

Rutgers Cooperative Extension

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WINTER WHEAT IPM FIELD GUIDE FOR NEW JERSEY

Pre-Planting Decisions:

1. Choose well adapted disease resistant varieties. (91)*
2. Plant after the fly free date in your area to prevent Hessian fly problems. (91)
3. Fertilize and lime according to soil test recommendations. (1584)
4. Practice crop rotation.

Emergence to Growth Stage 2 (fall of year, prior to dormancy)

DISEASE	Damaging or Monitored Stage	SAMPLING		THRESHOLD	NOTES
		Method	Frequency		
Powdery Mildew (PM) (1310, 1005)		Sample 5 locations in the field, 3 linear feet of row	once per season, 5 - 6 weeks after planting	if present, scout for PM in spring	
Aphids (181, 627, 951)	all	Sample 5 locations in the field, 3 linear feet of row	once per season, 5 - 6 weeks after planting	if present, scout for aphids in spring.	Green bug slightly more damaging than other species of aphids.

Green-up to Dough Stage

PEST	Damaging or Monitored Stage	SAMPLING		THRESHOLD	NOTES
		Method	Frequency		
Wild Onion, Wild Garlic, Canada Thistle, Rough Blue Grass (RBG) (1582, 718, 338,)		While sampling for other pests, map locations of these weeds.	weekly	Presence of wild garlic, wild onion: hand pull if very low populations; > few: treat Canada Thistle - spot treat. RBG - awareness essential due to competitiveness of weed	Wild onion, wild garlic: threshold for these two weeds is low because it is a grain contamination problem. RBG: no treatment options at present in wheat. (323)
Wireworms (323)	larval	Could use bait stations. Look for individual tillers turning yellow and dying.	weekly from green up to boot stage	No threshold for current crop, but serves as indicator for action with next crop.	If > 3% of tillers show wireworm damage, then the field should be baited before planting wheat again or rotate out of wheat for a period of 3 years.
Powdery Mildew (1310, 1005)		Sample up to boot stage. 5 locations, 3 linear feet of row	weekly from green up to boot stage	10% of last fully expanded leaf infected. After boot stage, PM does not warrant treatment. (884)	Using resistant varieties eliminates the need for scouting for this disease.
Aphids (181, 627, 951)	all			If present, note for possible treatment at flowering.	

PEST	Damaging Stage	SAMPLING		THRESHOLD	NOTES
		Method	Frequency		
Cereal Leaf Beetle (181)	larval	Sample 5 locations, 3 linear feet.	Weekly	1/2 larva per stem OR ≥ 25 eggs or small larvae/100 tillers (884)	

Six Inch High Plants

WEEDS	SAMPLING		THRESHOLD	NOTES
	Method	Frequency		
Weeds Zero tolerance weeds: Wild Garlic, Mugwort, Jerusalem Artichoke, Yellow Nutsedge, Quackgrass, Milkweed, Hemp Dogbane, Horsenettle, Canada Thistle (884, 323, 776, 1582)	Sample five 1 square yard areas in the field. Count number of weeds. Record plant species. Note zero tolerance weeds. Map perennial weeds.	one time evaluation	Winter Annuals: 1 weed/square yard Zero tolerance weeds: 1/4 weed/square yard	Treatment timing is critical due to label restrictions for some herbicides.

Boot Stage to Hard Dough

PEST	Damaging or Monitored Stage	SAMPLING		THRESHOLD	NOTES
		Method	Frequency		
Aphids (951, 627, 181)	all	Sample 5 locations, 3 linear feet of row from flowering to soft dough	weekly	25 aphids/head green bug: 20 aphids/head	4 species of aphids affect wheat; green bug more damaging; thus lower threshold.
Armyworm (182)	larval	Sample 5 locations, 3 linear feet of row. Look for leaf feeding. If evident, examine plants and look under debris on soil surface.	weekly	Small larvae: 2 armyworms per linear row foot OR 4 per square foot. If head clipping is evident, treatment is recommended.	Armyworms will hide under debris on soil surface. Treatment should be applied when larvae are small; large larvae are difficult to control. If birds are observed feeding in the wheat, investigation for armyworm is warranted. (1582)

***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 Agent for additional information or assistance.