WELCOME to the 2015 CALIFORNIA GARLIC & ONION SYMPOSIUM

Kevin Lehar, Chairman
California Garlic & Onion Research Advisory Board
FORMATION OF MARKETING ORDER: MEMBERSHIP

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

CURRENT MEMBERS:

Sensient Natural Ingredients, LLC
Christopher Ranch,
Harris Fresh,
Spice World/Sequoia Packing,
The Garlic Company,
Olam Spices and Vegetables,
George Chiala Farms and their growers
10 YEARS STRONG OF PROGRESS

- A NEW 5 YEARS FOR THE RESEARCH BOARD
  - &

- OUR CHARGE FOR THE FUTURE
Research efforts have provided producers and handlers tools to stay ahead of pertinent pest issues from internal funding and from government grants.

Significant efforts by Board to find short-term and long-term solutions for white rot management and other pest issues are noted.

Reducions in losses caused by pests and diseases have resulted in improvement in yield for both garlic and onions increasing overall profitability.

Public indirectly benefits from production research funded by the Board by supplying consumers with safer and higher quality products. A strong garlic & onion industry provides overall benefits to society.
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
RESEARCH FUNDING 2005-2014

- WHITE ROT RESEARCH
  - $550,172
- ONION THRIPS, WEED CONTROL & RUST/DISEASE MANAGEMENT
  - $396,410

Ten year total
$946,582
THE PATH FORWARD?
CAGORAB CORE OBJECTIVES REMAIN UNCHANGED

1. Continue White Rot Master Plan On Going
   - Industry agreed to guidelines for preventing further spread of white rot

2. Develop Thrips Management Plans for Imperial Valley, Central Valley & Tulelake- Done!

3. Consider new white rot integrated strategies, including biotech, biopesticides, & cultural control In Progress

4. Expand scope of Research Board to Include All Allium Crops
   - Continue work with dry bulb industry to participate on ad hoc basis
   - Provide a unified voice for CA Allium production In Progress

5. Update Research Objectives with Input from all of Allium Industry That’s Why You’re Here!

6. Continue work on weed control, pest management and disease control as needed On Going

7. Participate with National Onion Growers Assoc. and related US University Task Forces on common objectives On Going
WHITE ROT MANAGEMENT IS STILL OUR CORE OBJECTIVE
WHITE ROT STRIKES
SAN JOAQUIN VALLEY 1994 - 2014
19,524 Acres on 134 Fields
CDFA & Seed Producer Certification of Garlic Seed Fields
White Rot Management Plan

- **Recommendations**
  - Inspection of all Garlic Seed Fields
  - Garlic Seed Field Maintenance
    - Wash seed bins before use
    - Inspect all seed fields for white rot or other pathogens
    - Minimize equipment movement in and out of seed fields
    - Sanitize all equipment before entering a seed field
  - Restrict Planting and Harvesting in areas known to have white rot
  - Report all Fields with White Rot Infestations
  - Re-establish Garlic Seed Certification Programs
  - Develop Methods to Reduce Soil Populations with rot
ALTERNATIVE STRATEGIES FOR WHITE ROT MANAGEMENT

- **Biostimulants**
  - Garlic juice
  - Garlic/Onion compost

- **Research Grants**
  - Specialty Crops Grant
    - Dr. Mike Havey, U WI
    - 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**
Research Objectives White Rot

- Determine utility of garlic juice/oil, compost for white rot management
- Detect and quantify bioactive sulfur compounds in juice, oil, onion/garlic waste
- Utilize Tulelake and West Side Fresno white rot plots to prove concept
- Determine utility of metam after harvest for white rot management
- Look for alternative organo sulfur compounds with biostimulant properties
White Rot Mapping Plan

- Utilize GPS mapping system
- Use software to allow mapping of infected sites
- Use computer software to treat, when possible, infected sites plus offset
- Obtain additional grant $$ to expand program and purchase additional hardware and software for mapping and application

Tom Turini & Andres Biscaro

Site specific management strategies
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...
THANK YOU!

Dr. MIKE DAVIS
Plant Pathologist
THANKS FOR YOUR SUPPORT