

**The verdict is in...**



*Judge*

**The Best Decision for Cost Effective  
Postharvest Decay Control of Stonefruit**

**New and Innovative Fungicide Technology**



# peaches nectarines

## Introduction

Judge™ (fenhexamid) 50 WDG is a locally systemic protectant fungicide with curative activity when used early in the disease cycle. Judge is active on fungi such as *Botrytis cinerea* (gray mold) and *Monilinia fructicola* (brown rot) which cause major postharvest losses each year in various crops. Research trials conducted over the past 8 years have proven that Judge is highly effective in controlling gray mold and brown rot with no negative effects on fruit flavor or aroma.

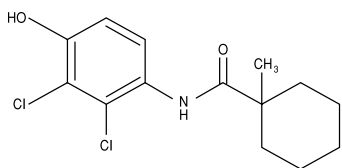
## Mode of Action

Fenhexamid, the active ingredient in Judge acts protectively to inhibit germ tube elongation and mycelial growth at low concentrations and spore germination at high rates. Judge's unique chemistry shows no cross resistance, making it an excellent addition to your resistance management program.

## Physical Properties

Judge is a beige, water dispersible granule (WDG) that contains 50% active ingredient. Judge has been classified by the U.S. EPA as a "reduced-risk" pesticide. U.S. EPA classifies a reduced risk pesticide as one that has "low-impact on human health, low toxicity to non-target organisms (birds, fish, and plants), low potential for groundwater contamination, lower use rates, low pest resistance potential, and compatibility with Integrated Pest Management."

Chemical Group:	Hydroxyanilide
Empirical Formula:	$C_{14}H_{17}Cl_2NO_2$
Appearance:	Beige powder
Vapor Pressure at 20°C:	$4 \times 10^{-7}$ Pa (extrapolated)
Odor:	No characteristic odor
Melting Point:	153°C
Heat Stability:	Decomposition occurs above 230°C
Solubility in Water at 20°C:	20 mg/l (pH 5-7)
Solubility in Organic Solvents:	Very soluble in hydrocarbon solvents



## Packaging

- 1 pound container
- 12 x 1 pound containers/case
- 32 cases/pallet

## Uses and Applications

### Postharvest Application

- Apply only as a postharvest spray to fruit in a packingline or dip fruit in the solution for 30 seconds.
- Do not make more than one postharvest application.

#### High Volume Application (dilute):

Apply 1.5 lbs of Judge (0.75 lb AI) per 100 gallons of water, wax/oil emulsion or aqueous dilution of a wax/oil emulsion to 200,000 lbs of fruit.

#### Low Volume Application (concentrate):

Use a control droplet type application (CDA) system or similar low volume system.

Apply 1.5 lbs of Judge (0.75 lb AI) in a minimum of 8 gallons of water, wax/oil emulsion or aqueous dilution of a wax/oil emulsion to 200,000 lbs of fruit.



## Compatibility with Other Solutions

- Judge is compatible with Pace's emulsion coatings such as: PrimaFresh 200, PrimaFresh 45 and PrimaFresh 50-V.
- To ensure compatibility with other coatings, combinations should always be tested prior to mixing large quantities.



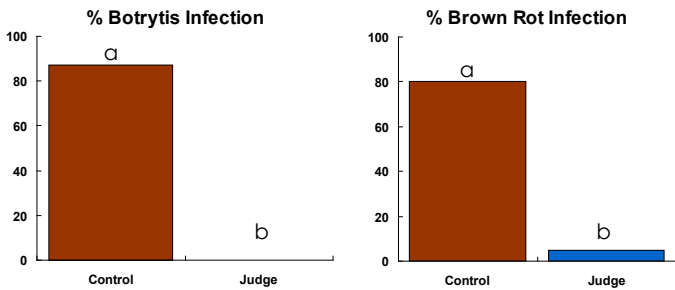
### Efficacy of Judge

Judge has been tested in numerous trials (commercially and in the lab) and has consistently proven effective in controlling the two major stonefruit diseases, Botrytis cinerea (gray mold) and Monilinia fructicola (brown rot).

### Decay Incidence Trial Results of Judge

The graphs below show results of decay incidences from two trials conducted at University of California, Kearney Agricultural Center.

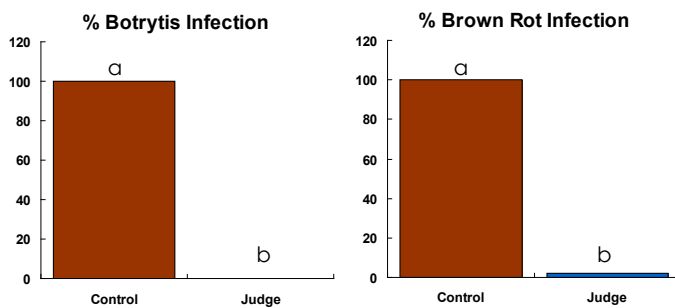
#### Decay Incidence of 'Elegant Lady' Peaches



#### Adaskaveg & Teviotdale, 1999 CTFA Annual Report

Fruit were harvested, wound inoculated with decay fungi (30 K/ml), incubated for 7-8 hr, treated with Judge using an air nozzle sprayer (product/100 gal/200 K lb of fruit), and incubated for 3-5 days at 20°C. Judge was applied in a 75% concentrate wax/oil emulsion coating.

#### Decay Incidence of 'Red Diamond' Nectarines



#### Adaskaveg & Teviotdale, 2000 CTFA Annual Report

Fruit were harvested, wound inoculated with decay fungi (30 K/ml), incubated for 7-8 hr, treated with Judge using a CDA application system (product/100 gal/200 K lb of fruit), and incubated for 3-5 days at 20°C. Judge was applied in a wax/oil emulsion coating.

Botrytis



Brown Rot



### Efficacy Trials of Judge and Scholar for Exporting

The table below show results of one of two trials conducted at Pace International's Visalia Fruit Labs to evaluate the activity of the combination of Judge and Scholar® (fludioxonil).

Trials were conducted on peaches to evaluate the activity of the two fungicides in controlling Rhizopus decay. Control of the natural incidence of Brown rot was also enumerated. After treatment fruit were incubated at 70°F and 90% RH for four days, then evaluated for decay incidence.

TRIAL 1 Treatments	Decay Type		Fruit Residues (ppm)
	% Rhizopus	% Brown Rot	
UTC	90	7.5	0
Scholar	0	0	0.7
Scholar + Judge	0	0	0.7 + 3.5

TRIAL 2 Treatments	Decay Type		Fruit Residues (ppm)
	% Rhizopus	% Brown Rot	
UTC	97	0	0
Scholar	11.2	0	0.3
Judge	96.2	0	1.1

This trial showed that Scholar when applied alone and in combination with Judge controlled Rhizopus decay at a fruit residue of 0.7 ppm fludioxonil. Though Brown Rot was not an objective of this trial, it was shown to be controlled.

As a result, Pace recommends packers who want to ship peaches and nectarines to the United Kingdom (UK) market where the MRLS is 1.0 ppm fludioxonil and 5.0 ppm fenhexamid, should consider the combination of Judge and Scholar as a feasible alternative solution to their decay management program.



# Pace International Brings Innovative Solutions to Control Postharvest Disease with Unsurpassed Service Quality



Pace introduces Judge to you as a cost effective solution to the high price of maintaining your resistance management program. With this new and innovative technology is the Pace promise of quality service unlike any other. Frequent visits from Pace sales, service, and technical support teams ensure a successful program. Pace's Technical Service Team is committed to working hard to maximize the efficiency of your packing operation and the solutions being used.

## The following tasks are conducted regularly for our contract customers:

### Fruit Condition

- Rank condition of fruit
- Measure decay at dump site

### Line Operation

- Evaluate water elimination
- Determine brush speed
- Measure dump rate

### Decay Control

- Customized sanitation programs

### Treatments

- Measure pH and chlorine concentration
- Perform fungicide concentration and residue analysis

### Coating Application

- Meter coating output for proper rate and fungicide concentration
- Determine cartons treated per gallon of coating applied (mileage)



## The Leading Postharvest Specialist

Innovative Technologies  
High Quality Products  
Efficient Application Systems  
Professional Services & Support  
Global Experience & Research



For more information about Judge™ contact your local Distributor, Pace Representative or Pace International, LLC  
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