

# FLUTIANIL

Fungicide

Product name: **GATTEN<sup>®</sup>**



OAT Agrio Co., Ltd.

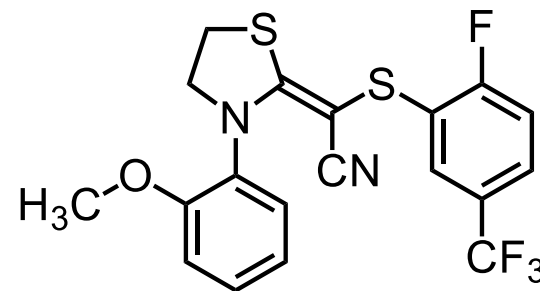
—Tokyo, Japan—

2021 IR-4 meeting



# Flutianil, Characteristics

- New chemical group: cyano-methylene thiazolidine
- Effective in controlling powdery mildew
- **Novel Mode of Action against powdery mildew (FRAC Code U13)**



**We'd like to propose a MOA of flutianil as "functional inhibition of the haustorium"\***

**No Cross-Resistance with other chemical classes**

\*Reference: J Pestic Sci 45(4), 206-2015 (2020)  
J Pestic Sci 26(2), 206-2013 (2021)



# Regulatory Information

## ■ US

- Reduced risk status granted for all of the registered crops
- Registered crops: Apples, Cherry Subgroup 12-12A, Berry, low growing subgroup 13-07G, Melon subgroup 9A and Squash/cucumber subgroup 9B, Small fruit, vine climbing, except fuzzy kiwifruit, subgroup 13-07F, Berry, low growing, subgroup 13-07G, and Hops.

## ■ Canada

- Submitted application to PMRA for Cucurbits Crop Group 9, Cherry Subgroup 12-09A and Fruit, small, vine growing, except fuzzy kiwifruit, subgroup 13-07F.
- Import tolerance submission for Apples and Strawberries.
- Registration expected Oct/Nov 2021

## ■ Japan

- Registered on Eggplant, Cucumber, Pumpkin and Squash, Watermelon, Melons, Strawberry, Zucchini, Tomato, Peas, Flowers and Ornamental plants, and Trees and Shrubs.

## ■ Korea

- Registered on Green & Red pepper (Fresh), Strawberry, Watermelon, Cucumber, Korean melon, and Sweet pepper

## ■ EU

- Approval: Annex I granted April 2019
- Approved crops: Grapes and Flowers and Ornamental plants



- **Type:** Fungicide
- **Product Name:** GATTEN<sup>®</sup>
- **Active ingredient:** Flutianil
- **Formulation:** 5% EC
- **Use rate:** 0.04 lb ai/acre (0.01-0.05 lb ai/acre global)
  - **Note: 0.01 – 0.02 lb ai/A is new targeted use rate**
- **Application:** 3-5 times per season, 7 day interval
- **PHI:** 0-14 days
- **Crops:** Apples, Cherry Subgroup 12-12A, Melon subgroup 9A and Squash/cucumber subgroup 9B, Small fruit, vine climbing, except fuzzy kiwifruit, subgroup 13-07F, Berry, low growing, subgroup 13-07G, and Hops.
  - All granted reduced risk status



# US Label Expansion – IR4

- Label Expansion Approved with the EPA (30Jan2020)
  - Melon subgroup 9A and Squash/cucumber subgroup 9B
  - Cherry Subgroup 12-12A
  - Berry, low growing subgroup 13-07G
  - Small fruit, vine climbing, except fuzzy kiwifruit, subgroup 13-07F
  - Hops
- Label Expansion with the EPA (submission by IR-4 Oct 2022)
  - Lettuce (Head and Leaf including greenhouse)
  - Peach
  - Mustard Green - completed old study
  - Cucumber (Greenhouse)
  - Tomato (Greenhouse)
  - Eggplant (Greenhouse)
  - Pepper (Greenhouse)



## ■ Current IR-4 Studies

### ➤ Strawberry greenhouse

- ✓ Submission to PMRA by PMC and to EPA by IR-4

## ■ Efficacy and Crop Safety

### ➤ Ornamental Crop Safety by IR-4

- ✓ Not a submission priority for IR-4

### ➤ Ornamental Crop Safety and Efficacy by PMC

- ✓ Submission to PMRA by PMC

### ➤ Rosemary and Sage Efficacy and Crop Safety Only

- ✓ IR-4 efficacy studies on-going
- ✓ Not a submission priority for IR-4

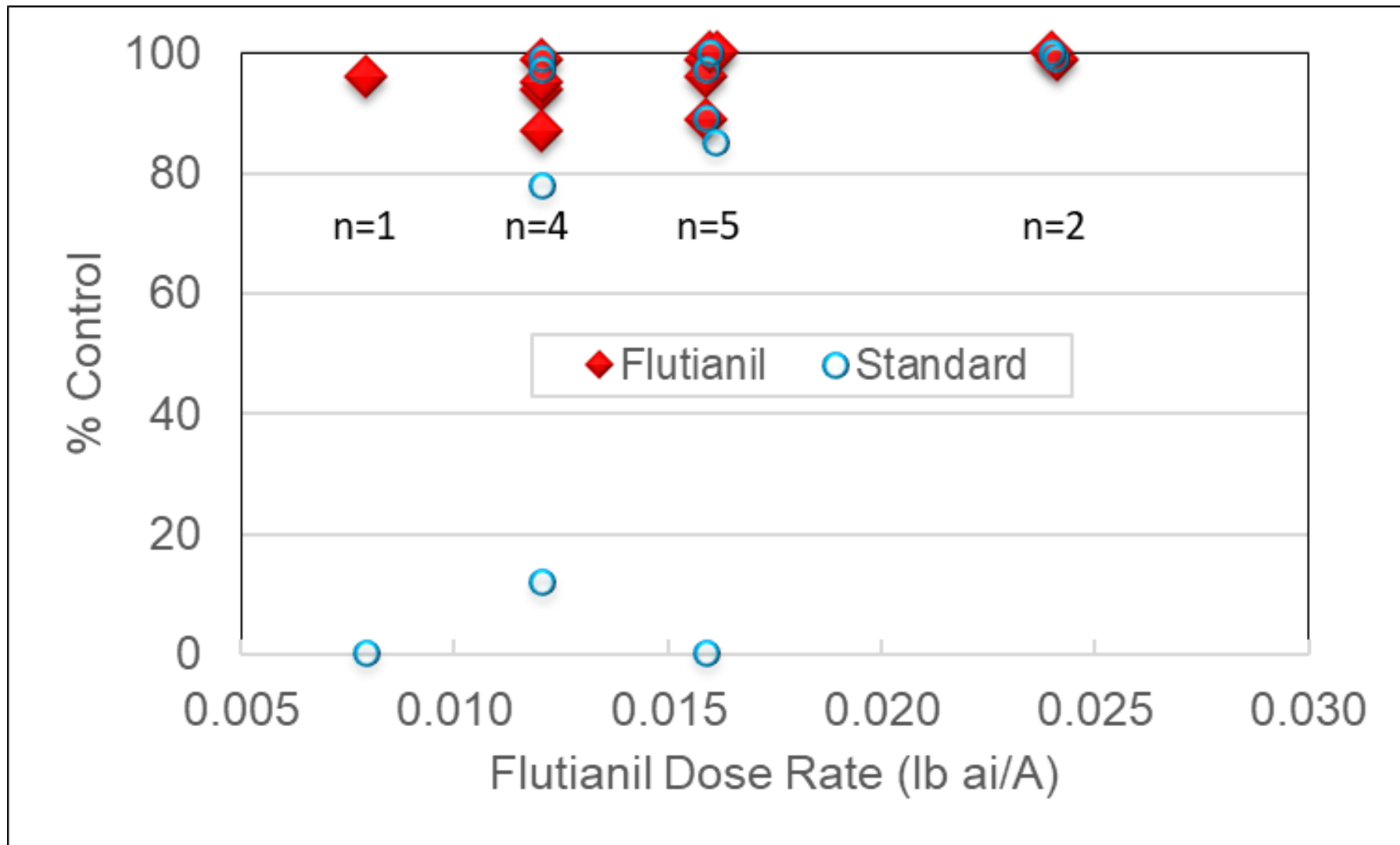


## ■ Current PMC Studies

- Pepper (GH)
  - ✓ Joint with IR-4, PMC leading
- Cucumber (GH part of GMUS)
  - ✓ Joint with IR-4; IR-4 leading, PMC doing efficacy and some residue trials
- Hops
  - ✓ Joint with IR-4, PMC leading
- Ornamental Crops Safety and Efficacy
  - ✓ PMC project with crop safety studies also being done by IR-4 (not an IR-4 submission priority)
- Cherry
  - ✓ Residue and efficacy in Canada
- Tomato (GH)
  - ✓ Joint with IR-4; IR-4 leading, PMC doing efficacy
- Strawberries (GH)
  - ✓ Residue and efficacy in Canada
- PMC on-going studies to be submitted when complete (earliest target Oct 2022)



# Field Performance on Grape (US)





# *Uncinula necator* on Grapevine

**Flutianil**

**untreated**

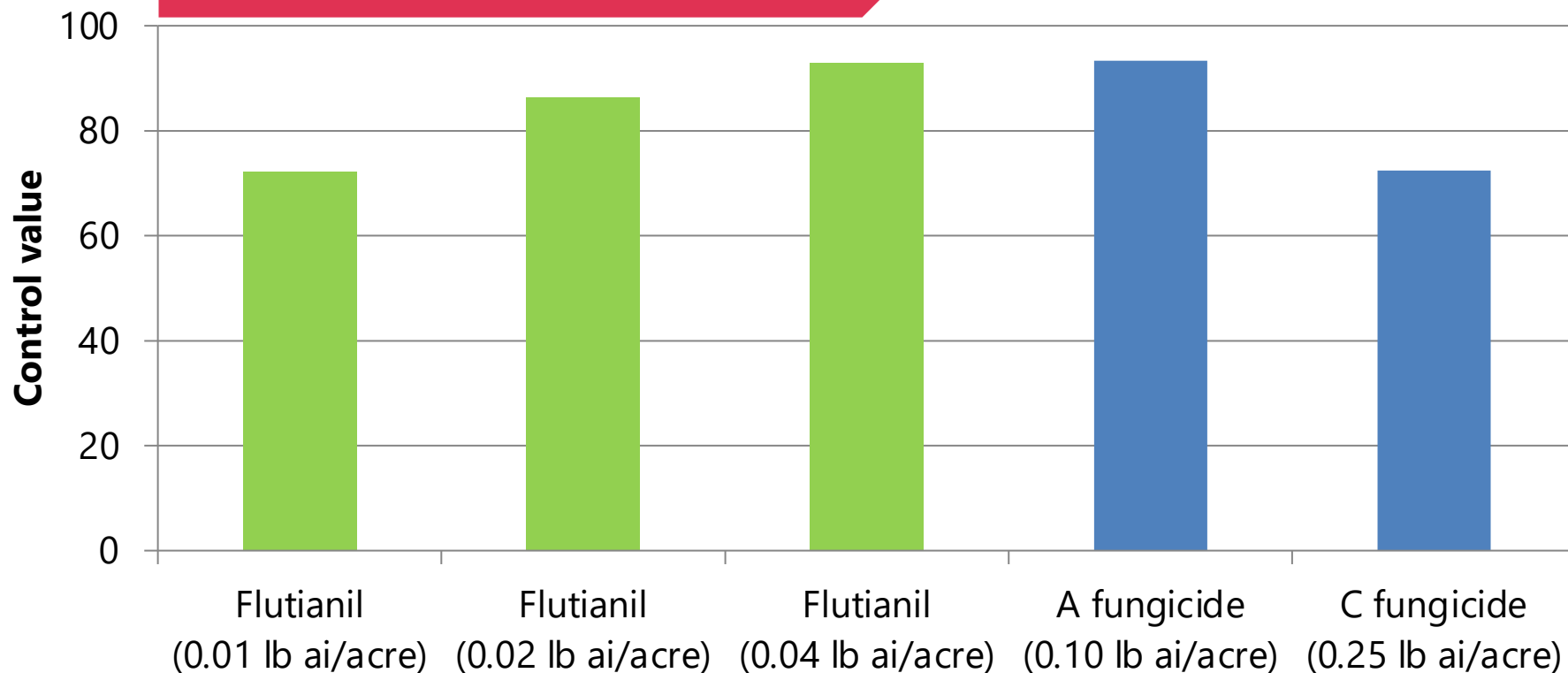


- Location: Spain
- Application: June 6, 19, July 1, 15, 30, 2008



# *Podosphaera xanthii* on Leaves of Yellow Squash

**Effective at Low Dose**



- Location: Raleigh, NC
- Five applications targeted at 7 days intervals
- Assessment was determined at 7 days after the last application
- Application: 1 - 7/27/2011, 2 - 8/3/2011, 3 - 8/10/2011, 4 - 8/17/2011, 5 - 8/24/2011



# *Sphaerotheca fuliginea* on Squash

**0.03 lb ai/acre Flutianil**



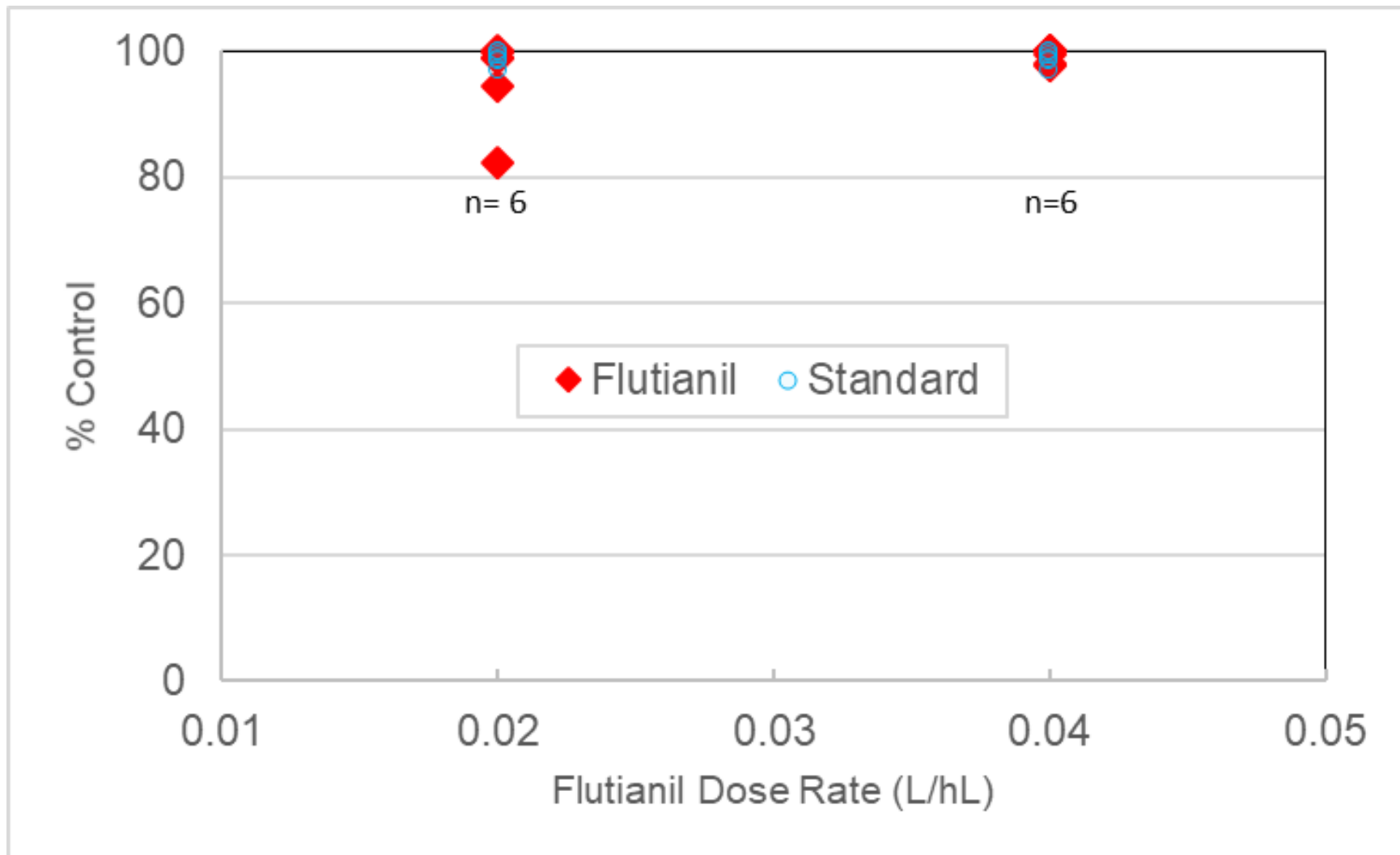
**untreated**



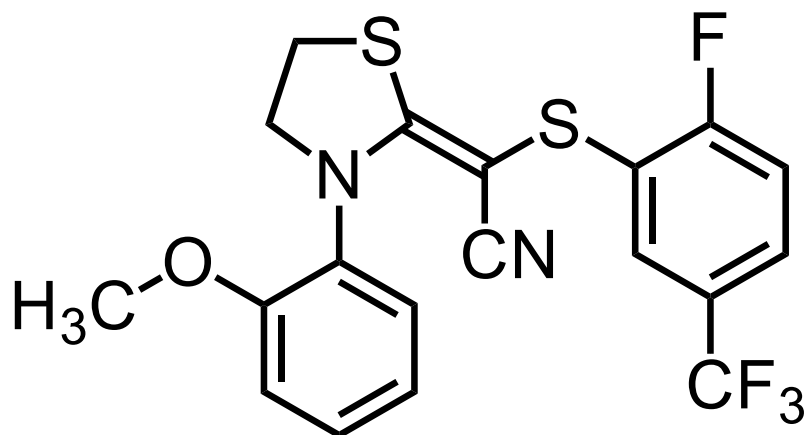
- Location: Tokushima, Japan, OAT AGRIO
- One application targeted, Assessment was determined at 25 days after application
- Application: 1 - 6/18/2012



# Field Performance on Non-woody Ornamentals (EU)







## Flutianil

Trade name: **GATTEN®**

- Effective in controlling powdery mildew
- **Novel Mode of Action against powdery mildew (FRAC Code U13)**
- **We'd like to propose a MOA of flutianil as "functional inhibition of the haustorium"\***
- **No Cross-Resistance with other chemical classes**



# Thank you



OAT Agrio Co., Ltd.

—Tokyo, Japan—

