Use—Read All Directions Carefully Before Applying**

**SPECIAL PRECAUTION**

Do not apply this product through any type of irrigation system.

**Reduction of *Poa annua* populations:** Applications of Rubigan to turfgrass areas containing *Poa annua* (annual bluegrass) have demonstrated a growth modifying effect on this species. Under certain environmental conditions and cultural practices, Rubigan applications may gradually reduce *Poa annua* populations in treated areas. Users that intend to reduce *Poa annua* populations must obtain either: (1) Rubigan Product Information Bulletin - *Poa annua* Management Program for Overseeded Bermudagrass Turf, or (2) Rubigan Product Information Bulletin - *Poa annua* Management Program for Northern Cool Season Turf. Obtain the Rubigan Product Information Bulletins from Elanco Products Company or their Rubigan distributors prior to use.

**Precautions:** Applications of Rubigan to turfgrass areas containing *Poa annua* (annual bluegrass) may result in the gradual reduction of this species from the turfgrass area. Cumulative dosages of 10 quarts of Rubigan A.S. per acre or 7.5 ounces per 1000 square feet are usually necessary for this response to occur. If such a reduction or loss of *Poa annua* is not acceptable to the user, Rubigan can be used at the minimum label rate (0.75 ounce A.S./1000 square feet) or in alternating application with contact type fungicides.

**Application Directions — Turf**

Rubigan A.S. should be added to the spray tank during the last half of the filling operation. Agitate thoroughly during the filling and spraying operation to insure a uniform spray mixture. Use only a properly calibrated fungicide sprayer with nozzle screens and inline strainers no finer than 50 mesh. Calibrate spray equipment to deliver sufficient water volume for uniform coverage.

**Rubigan A.S. Rate Recommendations**

Disease Organism	Recommended Rates (Oz. Rubigan A.S.) per 1000 sq ft	Spray Interval (Days)	Disease Pressure	Comments (See below)
Dollar Spot ( <i>Lanzia</i> spp. and <i>Moeneradicus</i> spp.)	0.75	10 - 21	Low to Moderate	
	1.5	14 - 28	Moderate to Heavy	
Copper Spot ( <i>Gloeocercospora sorghi</i> )	0.75	10 - 21	Low to Moderate	
	1.5	14 - 28	Moderate to Heavy	
Rhizoctonia Blight/ Large Brown Patch ( <i>Rhizoctonia solani</i> )	1.5	7 - 14	Low to Moderate	
	1.5	7 - 14	Moderate to Heavy	Use tank mixes as discussed below
Necrotic Ring Spot ( <i>Leptosphaeria korrae</i> )	7.5	30	All	1.
Summer Patch ( <i>Phialophora graminicola</i> )	7.5	30	All	1.
Fusarium Blight ( <i>Fusarium</i> spp.)	7.5	30	All	1
Stripe Smut ( <i>Ustilago striiformis</i> )	15	Single Application	All	1
Fusarium Patch/ Pink Snow Mold ( <i>Microdochium nivale</i> )	7.5 - 15	30	All	1. & 2.
Typhula Blight/ Gray Snow Mold ( <i>Typhula</i> spp.)	7.5 - 15	1 or 2 Applications	All	1.
Corticium Red Thread ( <i>Laetisaria luciformis</i> )	7.5	30	All	1
Take All Patch ( <i>Gaeumannomyces graminis</i> )	7.5	1 or 2 Applications	All	1.
Spring Dead Spot ( <i>Leptosphaeria korrae</i> )	3.75 - 7.5	Single Application	All	1 & 3.

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~~1. Single high rate applications such as required to control these diseases may result in the rapid elimination of *Poa annua* when applied to putting greens or other close cut turfgrass areas during periods of environmental stress. Subsequent reseeding with creeping bentgrass may be inhibited for up to 30 days following such applications.~~

~~2. This recommendation does not apply to the control of Fusarium patch (pink patch) as it occurs under conditions of cool wet weather in the Western United States (CA, OR, and WA). Under these conditions, Rubigan A.S. should be applied at 2 oz./1000 square feet every 3 to 4 weeks during periods of favorable disease conditions.~~

~~3. Make single application at 3.75 ounces per 1000 square feet in September or 5.5 ounces per 1000 square feet in October or 7.5 ounces per 1000 square feet in November.~~

— Insert 3

~~12. All applications for dollar spot, copper spot and Rhizoctonia blight should be made as standard foliar applications. Applications made prior to the appearance of visible disease symptoms (preventive applications) should be made at the lowest rate and longest interval listed above.~~

~~13. Applications to areas with visible symptoms of dollar spot should be made at the highest rate listed for that disease and continued at the shortest spray interval for that rate until the disease is brought under control. At this time, the lower rate, longer spray interval recommendations can begin.~~

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~~Applications for necrotic ring spot, summer patch, Fusarium patch and Dollar spot should begin one to two weeks prior to the anticipated appearance of disease symptoms and continued at 30-day intervals for as long as conditions for disease continue.~~

~~Applications for necrotic ring spot, summer patch, Fusarium blight and stripe smut should be applied to the turfgrass and thoroughly irrigated to a minimum soil depth of 1 inch. Applications for Fusarium patch and Typhula blight should be made as standard foliar applications prior to permanent snow cover or frozen soil. A second application may be necessary in late winter or early spring if conditions are favorable for renewed disease development.~~

~~Application for stripe smut can be made as a single application in October or in early spring prior to turfgrass greening.~~

— Delete

**Tank Mixtures**

When disease pressure from Rhizoctonia blight increases to moderate, control will be enhanced by tank-mixing Rubigan with a contact fungicide such as Daconil® 2787. If a tank mixture is used, apply the minimum label rate recommended for the control of Rhizoctonia blight. Under conditions of heavy Rhizoctonia blight pressure, additional sequential applications of a contact fungicide may be necessary to keep the disease adequately controlled.

**Additional Disease Control:** If turf is threatened by additional diseases, Rubigan A.S. is compatible with most commonly used turf fungicides. Leaf spotting organisms such as *Drechslera* and *Curvularia* will require the use of a fungicide such as Daconil 2787 or Tersan® LSR for control. If a tank mixture is used, follow label directions for the use of that product and apply at the minimum rate recommended for control of the target disease organism.

**Rate Conversion Chart  
Rubigan A.S. for Turf**

Label Rates A.S./1000 sq ft	Quantity A.S. Per Acre
0.75 oz. (3/4)	1 Quart
1.50 oz. (1-1/2)	2 Quarts
3.75 oz. (3-3/4)	5 Quarts
5.5 oz. (5-1/2)	7-1/3 Quarts
7.50 oz. (7-1/2)	10 Quarts
15.00 oz.	20 Quarts

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2.0 oz.	2 3/4 Quarts
4.0 oz.	5 1/2 Quarts
6.0 oz.	8 Quarts
8.0 oz.	11 Quarts
15.00 oz.	20 Quarts

Insert  
4 & 5

**Disclaimer of Warranties**

The manufacturer makes no warranties concerning this product or its use, which extend beyond the description on the label. All other warranties, expressed or implied, including but not limited to, any implied warranties of merchantability and fitness for a particular purpose, are disclaimed. All statements concerning this product apply only when used as directed.

**Limitation of Damages**

Elanco's liability, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the return of the amount of the purchase price of the Rubigan and under no circumstances shall Elanco be liable for special, indirect or consequential damages.

Rubigan®—(fenarimol, Elanco)  
 Daconil® 2787—(chlorothalonil, Fermenta)  
 Tersan® LSR—(maneb, DuPont)

Literature issued March 20, 1987  
 Elanco Products Company - A Division of Eli Lilly and Company  
 Indianapolis, IN 46285, U.S.A.  
 D 5944

PI 3220 AMP

RUBIGAN A.S. TURF FUNGICIDE  
INSERT 1

Causes eye irritation. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid breathing spray mist and contact with skin, eyes, or clothing. Use eye protection and protective clothing, such as coveralls, a long-sleeved shirt, and impermeable gloves (i.e., butyl rubber) when handling this product. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Statements of Practical Treatment

If in eyes: Immediately flush eyes with plenty of water. Call a physician if irritation develops.

If on skin: Wash all exposed areas with plenty of soap and water. Get medical attention if irritation develops.

If inhaled: If discomfort occurs, remove individual to fresh air. If breathing difficulty occurs, get medical attention. If not breathing, provide cardiopulmonary resuscitation assistance (mouth-to-mouth) and call a physician.

If swallowed: Call a physician or Poison Control Center. Drink one or two glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to water or wetlands. Do not contaminate water when cleaning of equipment washwaters. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

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RUBIGAN A.S. TURF FUNGICIDE  
 INSERT 2

RUBIGAN A.S. RATE RECOMMENDATIONS - GREENS AND TEES				
Disease Organism	Recommended Rates (Oz.-RUBIGAN A.S.) per 1000 sq. ft.	Spray Interval (Days)	Disease Pressure	Comments (See below)
Dollar Spot ( <u>Sclerotinia</u> <u>homoeocarpa</u> ) ( <u>Moellerodiscus</u> spp.)	0.75	10 - 21	Low to Moderate	12
	1.5	14 - 28	Moderate to Heavy	13
Cooper Spot ( <u>Gloeocercospora</u> <u>sorghii</u> )	0.75	10 - 21	Low to Moderate	12
	1.5	14 - 28	Moderate to Heavy	13
Rhizoctonia Blight/ Large Brown Patch ( <u>Rhizoctonia</u> <u>solani</u> )	1.5	7 - 14	Low to Moderate	12
	1.5	7 - 14	Moderate to Heavy	Use tank mixes as discussed below
Necrotic Ring Spot ( <u>Leptosphaeria</u> <u>korrae</u> )	2.0	30	All	9, 11
Summer Patch ( <u>Magnaporthe</u> <u>poae</u> )	2.0	30	All	9, 11
Fusarium Blight ( <u>Fusarium</u> <u>culmorum</u> ) ( <u>Fusarium</u> <u>poae</u> )	2.0	30	All	9, 11

(Continued)

RUBIGAN A.S. TURF FUNGICIDE  
INSERT 2 (Continued)

RUBIGAN A.S. RATE RECOMMENDATIONS - GREENS AND TEES				
Disease Organism	Recommended Rates (Oz.-RUBIGAN A.S.) per 1000 sq. ft.	Spray Interval (Days)	Disease Pressure	Comments (See below)
Take-All Patch ( <u>Gaeumannomyces graminis</u> )	4.0	30	All	9, 14
Spring Dead Spot ( <u>Leptosphaeria korrae</u> )	4.0 - 6.0	Single Application	All	4, 9
Fusarium Patch/ Pink Snow Mold ( <u>Microdochium nivalis</u> )	8.0	1 or 2 Applications	All	2, 3, 8
Typhula Blight/ Gray Snow Mold ( <u>Typhula incarnata</u> ) ( <u>Typhula ishikariensis</u> )	8.0	1 or 2 Applications	All	2, 8

When treating golf greens and tees, always treat aprons and approaches.

RUBIGAN A.S. TURF FUNGICIDE  
INSERT 2 (Continued)

RUBIGAN A.S. RATE RECOMMENDATIONS - OTHER TURF AREAS				
Disease Organism	Recommended Rates (Oz.-RUBIGAN A.S.) per 1000 sq. ft.	Spray Interval (Days)	Disease Pressure	Comments (See below)
Dollar Spot ( <u>Sclerotinia</u> <u>homoeocarpa</u> ) ( <u>Moellerodiscus</u> spp.)	0.75	30	Low to Moderate	12
Anthracnose ( <u>Colletotrichum</u> <u>graminicola</u> )	1.75 - 3.5	30	All	1
Copper Spot ( <u>Gloeocercospora</u> <u>sorghii</u> )	0.75	10 - 21	Low to Moderate	12
	1.5	14 - 28	Moderate to Heavy	13
Rhizoctonia Blight/ Large Brown Patch ( <u>Rhizoctonia</u> <u>solani</u> )	1.5	7 - 14	Low to Moderate	12
	1.5	7 - 14	Moderate to Heavy	Use Tank Mixes as Discussed Below
Necrotic Ring Spot ( <u>Leptosphaeria</u> <u>korrae</u> )	4.0 - 8.0	1 or 2 Applications	All	5, 9

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RUBIGAN A.S. TURF FUNGICIDE  
INSERT 2 (Continued)

RUBIGAN A.S. RATE RECOMMENDATIONS - OTHER TURF AREAS				
Disease Organism	Recommended Rates (Oz. - RUBIGAN A.S.) per 1000 sq. ft.	Spray Interval (Days)	Disease Pressure	Comments (See below)
Summer Patch ( <u>Magnaporthe poae</u> )	4.0 - 8.0	1 or 2 Applications	All	5, 9
Fusarium Blight ( <u>Fusarium culmorum</u> ) ( <u>Fusarium poae</u> )	4.0 - 8.0	1 or 2 Applications	All	5, 9
Stripe Smut ( <u>Ustilago striiformis</u> )	15.0	Single Application	All	2, 9, 10
Fusarium Patch/ Pink Snow Mold ( <u>Microdochium nivalis</u> )	8.0	1 or 2 Applications	All	2, 3, 8
Typhula Blight/ Gray Snow Mold ( <u>Typhula incarnata</u> ) ( <u>Typhula ishikariensis</u> )	8.0	1 or 2 Applications	All	2, 8
Corticium Red Thread ( <u>Laetisaria fuciformis</u> )	8.0	30	All	2, 7

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DHL RUBIGAN AS/50W INSERTS  
03/08/88

RUBIGAN A.S. TURF FUNGICIDE  
 INSERT 2 (Continued)

RUBIGAN A.S. RATE RECOMMENDATIONS - OTHER TURF AREAS				
Disease Organism	Recommended Rates (Oz. - RUBIGAN A.S.) per 1000 sq. ft.	Spray Interval (Days)	Disease Pressure	Comments (See below)
Take-All Patch ( <u>Gaeumannomyces graminis</u> )	4.0 - 8.0	1 or 2 Applications	All	6, 9
Powdery Mildew ( <u>Erysiphe graminis</u> )	2.0 - 4.0	30	All	13
Spring Dead Spot ( <u>Leptosphaeria korrae</u> )	4.0 - 6.0	Single Application	All	4, 9

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RUBIGAN A.S. TURF FUNGICIDE  
INSERT 3

1. Applications for anthracnose should be applied prior to the anticipated appearance of disease symptoms and continued at 30-day intervals for as long as conditions for disease continue.
2. Single high rate applications such as required to control these diseases may result in the rapid elimination of Poa annua when applied to greens or tees or other close cut turfgrass areas during periods of environmental stress. Subsequent reseeding with creeping bentgrass may be inhibited for up to 30 days following such applications.
3. This recommendation does not apply to the control of Fusarium patch (pink patch) as it occurs under conditions of cool, wet weather in the western United States, (CA, OR, and WA). Under these conditions, Rubigan A.S. should be applied at 2.0 oz./1000 sq. ft. every 3 to 4 weeks during periods of favorable disease conditions.
4. For Spring Dead Spot, make a single application of 4.0 oz./1000 sq. ft. in September, or 6.0 oz./1000 sq. ft. in October or November.
5. Rubigan should be applied preventively in a single 4.0-8.0 oz./1000 sq. ft. application in April or as a split application with 2.0-4.0 oz./1000 sq. ft. applied in April and 2.0-4.0 oz./1000 sq. ft. applied in May. Use the higher rate listed when area to be treated has a previous history of disease infestation.
6. For take-all patch, Rubigan should be applied preventively in a single 8.0 oz./1000 sq. ft. application or as a split application each at 4.0 oz./1000 sq. ft. applied at 30-day intervals. Applications should be made prior to permanent snow cover or frozen soil.
7. Applications for Corticium red thread should begin 1 to 2 weeks prior to the anticipated appearance of disease symptoms. Applications should be made at 30-day intervals with a maximum of 2 applications during any 1 season.
8. The initial application for Fusarium patch and Typhula blight should be made as a standard foliar application prior to permanent snow cover or frozen soil. A second application may be necessary in late winter or early spring if conditions are favorable for renewed disease development.

RUBIGAN A.S. TURF FUNGICIDE  
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9. Applications for necrotic ring spot, summer patch, Fusarium blight, stripe smut, take-all patch, and spring dead spot, should be applied to the turfgrass and thoroughly irrigated with 1/2 to 1 inch of water.
10. Application for stripe smut should be made as a single application in October or in early spring prior to turfgrass greenup.
11. For greens and tees, Rubigan A.S. should be applied preventively at 2.0 oz./1000 sq. ft. beginning in April with a second application at 2.0 oz./1000 sq. ft. in May. If conditions are favorable in the fall for disease occurrence, applications 14 days prior to the anticipated appearance of disease symptoms may be necessary.
12. All applications for dollar spot, copper spot and Rhizoctonia blight should be made as standard foliar applications. Applications made prior to the appearance of visible disease symptoms (preventive applications) should be made at the lowest rate and longest interval listed above.
13. Applications to areas with visible symptoms of dollar spot, copper spot and powdery mildew should be made at the highest rate listed for that disease and continued at the shortest spray interval for that rate until the disease is brought under control. At this time, the lower rate, longer spray interval recommendations can begin.
14. For greens and tees, Rubigan A.S. should be applied preventively in two applications of 4.0 oz./1000 sq. ft. at 30-day intervals. Applications should be made prior to permanent snow cover or frozen soil. If conditions are favorable in the fall for disease occurrence, applications 14 days prior to the anticipated appearance of disease symptoms may be necessary.

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RUBIGAN A.S. TURF FUNGICIDE  
INSERT 4

ORNAMENTALS

Rubigan A.S. is a locally systemic fungicide for the prevention or therapeutic control of powdery mildew of field or landscape grown roses and field, landscape or container grown ornamentals. Once dried on the leaf surface, Rubigan A.S. is absorbed into the plant foliage and is not easily washed off by rain or overhead irrigation. Used as directed Rubigan A.S. will not harm the foliage or floral tissues.

APPLICATION DIRECTIONS - ORNAMENTALS

Rubigan A.S. should be added to the spray tank during the last half of the filling operation. Continuous agitation during completion of filling and spraying will be necessary to insure a uniform spray mixture. Apply Rubigan A.S. with sufficient pressure and spray volume to insure thorough wetting of all plant surfaces. Special care should be taken to thoroughly wet new terminal growth and plant areas already diseased. Applications of Rubigan A.S. should begin at the earliest appearance of signs or symptoms of disease.

FIELD OR LANDSCAPE GROWN ROSES:

Recommended Usage Rates and Spray Intervals

Disease Severity*	Recommended Rates Rubigan A.S. Fluid Oz./100 Gal.	Spray Interval (Days)
Low	4 - 5	10 - 14
Medium	6 - 8	10 - 14
High	8 - 12	7 - 10

\*Low (1-30), Medium (30-60), High (60-100) percent of leaves on individual plants infected with disease organism.

Tanks Mixtures: In areas where blackspot occurs, Rubigan A.S. should be tank-mixed with an EPA registered, commercially-available fungicide. Use the recommended label rate of the selected tank-mix product for blackspot control and the appropriate rate of Rubigan A.S. from the table above.



RUBIGAN A.S. TURF FUNGICIDE  
INSERT 4 (CONTINUED)

NOTE TO USER

Applications of Rubigan A.S. at recommended rates may cause leaf puckering and other growth effects on the foliage of rose cultivars growing under cool, foggy, or overcast conditions. Plants growing under such conditions develop more slowly and are more sensitive to these growth effects. The rose cultivars 'Royalty' and 'Visa' have exhibited growth effects under these conditions while the same cultivars growing under sunny conditions have exhibited no such effects.

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FIELD, LANDSCAPE OR CONTAINER GROWN ORNAMENTALS:  
Recommended Usage Rates and Intervals

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AJUGA, BEGONIA, CALENDULA, CHRYSANTHEMUM, DAHLIA,  
DELPHINIUM, HYDRANGEA, PHLOX, SWEET PEA, VERBENA, ZINNIA

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Type Application	Recommended Rates* Rubigan A.S. Fluid Oz./100 Gal.	Spray Interval* (Days)
Ground	3 - 5	10 - 14

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CRAPEMYRTLE, EUONYMUS, PHOTINIA

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Type Application	Recommended Rates* Rubigan A.S. Fluid Oz./100 Gal.	Spray Interval* (Days)
Ground	6 - 10	10 - 14

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\*Apply Rubigan A.S. at the recommended low rate and maximum spray interval only when using as a preventative or when leaf infection is less than 10 percent. Use the higher rates and shorter spray intervals when greater than 10 percent leaf infection occurs and environmental conditions encourage disease spread.

RUBIGAN A.S. TURF FUNGICIDE  
INSERT 4 (CONTINUED)

Flowering Crabapples

For control of scab, powdery mildew and rusts apply Rubigan at 4-12 oz./100 gallons of water. Begin applications when disease first appears and repeat at 7-14 day intervals throughout the growing season. Use the shorter intervals or higher rates during humid, rainy weather.

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