Rutgers Cooperative Extension

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ASPARAGUS IPM FIELD GUIDE

Pre-planting Decisions:

- 1. Choose deep, well-drained soils that have not grown asparagus before.
- 2. Lime and fertilize according to soil test recommendations. (1584)*
- 3. If Cercospora blight is a problem in the area, plant rows 6 feet apart and orient rows in a north-south direction to improve air circulation. (269)

Establishment Period

Pest	Sampling	Threshold	Notes	
	Method Free	quency		
Asparagus	Scout field edges regularly, collecting fern samples. Shake or beat the ferns on a	Weekly	None established. A	The earlier in the season aphids are
Aphids	hard white surface such as the side of a 5 gal. bucket to dislodge the aphids.		high percentage of	present, the more likely they will become
	Visual inspection of ferns is not reliable. Looking for distorted growth or		plants infested is	a problem. Reproductive rates can be
	witches broom and a blue green color to the ferns, (symptoms of aphid feeding)		more important than	extremely high in hot, dry weather. The
	may allow populations to reach dangerous levels before infestation is detected.		a high number of	impact of aphid feeding is most
(915, 269, 126)	Aphids inject a toxin causing distorted growth, which will not adequately		aphids on a few	pronounced on seedbeds and newly
	nourish the plant crown causing desiccation & subsequent loss of plants.		plants.	established plantings.

ESTABLISHED ASPARAGUS

Harvest Period

Pest	Damaging	Monitored	Sampling		Threshold	Notes
	Stage	Stage	Method	Frequency		
Cutworms	larval	larval	Cutworm feeding on asparagus	Begin	1 larva/10 crowns (812)	Have harvesters mark areas where
			spears causes growth deformities,	before	OR	cutworm injury is observed. Return
			usually severe crooking. Sample	harvest,	1 severely damaged spear/20	to these areas and determine the
			20 randomly selected plants in each	scout 1-2x	plants. (292)	severity and size of the area affected.
			of 5 locations. If feeding injury is	per week		Cutworm damage is most common in
			present, dig around affected and			spring in low damp spots, trashy
			adjacent plants (1 inch deep, 6			areas and areas with grassy weeds
			inches diameter) to determine if			nearby. Cutworm larvae hide during
(381, 858)			cutworms are still present. 381)			the day.
Common	adult	adult	Sample 20 randomly selected plants	weekly	adult: 5-10% of plants infested	Adult feeding damage and beetle
Asparagus Beetle	larval	larval	in each of 5 locations in the field.		egg: 2% of spears with eggs.	eggs on spear may make spears
(CAB)		egg	Look for eggs & chewing on		larvae: 10% defoliation or 50-	unmarketable.
(915, 381, 269, 126)			spears. (381)		75% of plants with larvae. (381)	

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Disease	Sampling	Frequency	Threshold	Notes
Purple Spot	Look for small, elliptical shaped, slightly sunken, 0.03-0.06	Weekly	presence of	To reduce overwintering sources of the pathogen, completely
Stemphyllium	inch across & up to 1/8 in. long, red lesions on lower		disease	bury the previous year's brush far in advance of harvest.
	portions of newly emerged spears. Initially lesions are			Purple spot is worse following cool, wet weather during spear
	reddish-purple, later developing a tan-brown center. Lesions			emergence. Wounds created by blowing sand can increase
(915)	usually appear on the lower half of new spears.			the incidence of disease.

Fern Growth

Disease	Sampling	Frequency	Threshold	Notes
Rust	Begin in late June, sample 10 randomly selected plants in	weekly	presence of	Heavy dews, rains & temperatures between 55° & 90° F.
	each of 5 locations looking for brick red elongated spots		disease	favor disease development. Start recommended control
	(pustules) on ferns, shoots or needles which later produce			program at the first indication of disease. Cut & destroy
	rust colored spores in a powdery mass. Fern yellowing &			diseased ferns. Incorporate the cut fern with a power driven
	browning, defoliation & dieback may occur. (168) As ferns			rotary tiller two times, once in each direction. Destroy
	mature and senesce, the black spore (overwintering) stage			volunteer asparagus within 400 yards. of field.
(915)	may develop appearing as a powdery mass of black spores.			(292)
Stemphyllium	Look for .1659 inch (4-15 mm) long, light brown lesions	weekly	presence of	When severe, SLS causes defoliation & dieback. Completely
Leaf Spot (SLS)	with dark purple margins on ferns.		disease	bury the previous year's brush in advance of the next growing
(Purple Spot) (915)				season.

Pest	Damaging	Monitored	Sampling		Threshold	Notes
	Stage	Stage	Method	Frequency		
Tarnished	adult	adult	Sample 10 randomly selected plants in	1-2x per	5% of new fern with	Critical period for protection: immediately after
Plant Bugs	nymph	nymph	each of 5 locations, looking for tip die	week	injury	harvest when ferns are developing. If feeding
(TPB)			back (tip shriveled & limp). Use a hand			punctures are not visible & TPB are not present
			lens to look for TPB feeding punctures 1-			in the field, tip die back is due to some other
			2 inches below where tissue is collapsed.			cause. Mature ferns are not affected.
			Spears and young ferns are especially			
			attractive to TPB. As weeds mature &			
			alfalfa is cut, TPB migrate into asparagus			
			injecting toxic saliva as they feed which			
(270, 381)			causes the tip die back. (381)		(381)	

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Pest	Damaging	Monitored	Sampling		Threshold	Notes
	Stage	Stage	Method Fr	equency		
Common	larval	adult	Sample 10 randomly selected plants	1 - 2x	Scouting early in the day	Critical period for protection: immediately after
Asparagus		larval	in each of 5 locations, looking for	per week	or during cool weather: 5%	harvest when ferns are developing. Adults scatter
Beetle		egg	CAB larvae (gray "slugs"). Eggs		of plants infested.	throughout a field, especially during the period
(CAB)			and larvae tend to be clumped		Scouting noon to late	from noon to late afternoon when they are most
			within a field. Careful scouting is		afternoon during warmer	active. There are 2-3 generations/year.
(915-381			necessary to detect their presence.		weather: 10% of plants	Treatments banded over the row and applied only
(313, 381, 137, 269, 126)			Check for <u>Tetrastichus asparagi</u> , a		infested.	when thresholds are reached will help to conserve
- , - , - ,			tiny wasp that kills CAB eggs. (381)		(381)	natural enemies.
Spotted	Adult	Adult	Sample 10 randomly selected plants	weekly	Scouting early in the day	Adult lays eggs on developed ferns. Larvae feed
Asparagus			in 5 locations for reddish orange		or during cool weather: 5%	on inside developing berries and do not affect
Beetle			beetle with 12 black spots on its		of plants infested.	asparagus production.
			wing covers. (137)		Scouting noon to late	
					afternoon during warmer	
					weather: 10% of plants	
(137, 270)					infested. (381)	(137)
Asparagus	Sample later	al branches fro	m the lower region of the plant stem	once per	5% of new fern with injury	Waiting for distorted growth or blue-green
Aphids	from 150 randomly selected plants throughout the field, being			week		discoloration (resulting from toxin injected during
	sure that samples are taken from field edges on all sides. Beat or					feeding) to occur may allow populations to reach
	shake the branches on a hard, light colored surface (a white 5 gal.					dangerous levels. The toxin may cause a delay in
	bucket). Aphids are 1/16 inch in size, blue gray with no visible					bud break in spring followed by a profusion of
	"cornicle" (exhaust pipe-like structure on the abdomen). Record					small spears produced simultaneously. A high
	location & #	of plants infes	ted and where infested			percentage of plants infested is more important
(915, 269, 126)			(915, 381)		(381)	than a high number of aphids on a few plants.

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*Bolded numbers in parenthesis indicate sources of additional information found in the Mid-Atlantic 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.