

These priorities resulted from the March 15, 2017 meeting of the SERA 003 members including the IPM coordinators from the southern region and invited members of other groups such as the IPM centers. The priorities are a consensus document of the SERA 003 IPM group

## Criteria for Selection of IPM Priorities

1. Strong stakeholder identified need
2. Addresses economic, environmental and/or human health issues
3. Priority is relevant in two or more states or territories in the Southern Region

## Priority Listing

### Projects that address critical IPM issues resulting from

- Changes in management systems
- Pesticide resistance (chemical or GMO)
- Invasive pests
- Loss of management tools
- Environmental changes

Priority areas include, but are not limited to:

- New, emerging, and important pests / issues – domestic or introduced invasive pests

#### **INSECTS:**

- Brown marmorated stink bug (*Halyomorpha halys*)
- Spotted wing drosophila (*Drosophila suzukii*)
- Kudzu bug (*Megacopta cribraria*)
- Sugarcane aphid (*Melanaphis sacchari*)
- Sugarcane orange rust (*Puccinia kuehnii*)
- Tropical fruit flies (Oriental fruit fly (*Bactrocera dorsalis*), Mediterranean fruit fly (*Ceratitis capitata*), Mexican fruit fly (*Anastrepha ludens*))
- Neonicotinoid resistant western flower thrips and tobacco thrips
- Old world bollworm (*Helicoverpa armigera*)
- Bermudagrass stem maggot (*Atherigona reversura*)
- Crapemyrtle bark scale (*Eriococcus lagerstroemiae*)
- Emerald ash borer (*Agrilus planipennis*)
- Tawny Crazy Ant (*Nylanderia fulva*) and other invasive ants
- Other emerging pest problems

#### **DISEASES:**

- Trizole Resistance
- Red bay ambrosia beetle (*Xyleborus glabratus*) and laurel wilt (*Raffaelea lauricola*)

- Thousand canker disease and walnut twig beetle (*Geosmithia morbida* and *Pityophthorus juglandis*)
- Arthropod borne diseases (eg. Dengue Fever, Chikengunya, West Nile Virus)
- Chronic / Established IPM Problems

**INSECTS:**

- Red imported fire ants
- Bed bugs
- Management of sucking insect pests of soybean, cotton, corn, vegetables, fruit (thrips, whiteflies, stink bugs, mirids, Lygus)
- Community IPM (School, structural, home, and landscape)
- Burrower bug (Peanut in GA, SC, AL)
- Flea beetles (Horticultural crops in GA)
- Cowpea curculio (*Chalcoedermus aeneus*) (GA, AL)
- Aphids, scale, and mealybug management (Horticultural crops, Urban)
- Sweet potato weevil (*Cylas formicarius*)
- Termites (Formosan (*Coptotermes formosanus*) and native)
- Stable flies (*Stomoxys calcitrans*) on pastured and dairy cattle
- House flies (*Musca domestica*) around poultry and dairy operations
- Lesser mealworm, darkling beetle (*Alphitobius diaperinus*) in broiler operations
- Northern fowl mite (*Ornithonyssus sylviarum*) on laying hens and breeder flocks
- Horn flies (*Haematobia irritans*) on pastured cattle
- Fleas and ticks affecting dogs
- Black Flies
- Varroa mite (*Varroa destructor*)
- Mosquitos (*Aedes aegypti*)

**DISEASES:**

- Western flower thrips (*Frankliniella occidentalis*) and tospoviruses (Tomato spotted wilt virus)
- Whiteflies and Tomato yellow leaf curl virus
- Aphids and Cucumber mosaic virus
- Thrips and Center rot in onions
- Kissing bugs and Chagas
- Zebra chip on potato
- Wheat diseases (rusts, viruses)
- Target spot (*Cornyspora cassiicola*) in cotton (potentially emerging)
- Boxwood blight
- Pesticide resistant strains of bacterial spot of tomato
- Early blight of tomato
- Cucurbit downy and powdery mildew

- Corn rusts (*Puccinia polysora*)
- Aflatoxin
- Plant parasitic nematode management
- Citrus Greening (*Candidatus liberibacter asiaticus*)
- Cattle fever tick and *Babesia bovis*

#### **NEMATODES:**

- Plant parasitic nematode management and lack of nematicides
- Threshold development

#### **WEEDS:**

- Pigweed-herbicide resistance
- Glyphosate resistant Palmer amaranth
- Palmer amaranth, water hemp, Italian ryegrass and others - herbicide resistant weeds
- Marestalk
- Glyphosate resistant goosegrass
- Giant salvinia (*Salvinia molesta*)
- Aquatic Weeds
- Establishing thresholds in pasture-based systems
- Development of new detection/mapping techniques and alternative strategies for invasive weed species
- Use of pesticides to correct unspecified “plant health problems” – without known pest presence or scientific validity

#### **Projects that focus on development and implementation of IPM Systems. (e.g. Livestock, Agronomic and Horticultural Crops, Non-Cropland, Urban/Schools)**

- Ecological approaches
  - Crop level approaches- These projects would focus on single crop IPM systems.
  - Farmscape approaches- These projects would focus on multi-cropping systems within a farmscape to address significant management issues (e.g. stink bug management in a multi-crop landscape).
- Projects that develop IPM system components (e.g. least toxic options, novel management techniques, cover crops).
- Projects that develop IPM programs for emerging crops
- Projects that develop IPM programs to protect pollinators and conserve natural enemies
- Projects that address long term cost/benefit of IPM implementation. Often, sound IPM practices are ignored as a result of perceived short-term economic gain without consideration of long term economic, environmental, or human health detriments. Projects are needed to bridge this disconnect.

- Projects that focus on education and demonstration of the value of scientific decision making in IPM to growers and producers. The most recent need for this is the use of pesticides to correct unspecified “plant health problems” without known pest presence. This specific problem undermines the foundation of IPM and opens the door for further problems.
- Projects that address the needs of Organic/Sustainable IPM systems and stakeholders

### **IPM Evaluation**

Projects that focus on implementation of evaluation tools for IPM programs to help produce outcomes with value to the public – (outcomes likely to produce positive economic, environmental and human health benefits). Projects may focus on increasing training and implementation of existing evaluation tools, or may develop new evaluation tools for IPM personnel. Ultimately, evaluation projects should be used to document the value of new and existing IPM projects and programs.

### **Projects that improve delivery of IPM information by:**

- Creating new resources
  - Websites webinars and other online training tools
  - Smart phone and tablet apps
  - Decision support tools (in English and Spanish)
- Developing new or improving existing programs
  - Distance education
  - IPM pipe-like programs
  - IPM demonstrations

### **Sustainable Public IPM Infrastructure**

The priorities listed are of major concern to southern region IPM programs. These issues should be communicated to university administration, and state and federal government agencies.

- Sustained institutional support for permanent IPM Specialists and Agents
- Train future IPM professionals
- Maintain Southern Region liaison(s) through the Southern IPM Center
- Improve linkages and partnerships – commodity groups, pest control operators, crop advisors, and others (governmental agencies such as USDA NRCS and HUD, non-governmental organizations, and other groups).
- Sustained institutional support to maintain and improve pest diagnostic capabilities
- Improve extension IPM staffing and capabilities
- Enhance Federal support for extension IPM
- Projects that translate educational materials into other languages to reach under-served non-English speaking audiences
- Projects that emphasize training of county agents