NEW YORK STATE Integrated Pest Management PROGRAM

Cornell University Cooperative Extension

Elements of IPM for Snap Beans in New York State

MAJOR PESTS		
Insects	**Diseases**	**Weeds**
european corn borer	root rots	broadleaves
mexican bean beetle	Sclerotinia white mold	annual grasses
potato leafhopper	Botrytis gray mold	perennial weeds
seedcorn maggot	brown spot	
spider mites	common blight	
tarnished plant bug	halo blight	
	cucumber mosaic virus	
	yellow mosaic virus	

A. SITE PREPARATION AND SELECTION	**Acreage Goal**	**Points**
1) Review weed map/list of fields to choose appropriate weed control strategies. See the Weed Assessment List available for use in satisfying this element.	50%	10
2) Crop rotation. If a field has had halo blight use a 3 year rotation; for brown spot at least a 1 year rotation is required	75%	10
3) In fields with high white mold risk plant rows on wide spacings, in an east/west orientation, avoid shaded areas, and avoid small fields surrounded by trees; If there is a field history of white mold, snap beans should not be preceded by tomatoes, beans, potatoes, lettuce or crucifers.	25% of fields with high WM risk	5
4) Soil test at least once every 3 years. Maintain records. Fertilize according to test results.	100%	5
5) Do not use a systemic insecticide at planting. Use of any systemic insecticide at planting will disqualify the field from consideration as an IPM field EXCEPT if high (more than 2 nymphs per leaf) populations of potato leafhopper have been found in a field in the area before planting. Test leaving out planter box insecticide for seed corn maggot treatment for fields where cover crops have not been used and organic matter is not high.	100%	5
B. PLANTING		
1) Select seed treated with insecticide/fungicide for protection from insects and diseases.	50%	10
2) Use seed certified free of halo blight, common blight, and brown spot.	50%	10

3) Use tolerant and resistant varieties for bean common mosaic virus.	50%	10
4) Use varieties resistant to bean yellow mosaic and clover yellow vein viruses if they are available	50%	10
5) For brown spot avoid planting snap beans near dry bean fields.	50%	5
C. PEST MONITORING and FORECASTING		
1) Monitor for insects, diseases, and weeds (potato leafhopper, Mexican bean beetle, spider mites, white and gray mold, brown spot, common blight, and halo blight).	50%	10
2) Use the white mold forecasing system in fields which have a history of white mold and conditions are wet enough for disease.	5%	10
3) Update weed map of the field when crop is small for use in evaluating the current year's weed control and for use in determining if a post emergent treatment is needed. See the Weed Assessment List available for use in satisfying this element.	50%	10
D. PEST MANAGEMENT		
1) Do NOT apply copper compounds to control brown spot, halo blight, or common blight since they do not result in effective and economic control.(see crop rotation Section A and post harvest Section E.)	75%	5
2) Use thresholds for mexican bean beetle and potato leafhopper. Use a systemic insecticide at planting only under conditions of A5. (see A5)	20%	5
3) Keep records of pest densities, cultural procedures, and pesticide applications for use in the future.	100%	10
4) Choose labelled pesticides that have the least environmental impact. Choose pesticides which preserve natural enemies. (EIQ can be used for decision making)	35%	10
5) If fungicides are used for white mold control and the white mold forecast system is not used, make a maximum of 2 fungicide applications during bloom, the first when 70-80 percent of the plants have one open blossom and the second 5 to 6 days later. The white mold forecast system can assist in determining whether one or both of these sprays are necessary.	75%	10
6) Test the use of a scouting technique used by CCE to determine whether to make inseciticde applications for European corn borer.	5%	5
E. POST HARVEST		
1) Make (or update if one has been made for this field previously) a weed map of the field for use in planning for next year. See the Weed Assessment List available for use in satisfying this element.	50%	10
2) For fields which had significant levels of brown spot, halo blight, and common blight incorporate crop residue into the soil at the end of the season to promote breakdown of pathogens and tissues that may be carrying them.	50% of fields with these diseases	10
3) Establish cover crop for weed control and nitrogen retention	25%	5

revision date: 2002. This page published online at: http://nysipm.cornell.edu/elements/snapbean.pdf

Total Points Available:	180
Points needed to qualify (80%):	144

TO LEARN MORE...

Specific information on how to apply and use these IPM elements can be found in the following publications:

Snap Bean Pest Management, IPM Manual No. 105c, 1998

Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production.

A Method to Measure the Environmental Impact of Pesticides. 1992. New York Food and Life Sciences Bulletin Number 139.

The above reference material can be obtained from county Cornell Cooperative Extension offices.