

**2008-2009 Research Proposal Priorities (Research interests prioritized within groups)**  
**Diseases**

- White Rot (garlic and onions)
  - *Evaluate mechanical methods to apply tebuconazole on onions for white rot management in Tulelake area to prevent seed phytotoxicity (direct contact with seed slows germination and can cause stand reduction)*
  - *Continue evaluation of DADS biostimulant under commercial conditions including alternate application timings and split applications*
  - Develop practical field survey and bioassay method for determining levels of white rot sclerotia in field *including use of GPS field mapping*
  - Continue evaluation of chemical controls in conjunction with biostimulants. Evaluate mixtures of conventional chemicals.
  - Continue evaluation of garlic juice use as biostimulant including rate development and application methods (sprinkler)
  - Continue to evaluate in season treatments applied via chemigation/drip irrigation
  - Continue efforts with biotechnology approach for germplasm resistant to white rot
  - Reconstitute white rot stewardship plan for all growers
- Garlic Rust (Garlic)
  - Screen new fungicides for activity
  - Identification of resistant varieties
- Botrytis (onions and garlic)
  - Determine fungicide spray timing for *B. alli*
- Soft Rots (onions and garlic)
  - Continue to evaluate copper and chlorine as control agents
  - Determine sprinkler irrigation effect on disease development
- Downy Mildew (onions)
  - Screen new fungicides for activity on mildew

**Nematodes**

- Bulb and Stem (onions and garlic)
  - Screen chemical control products as replacement for Vydate
  - Confirm effect of non-host plants/rotations on reducing bulb and stem nematode populations in field

**Insects/Mites**

- Thrips (onions)
  - Test new conventional chemistry and biorational pesticides to control thrips feeding and spread of IYSV
  - Continue surveys for IYSV in onion crops for incidence and impact in central and northern California
  - Species ID, virus incidence in weeds and non-symptomatic host crops of IYSV and TSWV in CA onion and garlic areas
  - Determine contribution of thrips in garlic to ISYN spread

- Maggots (onions)
  - Test new chemistry for maggot control
  - *Develop seed treatment data to support Section 18 state wide*
  - Determine impact of loss of OP chemistry on control
- Bulb Mites (onions)
  - *Develop management plan for bulb mites in San Joaquin Valley soils*
  - Determine source of infestation (seed/soil/debris)
  - Screen new pesticides for control

### **Weeds**

- Screen new herbicides for pre-emergence activity
- Register Roundup on onions and Shark/ET on onions and garlic for pre-harvest control of morningglory, field bindweed and nutsedge

### **Production Costs**

- *Develop crop production budgets for onions and garlic in San Joaquin Valley*