

Research and Regulatory Update

CA Garlic & Onion Research
Advisory Board

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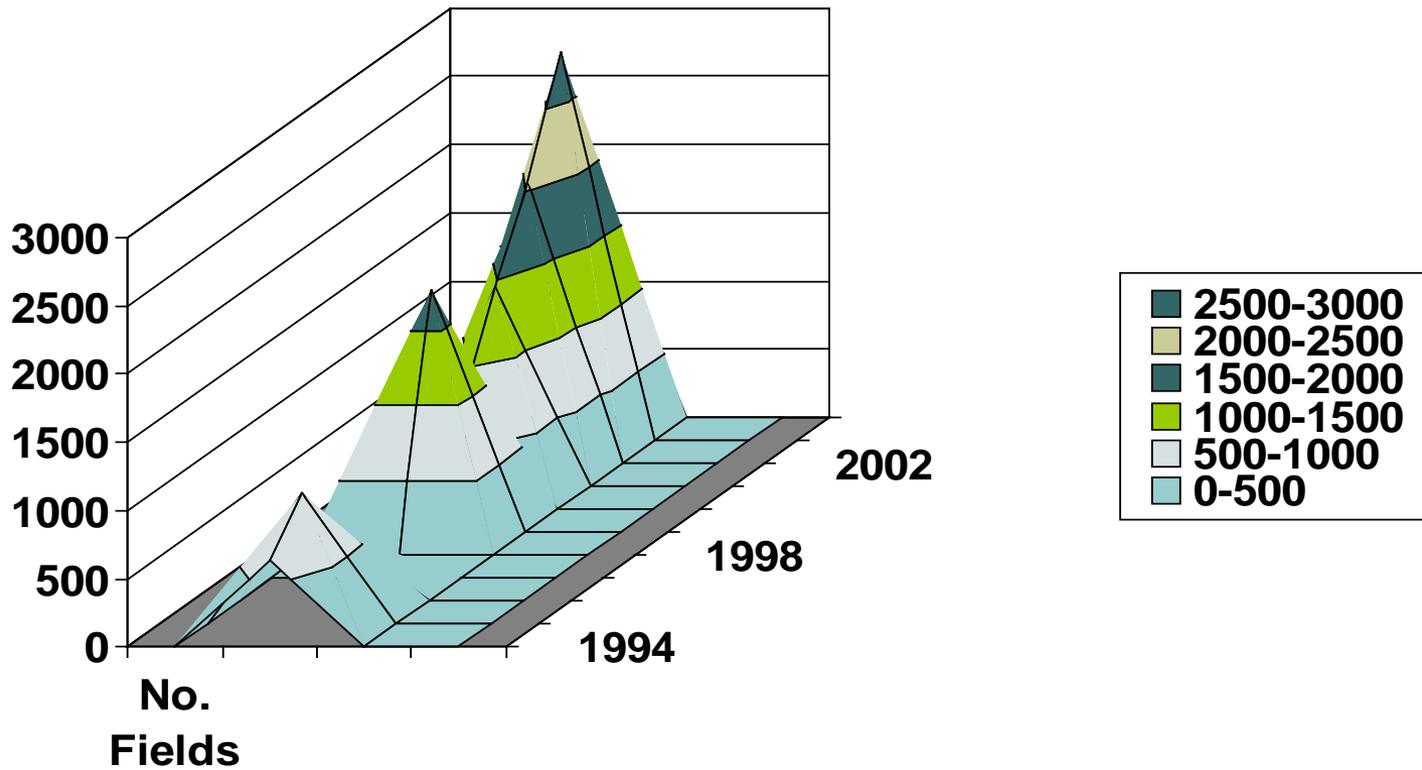
WHITE ROT UPDATE

- Level of infection San Joaquin Valley
- Research Efforts
- Registration Status
- Grant-In-Aid Programs
 - CAGORAB
 - CADPR
 - USDA ARS





Summary of White Rot Strikes 1994-2007



WHITE ROT OF ONIONS & GARLIC

Inoculum Density Vs. Disease Loss





Research Efforts

- **Biostimulants**
 - Garlic Powder/Garlic Juice
 - DADS
- **Chemical Control**
 - Seed Treatment
 - In-furrow application
 - M. Bromide spot treatment
 - Metam sodium spot treatment
- **Soil Solarization**
- **Flooding**

Research Efforts

- **Breeding for resistance**
 - Extensive work evaluating germplasm for resistance
 - Work ongoing Mexico, New Zealand
 - No true seeded varieties available to date
- **Biotechnology**
 - NZ Partnership genome modification

WHITE ROT RESEARCH

- COOPERATORS
 - Chemical and Biostimulant Control
 - Mike Davis (UCDavis)
 - Harry Carlson (Tulelake UCCE)
 - Joe Nunez (Kern County)
 - Tom Turini (Fresno County)
 - Shannon Mueller (Fresno County)
 - Kurt Hembree (Fresno County)
 - Fred Crowe (Oregon State Univ. Madras)
 - Biotechnology
 - Colin Eady, New Zealand Crop and Food Research Inst.
- ANNUAL GIA BUDGET: \$80K
- CADPR Grant: DADS implementation \$40K
- NV Garlic & Onion Research Board \$10K

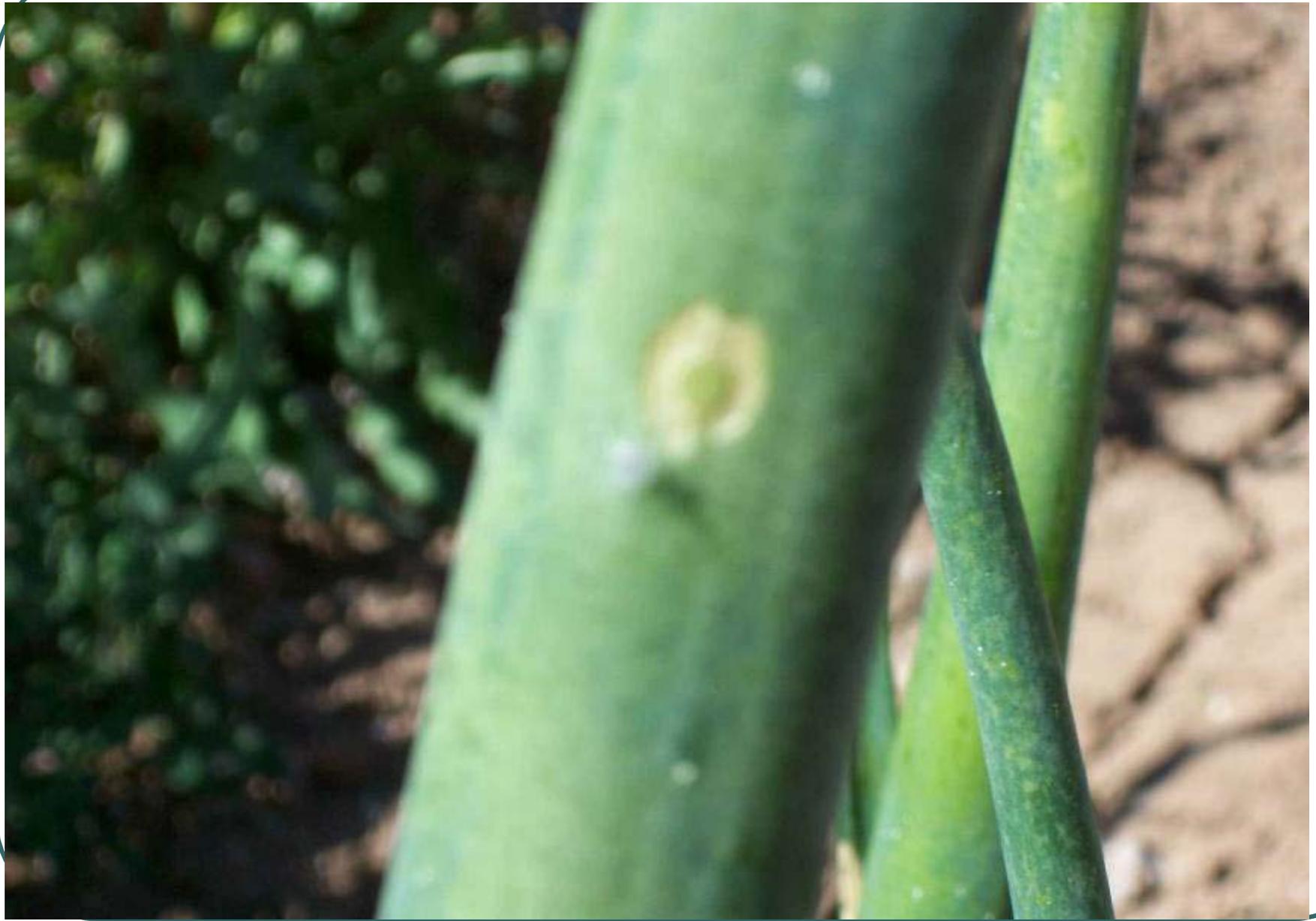
Registration

- Folicur (tebuconazole)
 - Registration work through IR-4/Bayer
 - Project started 1999 for garlic rust only
- USEPA PRIA Date is May 30, 2008
- Proposed Uses
 - Dry bulb onion, garlic, elephant garlic, shallot
- Disease
 - White rot (*Sclerotium cepivorum*)
 - Rust (*Puccinia allii*)
 - Purple blotch (*Alternaria porii*)
- Rates:
 - 20.5 fl oz/A in 4-6 inch band (white rot)
 - 4-6 fl oz/acre for rust and purple blotch
 - Max 32.5 oz/A if in-furrow treatment made
- PHI: 7 days



Garlic Rust Management

- First observed CA 1934
- Severe outbreak spring 1998
- Obtained Section 18 for Folicur 1999 and have continued that 18 for 7 years (except 2003)
- CADPR has submitted for renewal of Section 18 2008
- Azoxystrobin (Quadris) is only registered compound for use on garlic rust. It is preventative
- Only Folicur (tebuconazole) can reach back and control infection once observed
- IR-4 has submitted Folicur to EPA for registration. Expect 2nd qtr. 2008 (May 30, 2008)



IYSV

Iris Yellow Spot Virus Onions

- IYSV is a tospovirus similar to tomato spotted wilt virus
- Transmitted by onion thrips
 - No evidence of transmission by seed
- Shallots, iris, jimsonweed, leek and chives also susceptible
- Last four years found in AZ, CA, CO, GA, NM, OR, TX, UT and WA
- Considered an emerging virus
- Disease epidemic depends on:
 - Number of thrips vector species
 - Migration/seasonal dynamics
 - Proportion of transmitters





IYSP Cooperative Project

- **Researchers:**

- Hanu Pappu (WA State Univ. Virology)
- Eric Natwick (UCCE Imperial Valley)
- Joe Nunez (UCCE Kern County)
- Tom Turini (UCCE Fresno County)
- Mike Davis (UC Extension Pathologist, Davis)

Seed Corn Maggot

- Submitted Section 18 for use of Poncho as a seed treatment (No. CA & Klamath Basin)
- Probably will not issue in time for 2008 planting
- Researchers: Joe Nunez (Kern County) & Harry Carlson (UCCE Tulelake)

QUESTIONS???

THANKS FOR YOUR TIME