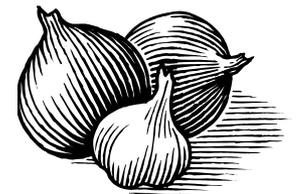


WELCOME to the 2017 CALIFORNIA GARLIC & ONION SYMPOSIUM



John Duffus, Vice- Chairman
California Garlic & Onion Research Advisory Board



CA Garlic and Onion Research Advisory Board (GORAB) – Marketing Order

The purpose of GORAB is to fund **agricultural research** for fresh, dehydrated and processed garlic and all process onions.

FORMATION OF GORAB MARKETING ORDER: **MEMBERSHIP**

- All fresh, dehydrated and processed garlic
- All processed onions
- All garlic and onion **seed** growers
- Areas include Southern desert, San Joaquin Valley and Tulelake production regions

CURRENT MEMBERS:

Sensient Natural Ingredients, LLC
Christopher Ranch,
Harris Fresh,
Sequoia Packing,
The Garlic Company,
Olam Spices and Vegetables,
George Chiala Farms and their growers

RESEARCH BUDGET

Commitment to Generate
\$100K per year for :

- **White rot research:**
 - Conventional and Biopesticide research
 - Application technology
 - Precision agriculture (GPS- mapping) techniques to manage white rot infestations
 - Natural Biostimulants
- **Other pest problems:**
 - Garlic Rust
 - Iris Yellow Spot Virus
 - Bulb mites
 - Nutsedge and bindweed
 - Onion Maggot



GORAB RESEARCH FUNDING 2005-2016

- WHITE ROT RESEARCH
 - \$652,875
 - ONION THRIPS, WEED CONTROL & RUST/DISEASE MANAGEMENT
 - \$466,021
- Eleven year total
\$1,118,896



GORAB CORE OBJECTIVES



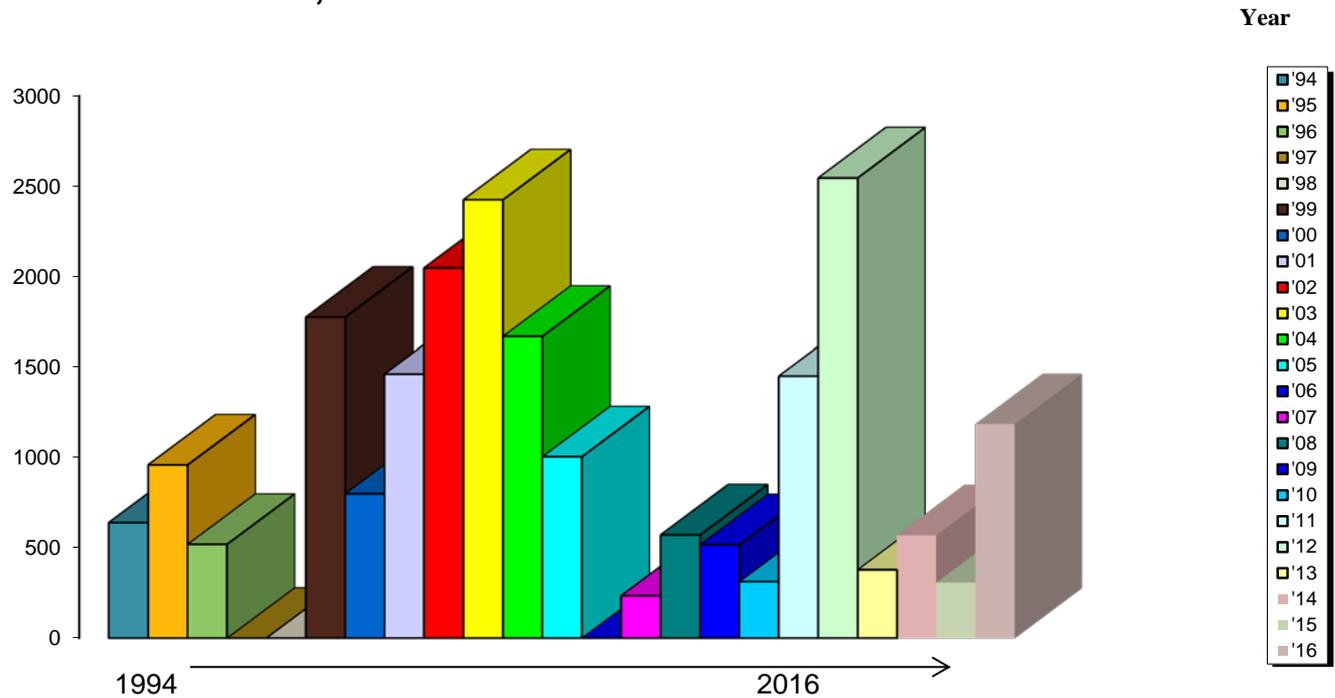
CAGORAB CORE OBJECTIVES

1. **Continue to support the White Rot Master Plan**
 - Industry agreed to guidelines for preventing further spread of white rot
2. **Consider new white rot integrated strategies, including biotech, biopesticides, & cultural control**
3. **Develop Thrips Management Plans for Imperial Valley, Central Valley & Tulelake**
4. **Continue work on weed control, pest management and disease control as needed**
5. **Update Research Objectives with Input from other Allium Industries (fresh onion) and Academic resources.**

WHITE ROT STRIKES SAN JOAQUIN VALLEY 1994 - 2016

21,743 Acres on 144 Fields

No. Acres by Year



WHITE ROT MANAGEMENT STILL OUR CORE OBJECTIVE



White Rot Management Plan

- **Recommendations**

- **Garlic Seed Field Management**

- Inspect all seed fields for white rot or other pathogens
- Wash harvest seed bins before use
- Minimize equipment movement in and out of seed fields
- Sanitize all equipment before entering a seed field

- **Re-establish Garlic Seed Certification Programs**

- **Restrict Planting and Harvesting in areas known to have white rot**

- **Report all Fields with White Rot Infestations**

Research Objectives White Rot

- Reduce/ Eliminate VWR sclerotia (reproductive bodies) in infected fields to allow Alliums to be re-planted
 - Detect and quantify bioactive sulfur compounds in juice, oil, onion/garlic waste that will germinate VWR sclerotia
 - Look for alternative organo sulfur compounds with biostimulant properties
 - Determine utility of garlic juice/oil, compost for white rot management
 - Utilize Tulelake and West Side Fresno white rot plots to prove concept
- Determine utility of metam after harvest for white rot management

Current White Rot Research Projects

- Research Grants
 - Specialty Crops Grant
 - Dr. Mike Havey, UWI
 - Dr. Hanu Pappu (WSU)
 - IR-4 & USDA Reg. IPM
- GORAB Funding
 - Dr. Jeriamiah Dung (OSU-Madras)
 - Dr. Michael Qian (OSU FS)
 - Dr. Mike Davis (UCD)
Rob Wilson (UCCE IREC)
Tom Turini (UCCE Fresno)

- GORAB White Rot Task Force



OUTREACH ACTIVITIES

- ❖ CA SPECIALTY CROPS COUNCIL – MRL Workshop, Field Tours, Washington DC meeting w/ EPA, USDA, FDA
- ❖ Attend/ participate at National Onion Association and Allium Research Conference
- ❖ USDA NIFA SCRI GRANT REVIEW COMMITTEE
- ❖ W2008 WORKING GROUP (ALLIUM RESEARCHERS NETWORK GROUP)



WELCOME TO : CAGARLICAND ONION.COM



California Garlic & Onion Research Advisory Board

1629 Pollasky, Suite 111
Clovis, CA 93612
559.297.9322



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CALIFORNIA GARLIC & ONION RESEARCH COMMITTEE

The California Garlic and Onion Research Committee was established January 1, 2005 as a state marketing order under the supervision of the California Department of Food and Agriculture. The driving force behind the establishment of the marketing order was a concern by growers, processors and handlers to manage the rapidly spreading threat to Allium production areas by the fungal pathogen white rot (*Sclerotium cepivorum*). Through mandatory assessments, it is our goal to fund \$100,000 annually for basic and applied research as well as for demonstration projects. We highly encourage receiving



THANKS FOR YOUR SUPPORT

