Rutgers Cooperative Extension

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SOYBEAN IPM FIELD GUIDE

Year Prior to Planting Soybeans

If soil texture has never been analyzed or if there has been a change in cropping patterns or significant erosion, obtain a soil sample as instructed below the year prior to planting soybeans.

PROCEDURE	HOW TO SAMPLE	USE OF THIS INFORMATION	ADDITIONAL NOTES
Analysis of Soil	Using a county soil map, identify the different	With this information an integrated weed	Mechanical analysis generally only needs to be
Texture, Organic soils in the field. Take a sample from each area		management program can be designed using	done once unless there is significant erosion or
Matter, and pH where soil types differ. Submit to lab for		cultural and/or chemical controls for each soil	changes in cropping patterns. CEC and pH should
mechanical analysis of texture and analysis of		type in a field. Soil type and pH differences	be analyzed annually. Organic matter analysis
Cation Exchange Capacity (CEC), organic		within a field affect rate of application,	should be done every 5 - 10 years.
	matter (OM), and pH.	carryover and other interactions.	

Scout once prior to harvest to determine weed potential for next season's soybeans.

Weeds	Sampling	Threshold	Notes
Zero Tolerance Weeds:	Scout field in a zigzag pattern. Sample	presence	Select control measures to eradicate these perennials
Horsenettle, Groundcherry,	10 random locations 1 square yard in		for the next cropping season. See "Postharvest
Yellow Nutsedge, Canada Thistle,	size or 10 ft. of row, whichever pattern		Perennial Weed Control" for treatment options. (292)
Common Milkweed,	best suits existing conditions. Map the		Common cocklebur is very competitive.
Hemp Dogbane, Bindweed spp.,	location of these weeds.		
Jerusalem Artichoke,			
Nightshade, Common Cocklebur,			
Bur Cucumber, Johnsongrass,			
Bermudagrass (277, 1326)*			
Summer Annuals,	Scout as outlined above for the presence	Nightshades: presence	Untreated check provides most reliable information for
Jimsonweed	of existing weeds. Potential weed		planning the weed control strategy for the coming
	problems are best identified by a non	Others: Number of weeds per	season.
	treated weedy check. Identify the	10 ft. of row or 1 sq. yd .	
	weeds, and count # of each species.	< 1 weed = very light	
	Note whether specific weeds are	1-4 weed = light	
	scattered throughout the field or	4-10 weeds = medium	
	predominate in one area of the field.	10-100 weeds = heavy	
(277, 1326)		> 100 weeds = very heavy	

Production Year

Pre-Planting Decisions:

- 1. Use locally adapted, disease resistant varieties. (91)
- 2. Fertilize and lime according to soil test recommendations. (1584)
- 3. Sample poorly growing areas of field and submit to laboratory for detection of nematodes before planting next crop. (384)
- 4. Practice 2 year rotation using resistant varieties and non-host crops to control soybean cyst nematode. (91, 954, 959)
- 5. Use seed treatment to control damping off and seedcorn maggot. (91)

Cotyledon to First True Leaf

PEST	Damaging/	SAMPLING		THRESHOLD	NOTES
	Monitored Stage	Method Frequency			
Seedcorn	larval	Measure out 1/1000 of an	Once, at the time	7" rows plant population of 180,000 -	Compare stand count with intended plant
Maggot		acre in linear feet. Count the	of the first true	200,000 plants/acre	density. If close, do not replant. If isolated
		number of plants in that	leaves.		areas are sparsely populated, consider seeding
(183)		distance in 5 locations.			just those areas. (967, 968, 336)

Within first four weeks after planting:

PEST	PEST SAMPLING			NOTES
	Method	Frequency		
Annual Weeds	Sample five 1 square yard areas in field. Count number	once during this	1 annual weed/square	Scout for zero tolerance weeds,
Zero Tolerance Weeds (ZTW):	of weeds. Record plant species. Map perennial weeds	period	yard	especially cocklebur and
Horsenettle, Groundcherry	& zero tolerance weeds.			Johnsongrass.
Yellow Nutsedge, Canada Thistle,			ZTW: 1/4 weed/square	
Common Milkweed,			yard.	
Hemp Dogbane, Bindweed spp.,				
Jerusalem Artichoke,				
Nightshade, Common Cocklebur,				
Bur Cucumber, Johnsongrass,				
Bermudagrass (277, 1326)				(1582)
All Weeds	Sample in the same manner as outlined above.	One week after	1 annual weed per	The purpose of this scouting is
		controls have	square yard	to evaluate how well the weed
		been instituted		control strategies worked. If
		from previous	1/4 ZTW per square yard	above tolerance weed
		scouting.		populations still exist, controls
				will be required.

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First True Leaf - Bloom

PEST	Damaging	SAMPLING		THRESHOLD	NOTES
	Stage	Method	Frequency		
Various	larvae of caterpillars	Sample 5 areas of the	Weekly for the	first true leaves - bloom: 35%	common defoliators: Mexican bean beetle,
insect	adults & immatures of	field. Evaluate for %	first 4 - 5 weeks;	bloom - pod set: 20%	Japanese beetle, grasshoppers, green
defoliators	beetles & grasshoppers	defoliation using	then every other	pod fill 35%	cloverworm, skipper larvae, white woolly
(183, 1583)		defoliation chart. (185)	week.	pod fill - maturity 35+% (88	4) bear caterpillar

Bloom to Pod Fill

PEST	Damaging/	SAMPLING		THRESHOLD	NOTES
	Monitored Stage	Method	Frequency		
	Stage				
Spider	adult &	Start in early July, scouting	Once every 2	20 - 30 live mites +	Rate leaves as follows: $0 = \text{no injury}$
Mites	nymph	field borders first. Sample 5	weeks unless	50% of plants exhibit >	1 = light, white stippling around base of veins; $< 1/3$ of area affected
		areas of the field. Examine	near threshold;	1.5 rated damage. Spot	2 = stippling over 1/3 - 2/3 of leaf area; feeding patches join at base.
		base of leaf for sandblasted	then more	treat isolated areas/field	$3 = \text{stippling} \ge 2/3$ of leaf area; dense feeding patches, leaves green
		appearance or white stippling	frequent visits	edges with heavy	4 = yellowing on < 50% of leaf area; margins brown, blanched & shriveled.
(183)			required.	infestations. (938)	(938)

^{*}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. They are meant to be used as guidelines. As such, they should be validated on small acreages 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.