Following is a list of all priorities submitted to the Kentucky IPM Program for 2009:

Corn

- Corn Foliar diseases in corn-after corn are not ravaging yields but with the vastly increasing interest in fungicides on corn, this is a major issue that needs more attention.
- Fungicide management and timing of applications, value of fungicides, and effective use of fungicides for disease control.
- Increase producer knowledge of late season foliar, stalk and ear diseases.
- Ear rots in corn on corn rotations.
- Economics of using foliar fungicides.
- Timely planting, achieving a good stand, lack of adequate moisture during season, foliar diseases during wet seasons, timely harvest, ear rots and stalk rots when plant populations are excessive.
- Root rot.
- Japanese beetles.
- Variety selection.
- “Stacked" genes.
- Plant populations.
- Stand establishment through no-till cold soils and residue management.
- Planting too early.
- Residue management of corn after corn (no-till).
- Nitrogen rates.
- Starter fertilizer.
- Nitrogen management for optimum return, including nutrient placement/utilization.
- Soil Management
- Economic weed control methods.
- Ryegrass , broadleafs and signal grass.
- Alternatives to atrazine in corn production
- Herbicide resistant weed control.
- Resistant weed varieties and chemical response.
- Controlling RR corn in corn after corn.
- Controlling grasses and vines such as Burcucumber.
- The increase in insects (rootworm, grubs and Japanese beetles) in corn following corn.
- Wildlife problems - including deer, vole and bird damage.
- Drought and drought tolerant varieties.

Soybeans

- Soybean rust, fungicide recommendations.
- Expand our knowledge of how to deal with soybean rust should it arrive at a critical time in the season.
- Soybean cyst nematode, populations of soybean cyst nematode that can reproduce.
- Sudden death syndrome.
- Charcoal rot during a drought year.
- Using resistant/tolerant varieties for disease control.
- Fungicide use.
- Late season disease complex, may be taking more yield than thought during a moderately wet to wet season.
- Insecticide management and timing of application.
- Aphids.
- Japanese beetles.
- Dectes stem borer.
- Weed and grass control.
- Development of herbicide resistant weeds and shift in the spectrum of weed species present due to over reliance on glyphosate technology.
- Herbicide resistant weed control.

- Ragweeds and Marestail.
- Marestail and other resistant weeds.
- Weed and grass control.
- Resistant weeds and chemical selection.
- Seed treatments.
- Crop rotation.
- Variety selection.
- Why farmers choose the varieties they do.
- Population count.
- Seeding rates.
- Taking initial step of reducing plant populations from "comfort zone" 180-200K to 100-120K.
- Stand establishment through no-till residue management.
- Use of fertilizer.
- Testing with small amount of N on soybeans.
- Potassium deficiency.
- Yield research/varieties selection independent from commercial companies.
- How to use state variety tests.
- How to best manage continuous soybean production systems. >
- Lack of adequate moisture during season.
- Boosting yields in double crop beans.
- Low yields compared to wheat and corn.
- Making optimal yields 60-70 bu. to compete with corn net income.
- Voles.
- Water, irrigation.
- Varieties - marketing.

Wheat

- Foliar and head diseases during wet seasons.
- Head scab.
- Stripe rust.
- Importance of fungicides and timing to optimize benefits.
- Response to fungicides.
- Disease control - resistant/tolerant varieties.
- Scab resistance in available varieties.
- Aphids, Barley Yellow Dwarf
- Fall aphids and disease.
- Annual grasses.
- Ryegrass.
- Garlic.
- New chemistry for controlling hard to control weeds.
- Timely planting.
- Fertility.
- Achieving excellent stands.
- Spring freezes.
- No-till.
- Seeding rates.
- Varieties, variety selection for weather tolerance.
- Transitioning traditional conventional wheat growers to no-till management & maintaining stand establishment.
- Residue management in no-till wheat.
- Nitrogen stabilizers and one pass program or split application.
- VRT inputs, sulfur.
- Intensive treatments.
- Clear understanding of total benefits of urease inhibitors (Agrotain/Agrotain Plus) in UAN.
- Loss of production in Kentucky.

Ornamentals

- On trees in the landscape, bacterial leaf scorch caused by *Xylella fastidiosa*.
- On shrubs and flowers in the landscape and in greenhouses, black root rot, caused by *Thielaviopsis basicola*.
- Education of homeowners and municipalities on fundamental tree maintenance principles which would help to keep trees healthy and pest-free.
- Bacterial leaf scorch of landscape trees is a growing problem and homeowners and municipalities throughout Kentucky are losing huge amounts of money, property value, carbon sequestration, and energy savings due to this scourge of urban forests. Little is known of the insect vector relationships for this disease and it seems likely that until the insect biology in relation to bacterial leaf scorch is understood, little progress in disease management will occur.
- Hemlock Wooly adelgid.
- Increase awareness and knowledge of scale insects.
- Insect and weed control.
- Insects on woody plants
- Root feeding white grubs in turf grass.
- Japanese beetles.
- Proper care.
- Variety.
- Chickweed and henbit

Nursery Crops

- Increase awareness of persistence of black root rot fungus once it contaminates a nursery or greenhouse facility.
- Increase growers knowledge of the vulnerability of Christmas tree plantings to Phytophthora root rot
- In Christmas Trees, on Scot pines, tip blight caused by the fungus *Diplodia pinea*. On firs, root rot caused by *Phytophthora* spp.
- Root rot of many conifer and broadleaved plants caused by *Phyophthora* spp.
- Calico Scale.
- Granulated ambrosia beetle.
- Stem borers.
- Japanese Beetles
- Proper transplanting and care.
- Weed control.
- Oxalis, broadleaf and signal grass, chickweed and henbit.
- Varieties.
- Production.
- Lack of market.

Vegetables

- In tomatoes, bacterial spot and canker, early blight and tomato spotted wilt.
- Tomato spotted wilt and bacterial leaf spot in peppers.
- Cucurbits - powdery mildew, gummy stem blight (watermelons & cantaloupes) and downy mildew.
- Tomato spotted wilt on solanaceous crops.
- Increase awareness of threat posed by Phytophthora blight in solanaceous crops and cucurbits.
- Pythium root rot in transplants.
- Obtaining fungicides and other chemicals in package size appropriate for small growers. Some products are sold in relatively large units which are not practical/affordable for Kentucky's small-scale producers.
- Organic production.
- Japanese beetles.
- Potato bugs.
- Weeds and Weed management.
- Production difficulties related to weeds between rows with plasti-culture production.
- Proper scheduling and irrigation management, growers not irrigating enough and those that irrigate too much.

- Directed fertilizer application.
- Reduction in use of fertilizers due to high prices.
- Over fertilization of fertigated crops leading to monetary loss and likely increased disease/insect pressure.
- Labor necessary for harvest in large scale operations.
- Need for local/state markets.

Fruits

- On pome fruits, fire blight, caused by *Erwinia amylovora*.
- On stone fruits, scab, caused by *Cladosporium carpophyllum*.
- On brambles, several virus diseases.
- On strawberries, gray mold fruit rot, caused by *Botrytis cinerea*.
- On grapes, crown gall, caused by *Agrobacterium vitis*.
- On blueberries, stem and twig canker diseases caused by *Botryosphaeria dothidia* and other fungi.
- Increase grower knowledge and awareness of the risk and possibility of a breakout of apple scab fungus resistance to some of the most-used fungicides and to emergence of fire blight resistance to streptomycin.
- Japanese beetles and June beetles on grapes, berries and peaches.

Livestock

- Insect that spread EHD, Bluetongue, between deer and cattle.
- Fly control/management.
- Nutrition.
- Importance of feeding minerals when feeding low quality hay.
- Development of a comprehensive control strategy for internal parasites (barber pole, tape and stomach worms) that kill sheep and goats and are becoming resistant to most legally available wormers.
- Compiling herd records.
- Feed.
- Wildlife.
- Vaccination program, recommendations, vaccinating and disease management for example pinkeye prevention.
- Pasture Management.
- Hay supply and quality.
- Feed cost and availability.
- Circovirus in swine.
- Marketing.
- Environmental restrictions.

Poultry

- Water quality issues for manure run-off of no-till applications.
- Poultry litter value.
- Feed and feed additives.
- Reducing energy use.
- Setting radiant heat.
- Lowering death loss when birds first arrive.

Pasture, Hay and/or Forages

- Pasture problems are weeds that inhibit grazing (thistles, horsenettle, tall ironweed, etc. and non-palatable species such as nimblewill).
- In Kentucky pastures and hay fields, weedy plants such as tall ironweed, horsenettle, thistles and buttercup limit the amount of available forage and in some cases limit the quality of the forage.
- Need to increase producers knowledge and understanding of basic biology of weeds, particularly the biennial plants, and the importance of timely management practices to prevent flower production.
- Broadleaf weed control in clover.
- Establishment of new seedings.

- Establishing legumes in pasture.
- Maximize tonnage in fescue/trical low management systems.
- Maintaining thick fescue pastures with low management.
- Improve pasture varieties.
- Increasing summer forages during fescue slump.
- Increase understanding of forage utilization.
- Winter pasture studies.
- Nutrient availability in soils for different species.
- pH and fertility management.
- Fescue toxicosis .

Tobacco

- Blue Mold.
- Black shank.
- Angular leaf spot.
- Root rot .
- Variety and fungicides.

Other general and systems oriented problems and needs -

- Justification of precision ag practices on a per unit basis, for example VRT, N, fertilizer, seeding.
- VRT inputs, micronutrients, sulfur.
- Benefit of GPS equipment to increase yield.
- Fertilizer efficiency: re: soil type, method of application, timing, type, foliar vs. ground applied.
- Is there an advantage to using liquid N, instead of water, as a carrier for chemicals in a pre-plant application?
- Develop a systems approach to pest (weeds, insects, disease) management activities and decisions that would allow a better job of integrating, especially when it comes to applying or NOT applying mixtures of pesticides.
- Management of pesticides for the prevention of pesticide resistant species.
- Need for a greater awareness of pest resistance as an issue that impacts all pest management disciplines including the development of weeds, plant diseases and insects.
- The indiscriminate use of Quadris/Warrior or similar combinations on soybeans and corn even though the payoff is sporadic, violates most good practices of pesticide use.
- Organic control in corn
- Role of regulations in soybean rust prevention.
- Hemlock Wooly adelgid.
- Management of weeds between rows of plastic without using herbicides, but by mechanical and management means.
- Methods of mechanical harvesting for highest value vegetable crops.
- Method of determining where the cost per acre input should end. With each new product development, farmers are told they will gain 5 to 10 bushels. The need exists to determine what will work and what does not for example, N stabilizer, fungicides and insecticides.
- Management of input and production cost, losses at harvest.
- Highly competitive availability of land, land rent and purchase price.
- Drainage
- Need to learn and evaluate drainage and tilling, land forming to increase yield.
- Irrigation, Water
- Identification of useful markets for sales.
- Marketing.
- Managing input cost and capturing market prices that are profitable for their operations.
- High input costs.
- Overriding value of public concerns on the use of chemicals and equipment for the increase of crop production.
- Public relations - There is a need by the public and land owners to better understand the increase production cost and that farmers are not going to get rich.