

Rutgers Cooperative Extension

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BASIL IPM FIELD GUIDE

Preplant Decisions

1. Avoid soils where Fusarium infested herbs have been grown previously.
2. Plant after all danger of frost has passed. Temperatures below 40°F. can cause basil to turn black.
3. Avoid using Fusarium contaminated seed. Suspected seed may be hot water treated. Soak in water bath held at 136°F for 20 minutes. A 10-15% reduction in seed viability must be expected with hot water treatment. Higher temperatures will kill seed; lower temperatures will not kill the fungus. Hot water treated seed must be planted within one week of treatment.
4. Moldboard plow fields to bury crop residue as soon as possible after harvest to reduce the inoculum for damping off and other diseases.
5. Fertilize and lime according to soil test recommendations. (1584)*

Disease	Sampling/ What to Look for	Frequency	Threshold	Notes
Damping Off Pythium Rhizoctonia	Pythium: Look for collapsed plants at or shortly after emergence, generally in clumps 3 to 6 inches in length along the row. Scout for Rhizoctonia whenever there are periods of wet weather. Lesions appear as distinct dark red girdling at the soil line.	At emergence & during periods of extended wet weather.	Presence	Planting on raised beds and ditching/drainage improvement will help in limiting damping off. Moldboard plowing greatly reduces crop residue in the top 2 in. of soil where damping off organisms thrive.
Fusarium Wilt	Look for plants with wilting of the older leaves. Purple-brown streaks may occur along the stem. A brown discoloration occurs in the vascular tissue of the plant above & below ground.	Weekly	Presence	Major means of introduction is through Fusarium infested seed.
Bacterial Leaf Spot	Look for watersoaked, dark brown to black lesions on cotyledons and lower leaves. Lesions become necrotic and progress inward from the leaf margin, resulting in death and plant dieback.	Weekly	Presence	Do not remove rowcovers or work in fields when foliage is wet. Cultural practices that promote good air circulation help to limit disease. Use of hoops for supporting rowcovers may help during periods of wet weather.
Sclerotinia Stem Rot	Look for wilted plants with a white, cottony mycelial growth near soil line. Disease favored by 6 - 10 days of high soil moisture and cool temperatures (50-70°F).	Weekly	Presence	No control measures exist, but use the information for planning rotations. Avoid planting in fields with poor drainage and plant on raised beds.

Pest	Damaging Stage	Monitored Stage	Sampling		Threshold	Notes
			Method	Frequency		
Cutworm	larval	larval	Scout for missing or cut off plants next to weedy field edges, ditches, roads, woods or in low lying areas of the field. Sift through soil to a depth of 3 inches for larva within a 1.5 inch radius of damaged plants.	2x/week at emergence and shortly thereafter	None established.	Cutworms hide during the day under soil clumps, stones or decaying vegetation.
Aphids	all	All	Check along field edges, sampling 25 plants in each quadrant of the field. Yellow sticky traps or water pans can also be used to monitor aphid populations.	Seedlings: 2x/week Established plants: weekly	None established.	Overuse of pesticides, especially pyrethroids, kill predators/parasites that help keep aphid populations under control. (292)

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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.