Fluopyram
IR-4 Food Use Workshop

Bayer CropScience, Research Triangle Park, NC 27709
INTRODUCTION

- **Active Ingredient:** Fluopyram (ISO)
- **CAS Number:** 658066-35-4
- **Chemical Class:** Pyramides (new class)
- **FRAC Group:** Group 7 (SDH inhibitor)
- **EPA Status:** Registration expected 2010

- **Experimental Codes:**
  - USF 2015
  - USF 2016 to USF 2019 (premixes)
LUNA is being developed worldwide

- food production crops
- trilateral workshare: US, European Union, Canada
- California – concurrent review with EPA
- goal: establish uniform MRL’s for easier trade

Registration expected in 2010

Anticipated sales in 2011
CROPS AND PATHOGENS

- **Almond** – Brown rot, Blossom blight, Shothole, Scab, *Alternaria*
- **Grape** – Powdery mildew, *Botrytis*
- **Stone fruit** – Brown rot, Blossom blight, Powdery mildew, Scab, CLS
- **Lettuce** – Lettuce Drop, *Botrytis*
- **Strawberry** – Powdery mildew, *Botrytis, Rhizopus, Leaf spot*
- **Pistachio** – Alternaria leaf blight, *Botrytis*
- **Cucurbit** – Powdery mildew, *Botrytis*
- **Artichoke, Hops, Brassica** – Powdery mildew
- **Pome fruit** – Powdery mildew, Apple/Pear Scab, *Botrytis, Gloeosporium, Penicillium*
- **Bulb** – *Botrytis*, Alternaria, White rot
- **Potato** – Early blight, Black dot, White mold
- **Carrot** – *Alternaria* Powdery mildew
- **Tomato, Pepper** – Powdery mildew

*Majority of crop groups...one of the largest submissions ever by Bayer CropScience.*
• Broad range of Ascomycetes, Zygomycetes, and Deuteromycetes

• Weak on Basidiomycetes

• Not active on Oomycetes
Mixtures with Qol, AP, and DMI partners:
- broaden label spectrum
- improve resistance management

- Fluopyram SC 500  LUNA Privilege
- Fluopyram + Trifloxystrobin SC 500  LUNA Sensation
- Fluopyram + Pyrimethanil SC 500  LUNA Tranquility
- Fluopyram + Tebuconazole SC 400  LUNA Experience
- Fluopyram + Prothioconazole SC 400  PROPULSE
Luna Sensation was a top performer in 2008 Pome fruit trials.

Exceptional control of:
- Leaf scab
- Fruit scab
- P. mildew
- Sooty blotch
- Fly speck
- Rust
- and others
STONE FRUIT - FRUIT ROTS

Luna Sensation gives excellent control of fruit diseases from in season use
Luna Sensation is providing reduction of:
- Rots in the field at harvest and in storage
IR-4 Projects

- Avocado
- Banana
- Guava
- Lychee
- Papaya
- Passion Fruit
- Sugar Apple
Votivo™ biological seed treatment

Votivo, which contains *Bacillus firmus*, is not registered for use and is currently under review by the EPA.
Votivo Overview

What is Votivo?

- Living bacteria that protects corn, soybeans, cotton, and other crops from nematode damage
- Bacteria colonize the root as the plant grows to provide long-lasting protection
- Applied as a convenient seed treatment
Votivo Expected Benefits

- Votivo provides a new option to suppress nematodes with an innovative biological material
- The living organism is very stable in the formulation, on the seed and in the root zone
- Growers will see a potential for consistently enhanced yields
Votivo Nematode Protection

- Research trials have demonstrated nematode protection against several economically significant species, including:
  - Soybean Cyst Nematodes
  - Root-knot Nematodes
  - Reniform Nematodes
  - Needle Nematodes
  - Sting Nematodes

Female root-knot nematode
Votivo Performance Partners

• Votivo will be paired with other top-performing seed-applied products for enhanced protection
  • Corn: Votivo + Poncho® 500 (clothianidin)
  • Cotton: Votivo + Aeris® (thiodicarb & imidacloprid)
  • Soybeans: Votivo + Trilex® (trifloxystrobin)
### Registration Status

- A tolerance exemption was established for *Bacillus firmus* I-1582 on all food/feed commodities (FR Notice 05/07/2008 (73FR25524)).
- The product is currently being tested on corn, cotton, and soybeans under an Experimental Use Permit.
- Votivo FS is expected to receive registration from the EPA for the 2011 growing season.
### Possible IR-4 Projects

- Performance on vegetable crops
Thank you