Rutgers Cooperative Extension
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EGGPLANT IPM FIELD GUIDE

Pre-planting Decisions

1. Practice 3-year rotation from all pepper, eggplant, tomato and cucurbit (cucumbers, melons, squash, and pumpkins) crops for disease management of Phytophthora. **(292)**
2. Plant on ridges or raised dome shaped beds to reduce the threat of Phytophthora. **(292)**
3. Do not produce transplants in the greenhouse with ornamental bedding plants, especially Impatiens, to avoid tomato spotted wilt. **(292)**
4. Apply lime and fertilizer according to soil test recommendations. **(1584)**
5. Use information and weed maps obtained from previous year's scouting to select herbicides and weed control options for this season. Match preplant incorporated and preemergence herbicide rates to soil type and percent organic matter. **(292)**

Planting to Pre-fruiting Stage

Scout five plants at each of five random locations (except where additional sites are noted) for fields up to 30 acres in size. Add an additional five plants for each additional ten acres. Flea beetles, Colorado potato beetle, and mites tend to appear on field margins.

Pest	Damaging Stage	Monitored Stage	Sampling Method	Sampling Frequency	Threshold	Notes
Flea Beetle **(144)**	adult	adult	Pay particular attention to field edges or weedy areas. Count beetles as you approach the plant. Flea beetles are shy, jumping when approached. Try to avoid casting a shadow on plants to be sampled.	Weekly	< 3 in. tall 2/plant 3-6 in. tall 4/plant > 6 in. tall 8/plant **(381)**	**Treating** heavily infested field edges may be adequate with moderate infestations. Flea beetles cause "shothole" wounds in leaves. Heavily damaged leaves may dry up and die.
Colorado Potato Beetle (CPB) **(144, 80)**	adult larval	adult	**Overwintered CPB:** Check field edges closest to where a host crop was grown the previous year. **Succeeding Generations:** Scout as outlined above.	Weekly	**Overwintered:** treat hot spots. **First Generation:** 15 CPB/10 plants. **Succeeding Generations:** see below. **(292)**	**Treatment:** Note presence of "hot spots" and spot treat for overwintering CPB.
Twospotted Spider Mite **(144)**	adult immature	adult immature	Observe plants near field edges, especially next to dusty roads. Use hand lens or shake leaves over white paper. Rate infestations as absent, light, moderate or heavy. Record % of field infested. Periods of hot, dry weather in late summer are most problematic. Check suspected infested areas last. **(526)**	Weekly	**Early Season:** 10 – 15% of crown leaves **Later:** $\geq$ 50% of terminal leaves infested	Infestations generally begin around field margins & grassy areas. Do not mow these areas after mid-summer as this forces mites into the crop. Mites can be spread through the field on clothing; Overhead irrigation helps retard outbreaks. Beneficials help keep populations under control. Continuous use of certain insecticides may result in mite outbreaks. Spot treat localized infestations. **(292,381)**

Planting to Pre-fruiting Stage, continued

Disease	Sampling	Frequency	Threshold	Notes
Phytophthora Blight **(93)**	Look for wilted plants in the field, especially in low spots.	Weekly	Presence of wilted plants	Rogue infected plants. For polyethylene mulch culture, remove 2-foot section of mulch between infected & healthy plants.
Phomopsis Blight	Scout for this disease while scouting for other pests. Affects all stages. Leaf spots are clearly defined, circular, up to 1 inch in diameter, brown to gray with narrow dark brown margin with black specks in center of lesions. **(168, 1451)**	Weekly	Presence of disease	Spots generally appear first on seedling stems or leaves. Spots may girdle seedling stems, killing the plant. Phomopsis overwinters on diseased plants. Wet weather and high temperatures promote disease. **(168)**
Verticillium Wilt **(168, 915)**	Look for stunted plants with interveinal yellowing, wilting and dying of leaves. Affects older leaves first, moving upwards. Symptoms often appear on one side of leaf or plant.	Weekly	Presence of wilted plants	Presence of root knot/root lesion nematodes may increase severity of Verticillium wilt. There are no rescue treatments. Use information in planning crop rotations and selecting varieties with resistance/tolerance to the disease. **(168, 915)**

Fruiting to Harvest

Pest	Damaging Stage	Sampling Method	Sampling Frequency	Threshold	Notes
Twospotted Spider Mite (TSSM)	adult immature	Observe plants near field edges, especially next to dusty roads. Use hand lens or shake leaves over white paper. Rate infestations as absent, light, moderate or heavy. Record % of field infested. Periods of hot, dry weather in late summer are most problematic. **(526)**	Weekly	No thresholds established but treat if there is significant plant injury	Mites can be spread through the field on clothing; check suspected infested areas last. Overhead irrigation helps retard outbreaks. Beneficials help keep populations under control. Constant use of insecticides, esp. pyrethroids can exacerbate mite problems. **Treatment:** Localized infestations can be spot treated. **(381)**

Disease	Sampling	Frequency	Threshold	Notes
Bacterial Soft Rot	Look for discolored areas on stem or fruits or a slimy rot on stems and fruit.	Weekly	Presence - avoid harvesting when plants are wet.	Often associated with harvesting during warm, rainy periods and inadequate chlorination when washing fruit after harvest. Bacteria enter fruit through cuts, breaks, insect damage and abrasions. Soft rot populations often high in soils used for potato or cabbage. Avoid rotations of eggplant following these crops.

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*Bolded numbers in parenthesis indicate sources of additional information found in the Mid-Atlantic IPM Database by this special reference number.

Scouting procedures, thresholds, and crop management recommendations have been compiled from a number of sources and may not be valid for all areas within the Mid-Atlantic Region. These field guides are meant to be used as guidelines. As such, they should be validated on a small acreage before relying on them. No guarantee of their validity, success, or failure to perform in the field is implied or expressed. Consult your local Cooperative Extension for additional information or assistance.