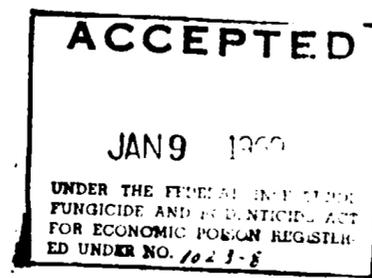


ACTI-DIONE RZ and ACTI-DIONE FERRATED
DIRECTIONS FOR USE ON FAIRWAYS



1023-8

With the increasing demands of golfers to upgrade turf quality, fairway disease control is rapidly becoming standard practice.

Use of Acti-dione RZ and Acti-dione Ferrated has demonstrated effective economic control of many turf diseases when combined with good management practices.

Acti-dione RZ is a broad spectrum turf fungicide formulation containing the antibiotic Acti-dione in combination with PCNB. Acti-dione Ferrated is a formulation of the antibiotic Acti-dione and Ferrous Sulfate designed for the control of specific turfgrass diseases. Both products are used in a preventive and eradivative treatment program for:

Kentucky Bluegrass - leafspot, going-out, and melting-out

Merion Bluegrass - rust, fading-out, and powdery mildew

Bentgrass - dollarspot, melting-out, and fading-out

Ferrous sulfate may be added to the tank mixture to enhance the activity of Acti-dione RZ and correct iron chlorosis of the grass.

For severe infestations Acti-dione Ferrated may be added as a tank mixture to Acti-dione RZ for increased effectiveness. This procedure gives the benefit of added Acti-dione plus the ferrous sulfate but without additional PCNB.

DIRECTIONS FOR USE

Acti-dione RZ and Acti-dione Ferrated may be applied as a spray with a hand or power sprayer. Allow spray to dry on the grass. Do not water in.

The first application should be made when grass growth begins in the spring. Succeeding applications should be made as often as necessary throughout the growing season. Usually an interval of 21-30 days between applications will maintain satisfactory control. See following tables for suggested program.

Prepare a fresh solution each day spraying is done.

For each acre, using at least 30-40 gallons of water per acre:

1. With agitator running add 1½ pounds Acti-dione RZ or 1 package Acti-dione Ferrated to spray tank containing one-half the necessary amount of water.
2. For combination treatments, add 1½ lbs. ferrous sulfate or one package of Acti-dione Ferrated with each 1½ pounds of Acti-dione RZ.
3. Add rest of water while agitator is running.

SUGGESTED SPRAY PROGRAM

This basic program for both bentgrass and bluegrass fairways is flexible. For more specific information on adapting it to your needs, contact your TUCO representative or your local Acti-dione distributor.

<u>Material</u>	<u>Timing</u>	<u>Rate</u>
Acti-dione RZ plus Acti-dione Ferrated*	March 15-30	1½ lb./Acre plus 1 Unit/Acre
Acti-dione RZ <u>or</u> Acti-dione Ferrated	April 15-30	1½ lb./Acre or 1 Unit/Acre
Acti-dione RZ plus Acti-dione Ferrated*	May 15-30	1½ lb./Acre plus 1 Unit/Acre
Acti-dione RZ <u>or</u> Acti-dione Ferrated	June 15-30	1½ lb./Acre or 1 Unit/Acre
Acti-dione RZ plus Acti-dione Ferrated*	July 15-30	1½ lb./Acre plus 1 Unit/Acre
Acti-dione RZ <u>or</u> Acti-dione Ferrated	3-4 timely	1½ lb./Acre or 1 Unit/Acre

* Include Acti-dione Ferrated in cases of severe infestation.

Compatibility:

Acti-dione may be applied with most insecticides and fertilizers. However, do not mix with chlordane or alkaline materials such as lime.

Economical to Use:

A regular application of Acti-dione RZ, Acti-dione RZ plus Acti-dione Ferrated, or Acti-dione Ferrated every 21-30 days will help keep your fairways free from many costly and disfiguring diseases.

1023-8

Availability:

Acti-dione RZ is available in 1½ lb. and 10 lb. bags. Acti-dione Ferrated is available in easy to handle units consisting of one bottle of Acti-dione 5% and one bottle containing ferrous sulfate. Each case of Acti-dione Ferrated contains 12 dual units.

Precautions:

These directions are to be used in accordance with all precautions and warnings contained on the Acti-dione RZ and Acti-dione Ferrated labels. READ THE COMPLETE PRODUCT LABELS.

TUCO PRODUCTS COMPANY

Agricultural Division, The Upjohn Company

(Case of 12—Combination Packages)

No. **9047**

6.35 Oz. Acti-dione 5%
7.68 Oz. Ferrous Sulfate

An antibiotic turf fungicide

Acti-dione Ferrated contains:

Active Ingredient	
Cycloheximide	2.26% w/w
(3-[2-(3,5-dimethyl-2-oxocyclohexyl)-2-hydroxyethyl]-glutarimide.	

Inert Ingredients	97.74% w/w
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This package contains one 6.35 oz. bottle of Acti-dione 5% and one 7.68 oz. bottle of Ferrous Sulfate for use in preparing Acti-dione Ferrated, a turf fungicide, in accordance with the directions contained in the enclosed insert.

Extensive tests of Acti-dione Ferrated by Experiment Station investigators show that it is an outstanding turf fungicide. It will give effective control of **dollar spot, melting-out, and fading-out.**

Directions for use—See enclosed insert

Acti-dione®

FERRATED

WARNING:

Keep out of reach of children. See other warnings on side panel.

Lot WT369 L6

DANGER



POISON

ANTIDOTES

External—In case of contact remove contaminated clothing and wash before reuse. Wash skin immediately with soap and water. For eyes flush with water for 15 minutes.

Internal—Induce vomiting immediately by administering a glassful of warm water containing a tablespoonful of mustard.

Call a physician immediately

Warning: May be fatal if swallowed. May be extremely irritating if contacted or inhaled. Use rubber gloves when mixing Acti-dione Ferrated and during application to turf. Do not contaminate feed and foodstuffs. Do not use on pasture grasses.

USDA Reg. No. 1023-8

K™

TUCO PRODUCTS COMPANY • DIVISION OF THE UPJOHN COMPANY • KALAMAZOO, MICH.

4-1-67
1023-8

For use in preparing turf fungicides in accordance with the directions contained in the accompanying insert.

ANTIDOTES

External—In case of contact remove contaminated clothing and wash before reuse. Wash skin immediately with soap and water. For eyes flush with water for 15 minutes.

Internal—Induce vomiting immediately by administering a glassful of warm water containing a tablespoonful of mustard.

Call a physician immediately

Warning: May be fatal if swallowed. May be extremely irritating if contacted or inhaled. Use rubber gloves when handling this material.

USDA Reg. No. 1023-8

KTL

Lot WT369 L6

NET WEIGHT 6.35 OUNCES

No. 9045

Active Ingredient

Cycloheximide 5% w/w

(3-[2-(3,5-dimethyl-2-oxocyclohexyl)-2-hydroxyethyl] glutarimide)

Inert Ingredients

95% w/w

TUCO

Acti-dione®
5%

DANGER

Keep out of reach of children

See additional warnings on side panel.



POISON

See antidote statement on side panel

TUCO PRODUCTS COMPANY • DIVISION OF
THE UPJOHN COMPANY • KALAMAZOO, MICH.

4-1-67
1023-8

6.35 Oz. Acti-dione 5%
7.68 Oz. Ferrous Sulfate

No. 9047

An antibiotic turf fungicide

Acti-dione Ferrated contains:

Active Ingredient
Cycloheximide 2.26% w/w
(3-[2-(3,5-dimethyl-2-oxocyclohexyl)-2-hydroxyethyl] glutarimide)

Inert Ingredients 97.74% w/w
This package contains one 6.35 oz. bottle of Acti-dione 5% and one 7.68 oz. bottle of Ferrous Sulfate for use in preparing Acti-dione Ferrated, a

turf fungicide, in accordance with the directions contained in the enclosed insert.

Extensive tests of Acti-dione Ferrated by Experiment Station investigators show that it is an outstanding turf fungicide. It will give effective control of dollar spot, melting-out, and fading-out.

Directions for use
See enclosed insert

TUCO

Acti-dione®

FERRATED

DANGER



POISON

ANTIDOTES

External—In case of contact remove contaminated clothing and wash before reuse. Wash skin immediately with soap and water. For eyes flush with water for 15 minutes.

Internal—Induce vomiting immediately by administering a glassful of warm water containing a tablespoonful of mustard.

Call a physician immediately

Warning: Keep out of reach of children.

May be fatal if swallowed. May be extremely irritating if contacted or inhaled. Use rubber gloves when mixing Acti-dione Ferrated and during application to turf. Do not contaminate feed and foodstuffs. Do not use on pasture grasses.

KTM USDA Reg. No. 1023-8

TUCO PRODUCTS COMPANY • DIVISION OF
THE UPJOHN COMPANY • KALAMAZOO, MICH.

Lot WT377 L6

4-1-67
1023-8

Extensive tests of Acti-dione Ferrated by Experiment Station investigators show that it is an outstanding turf fungicide. It will give effective control of dollar spot, melting-out, and fading-out.

TUCO

Acti-dione® FERRATED An Antibiotic Fungicide

Received Reg. Sec.
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Warning: Keep out of reach of children. See other warnings on inside page.

Directions for Preparing Solution

The solution should be prepared the same day that spraying is done.

75 Gallons or More — Slowly empty the recommended number of bottles of Acti-dione and Ferrous Sulfate into the recommended amount of water (approximately 5 gallons per 1,000 sq. ft. See Method of Application). While adding ingredients to water, stir vigorously until a uniform solution is obtained. No pre-mixing of dry ingredients is necessary.

3 Gallons — Prepare a dry ingredient mixture of: 1 level tbsp. of Acti-dione, 3/4 level tsp. of Ferrous Sulfate, and 1/2 level tsp. of a neutral detergent. Slowly add mixture to 3 gallons of water. While adding mixture to water, stir vigorously until a uniform solution is obtained. Measure only as needed — keep the dry ingredients separate until needed.

Directions for Use

Spray the solution on the grass using a power sprayer, hand sprayer, hose-on proportioner, or McLean barrel. Use the smallest amount of solution necessary for complete coverage. Allow the grass to dry. Do not "water in."

How often Acti-dione Ferrated is applied depends upon weather conditions. Ordinarily one application every 10 to 15 days is recommended, but conditions which are unusually favorable for fungus diseases may make it necessary to spray more frequently.

TUCO

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DIVISION OF THE UPJOHN COMPANY • KALAMAZOO, MICH., U.S.A.

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NOVEMBER 1966

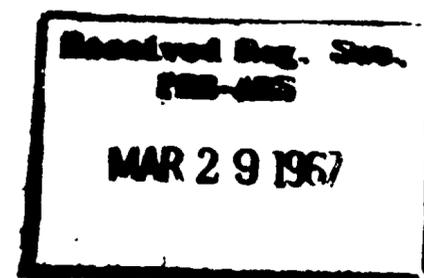
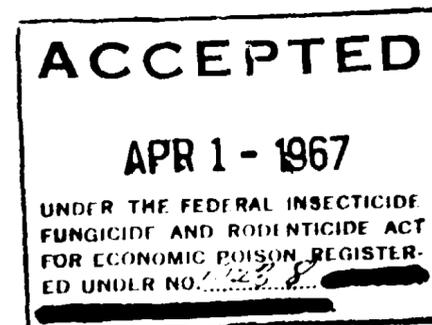
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Acti-dione Ferrated

the antibiotic turf fungicide that controls dollar spot, fading-out and melting-out

Acti-dione Ferrated has a long history of excellent control of dollar spot, melting out and fading out. It continues to furnish large brown patch control in the cooler geographical areas. Acti-dione Ferrated may be applied safely at double strength concentrations for persistent, severe disease conditions. More recent investigational studies indicate that Acti-dione Ferrated may control leaf spot of Kentucky bluegrass when used at the rate of one package in 100 gallons of water on 20,000 square feet of turf. The results were obtained from two early spring applications at 7 to 10 day intervals. The studies also indicate possible eradication control of rust and powdery mildew of Merion bluegrass when used at 7 to 10 day intervals and at the rate of one package in 100 gallons of water for each 15,000 square feet of turf.

Acti-dione Ferrated is packaged in easy-to-handle bottles, consisting of one bottle of Acti-dione 5% and one bottle containing 7.68 ounces of ferrous sulfate.



TUCO

TUCO PRODUCTS COMPANY
Division of The Upjohn Company • Kalamazoo, Michigan





One application of Acti-dione Ferrated every 10 to 15 days provides effective control under ordinary weather conditions.

For rapid control of fungus disease

Acti-dione Ferrated destroyed all fungi against which it was used in laboratory tests, even in concentrations lower than those recommended for turf application. Continued extensive tests of this antibiotic by Agricultural Experiment Station investigators show that it is an outstanding turf fungicide. Golf course superintendents have reported that control of disease is often obtained within hours of the first application.

Acti-dione Ferrated is economical

A preventive or treatment spray may be applied for as little as 30 cents per 1,000 square feet of turf in dollar spot season.

Acti-dione Ferrated is easy to use

Simply spray the solution on the grass with a power sprayer, hose-on proportioner, or McLean barrel. Use the smallest amount necessary for complete coverage and allow the grass to dry. Do not "water-in." One application every 10 to 15 days is usually adequate. When the weather is unusually favorable for fungus disease, it may be necessary to spray more frequently.

During very hot and humid weather

Acti-dione Ferrated should be used without "watering-in." Since Acti-dione Ferrated is water soluble, every drop of the solution controls and protects.

How to prepare Acti-dione Ferrated

Prepare the solution the same day that spraying is done. No premixing of dry ingredients is necessary—keep them separate until needed.

75 GALLONS OR MORE

Slowly empty the recommended number of bottles of Acti-dione and ferrous sulfate into the recommended

amount of water (approximately 5 gallons per 1,000 square feet). (See detailed instructions below.) Stir vigorously while adding ingredients to water until a uniform solution is obtained.

3 GALLONS

Immediately before making up the solution prepare a dry ingredient mixture of: 1 level tablespoonful of Acti-dione, 3½ level tablespoonfuls of ferrous sulfate, and ½ level tablespoonful of a neutral detergent. Slowly add mixture to 3 gallons of water, stirring vigorously until a uniform solution is obtained.

DOLLAR SPOT

One package of Acti-dione Ferrated will treat 20,000 square feet or four average greens (one average green—5,000 square feet).

Square Feet	Number of greens	Gallons of water	Packages of Acti-dione Ferrated
20,000	4	100	1
30,000	6	150	1½
40,000	8	200	2
50,000	10	250	2½
60,000	12	300	3
70,000	14	350	3½
80,000	16	400	4
90,000	18	450	4½
100,000	20	500	5

FADING-OUT AND MELTING-OUT

One package of Acti-dione Ferrated will treat 15,000 square feet of three average greens (one average green—5,000 square feet). Spray once every 10 to 15 days. Hot, humid weather may make it necessary to spray more frequently.

Square Feet	Number of greens	Gallons of water	Packages of Acti-dione Ferrated
15,000	3	75	1
20,000	4	100	1½
30,000	6	150	2
40,000	8	200	2½
50,000	10	250	3
60,000	12	300	4
70,000	14	350	4½
80,000	16	400	5
90,000	18	450	6
100,000	20	500	6½

For small areas (1,000 sq. ft.) of dollar spot, fading-out, and melting-out, a 3-gallon solution will treat approximately 1,000 square feet.