



# Introduction

**Kabuto™ Fungicide SC** is a proprietary liquid formulation featuring isofetamid proven to provide preventative, systemic, and curative dollar spot control in turfgrass, including control of resistant dollar spot isolates. Kabuto inhibits all stages of development in the fungal lifecycle, and can be applied up to eight times per year as part of a resistance management program.

## General Information

### FORMULATION

Flowable suspension concentrate (SC) with 3.33 lb./gal. or 36.0% wt./wt. of the active ingredient isofetamid.

### MODE OF ACTION AND ROTATION

The Kabuto active ingredient isofetamid, a Group 7 fungicide (Carboxamides), inhibits succinate-dehydrogenase (SDH) in complex II of fungal respiration.

### USE SITES

Kabuto can be used on professionally managed turf areas including golf courses, (greens, tees, and fairways), residential sites, commercial and industrial areas, parks, school grounds, and others as listed.

### USE RATES

Dilution Table for Applications			
Use Rate (fl.oz.per 1000 sq. ft.)	Spray Volume 2 gallons per 1000 sq. ft.	Spray Volume 3 gallons per 1000 sq.ft.	Spray Volume 4 gallons per 1000 sq.ft.
0.4	20 fl.oz./100 gal.	13.3 fl.oz/100 gal.	10 fl.oz./100 gal.
0.5	25 fl.oz./100 gal.	16.7 fl.oz./100 gal.	12.5 fl.oz./100 gal.

### LABELED DISEASES

Kabuto is proven to provide preventative and curative control of dollar spot disease.

### RESISTANCE MANAGEMENT

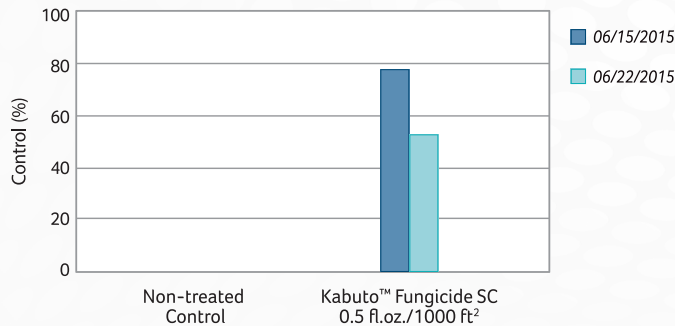
A disease management program that includes alternation or tank mixes between Kabuto and other labeled fungicides that have a different mode of action and/or control pathogens not controlled with Kabuto is essential to prevent diseases-resistant pathogens populations from development.

### REI

Workers may enter treated areas after the restricted entry interval of 12 hours.

# Performance Data

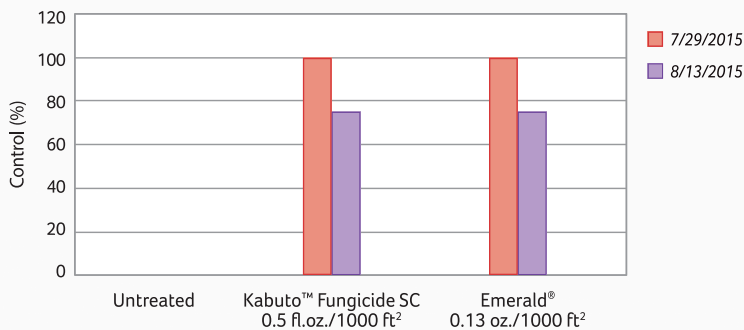
## Early Season Suppression of Dollar Spot OJ Noer Turfgrass Research Facility Madison, WI



Application Date: May 4, 2015

## Curative Dollar Spot Control with Kabuto™ University of Tennessee

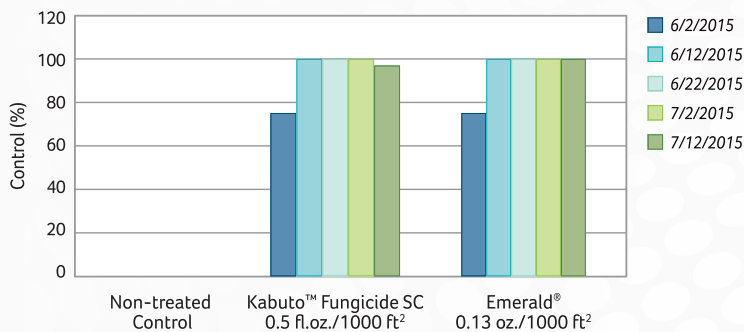
Applications made every two weeks through August 13, 2015



Application Date: June 3, 2015

## Dollar Spot Control with Kabuto™ Rutgers University

Applications made every two weeks through August 21, 2015



Initial Application Date: May 22, 2015

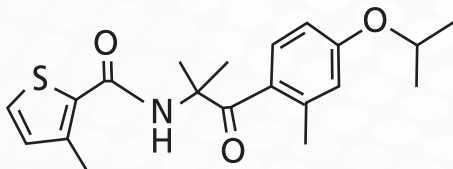


# Isofetamid

## PHYSICAL AND CHEMICAL PROPERTIES

Common name:	Isofetamid
Chemical name:	N-[1,1-dimethyl-2-(4-isopropoxy- -o-tolyl)-2-oxoethyl]-3- -methylthiophene-2-carboxamide

Chemical formula:



CAS number:	875915-78-9
Molecular weight:	359.48
Melting point/range:	152.7°C
pH:	7.3
Density:	1.12 g/mL
Water solubility (20°C):	5.33mg/L
pK <sub>a</sub> at 20°C:	Does not dissociate between pH 4-10
Vapor pressure (25°C):	4.2 x 10 <sup>-7</sup> Pa
Half-lives:	Aerobic soil 27-55 days Anaerobic soil 572 days
KOC – organic-carbon sorption constant (ml g <sup>-1</sup> ):	489

## MAMMALIAN TOXICITY

Hazard Indicator	Technical
Acute oral LD <sub>50</sub>	>2000 mg/kg (rat)
Acute dermal LD <sub>50</sub>	>2000 mg/kg (rabbit)
Acute inhalation LC <sub>30</sub>	>5.13 mg/L
Eye irritation	Non-irritating
Skin irritation	Non-irritating
Skin sensitization	Not a contact sensitizer

## ENVIRONMENTAL SAFETY

Hazard Indicator	Acute Toxicity Values
Freshwater fish (carp)	96-hour LC <sub>50</sub> = 100mg/L (35 mg a.i./L)
Freshwater invertebrate (Daphnia magna)	48-hour EC <sub>50</sub> = 25 mg/L (8.5 mg a.i./L)
Algae (Pseudokirchneriella subcapitata)	96-hour ErC <sub>50</sub> = 940 mg/L
Bobwhite quail acute	LD <sub>50</sub> > 2,000 mg a.i./kg body weight (practically non-toxic)
Sub-acute dietary bird	LD <sub>50</sub> > 5,000 ppm a.i. in diet for both quail and mallard



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Always read and follow label directions. Emerald® is a registered trademark of BASF. Gordon's® is a registered trademark of PBI-Gordon Corp. Kabuto™ is a trademark of Ishihara Sangyo Kaisha, LTD. 10/15 03998