

Rutgers Cooperative Extension

Compiled by W. L. Kline & S.T. Kline

Prepared with support from Northeast Region SARE Program Project ENE95-7

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

ESTABLISHED ASPARAGUS

Harvest Period

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

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

Fern Growth

Disease	Sampling	Frequency	Threshold	Notes
Rust (915)	Begin in late June, sample 10 randomly selected plants in each of 5 locations looking for brick red elongated spots (pustules) on ferns, shoots or needles which later produce rust colored spores in a powdery mass. Fern yellowing & browning, defoliation & dieback may occur. (168) As ferns mature and senesce, the black spore (overwintering) stage may develop appearing as a powdery mass of black spores.	weekly	presence of disease	Heavy dews, rains & temperatures between 55° & 90° F. favor disease development. Start recommended control program at the first indication of disease. Cut & destroy diseased ferns. Incorporate the cut fern with a power driven rotary tiller two times, once in each direction. Destroy volunteer asparagus within 400 yards. of field. (292)
Stemphyllium Leaf Spot (SLS) (Purple Spot) (915)	Look for .16-.59 inch (4-15 mm) long, light brown lesions with dark purple margins on ferns.	weekly	presence of disease	When severe, SLS causes defoliation & dieback. Completely bury the previous year's brush in advance of the next growing season.

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

