WELCOME to the 2014 CALIFORNIA GARLIC & ONION SYMPOSIUM

Kevin Lehar, Chairman
California Garlic & Onion Research Advisory Board
CAGORAB 10 YEARS STRONG

A LOOK BACK

AND THE PATH FORWARD
This is primarily why we are here....
This is **NOT** a regional problem.
Inaction was leading to this.....
WHITE ROT STRIKES
SAN JOAQUIN VALLEY 1994 - 2013
19,524 Acres on 130 Fields

Number of Acres by Year

1994
2013
Year

'94
'95
'96
'97
'98
'99
'00
'01
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13

Number of Acres by Year

1994
2013

1000
1500
2000
2500
3000

0
500
1000
1500
2000
2500
3000

19,524 Acres on 130 Fields
Through the efforts of our many dedicated and involved growers and advocates...
Researchers and Collaborators....
(If your picture isn’t here it’s because I couldn’t find one!)
In conjunction with Processors and Handlers....
FORMATION OF MARKETING ORDER:
MEMBERSHIP COMPRISED OF:

- 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,
Sequoia Packing,
The Garlic Company,
Olam Spices and Vegetables,
George Chiala Farms and their growers
The sole Purpose and Function of the Marketing Order is to maintain and expand California's position as a leader in garlic & onion production through a collaborative effort with growers, handlers, and processors to do research and develop tools and strategies to address the challenges faced in the production of processed garlic, processed onions, and fresh market garlic.
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
2005-2013

- WHITE ROT RESEARCH
  - $468,212

- ONION THRIPS, WEED CONTROL & RUST/DISEASE MANAGEMENT
  - $369,752

Nine year total
$837,964
What did we get for our $$?

- **BASF**
  - Provided research data to support registration of Outlook Herbicide for nutsedge control.
  - Supported IR-4 research project for registration of Endura fungicide for white rot management.
  - Working on 24(c) for use of Prowl delayed preemergence on onions Klamath Basin

- **MONSANTO**
  - Section 24(c) for use of Roundup WMax after dry-down to control bindweed and morningglory in garlic.

- **VALENT**
  - Supported research data for registration of Chateau on garlic.
What did we get for our $$?

- **ACETO Chemical Co.**
  - Developed data package and assisted with submission and registration of DADS biostimulant in CA.

- **SYNGENTA**
  - Jointly developed garlic rust management strategy using Quadris as preventative and Folicur Section 18 for active rust infection.
  - Section 24(c) labels for use on onions after dry down for bindweed and nutsedge with Touchdown Total and Section 3 label for use on garlic.
  - Through cooperative effort supported IR-4 registration of Cannonball (fludioxanil) in furrow on onions & garlic for white rot.
  - Working with Syngenta Seeds to develop use of FarMor IO seed treatment for seed corn/onion maggot on onions.
  - Received Priority IR-4 (A) project status for request to register X4601B for rust control.
What did we get for our $$?

- **Bayer CropScience**
  - Section 18 **Folicur** for garlic rust control (7 years running)
  - Section 3 full label for **Folicur** use to control garlic rust and for white rot management (DPR)
  - Research Authorization to evaluate **Folicur** banded commercially on 100 acres in Tulelake and SJV 2008
  - Section 18 for use of **Poncho** (clothianadin) for seed corn maggot control Klamath Basin 2009
  - Section 18 **Movento** for onion thrips control 2011, 2012 with full registration state wide 2013
  - Continued discussion with Bayer-Nunhems for use of **Supresto** seed treatment processed onions
What did we get for our $$?

- FMC Corporation
  - Commitment to support 24 (c) for use of Shark (carfentrazone) following or with Roundup for spot treatment of morning glory

- UPI
  - Agreement to keep Ethotron (ethofumesate) registered in CA after basic registrant dropped label for Nortron
What did we get for our $$?

- Joint sponsor of bee research on seed onion production with UC Davis to determine cause of seed yield decline:
  - Bayer/Nunhems- Rick Watson
  - Bejo- Ryon Ottoman
  - Hazera- Joel Canestrino
  - CA Garlic and Onion Research Board

Neal Williams (UCDavis Dept. of Entomology)

$20K pledged toward project and final report and presentation at today’s meeting.
White Rot Management Plan

**Recommendations**

- Inspection of all Garlic Seed Fields for Infection
- Garlic Seed Field Sanitation & Maintenance
  - Inspect all seed fields for white rot or other pathogens
  - Wash seed bins before and after use
  - Minimize equipment movement in and out of seed fields
  - Sanitize all equipment before entering or exiting 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 white rot
What did we get for our $$?

- Developed Garlic Rust Management Plan
  - GORAB Task Force & Steve Koike
- Developed White Rot Management Plan
  - GORAB Task Force & Allison Ferry-Abee
- Developed Weed Management Plan
  - Tulelake - Rob Wilson
- Based on 3-year’s data, developing management plan for onion and western flower thrips
  - Imperial Valley - Eric Natwick
  - Central Valley – Tom Turini
  - Klamath Basin – Steve Orloff
THE PATH FORWARD
CAGORAB CORE OBJECTIVES

PROVIDE A UNIFIED VOICE FOR ALL CA ALLIUMS

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

2. **Consider new white rot integrated strategies, including biotech, biopesticides, & cultural control**

3. **Continue to develop Thrips Management Plans for Imperial Valley, Central Valley & Tulelake growing areas**

4. **Expand scope of Research Board to Include All Allium Crops**
   - Continue work with dry bulb industry to participate on *ad hoc* basis

5. **Continually Update Research Objectives with Input from all of Allium Industry**

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

7. **Participate with National Onion Growers Assoc. and related US University Task Forces on common industry objectives**
WHITE ROT STRIKES
SAN JOAQUIN VALLEY 1994 – 2013
19,524 Acres on 130 Fields
CDFA Certification of Garlic Seed Field
ALTERNATIVE STRATEGIES FOR WHITE ROT MANAGEMENT

- Biostimulants
  - Garlic juice
  - Garlic/Onion compost

- Research Grants
  - Specialty Crops Grant
    - Dr. Mike Havey, U WI
    - Dr. Mike Davis UCD
    - IR-4 & USDA Reg. IPM
  - Continued GORAB Funding
    - Dr. Jeriamiah Dung (OSU-Madras)
    - Dr. Michael Qian (OSU Food Science)
    - Dr. Mike Davis (UCD)

- GORAB White Rot Task Force
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
For more information:
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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
For those of you old enough to remember these guys:

THANK YOU for your Support!