

Elements of IPM for Fresh Market Tomatoes in New York State

Major Insect Pests	Diseases	Rotation (yrs)	Weeds
Colorado potato beetle	early blight	2	annual broadleaves
flea beetle	late blight	NA	annual grasses
tomato hornworm	Anthracnose	3+	perennial weeds
Minor Insect Pests	Septoria	2	
stink bug	Verticillium	3+	
tarnished plant bug	bacterial spot	2	
aphids	bacterial speck	2	
cabbage looper	bacterial canker	3	
	white mold	3+	
	nematodes	2	
	powdery mildew	NA	
	viruses	NA	

A. SITE PREPARATION AND SELECTION	Acreage Goal	Points
1) Review previous season's weed map/list* of fields to choose appropriate weed control strategies. *esp. for last solanaceous crop. See the Weed Assessment List available for use in satisfying this element.	50%	5
2) Crop rotation: for management of bacterial and fungal diseases. 2-3 year rotation away from solanaceous crops, longer if needed, depending on diseases present.	75% 100%	5 10
3) Nutrient management: soil test at least every third year. Fertilize according to test recommendations.	100%	10
4) If manure is applied to field, apply only before planting and incorporate.	100%	10
5) Do not apply all nitrogen at planting: sidedress or topdress part of the total N application.	75%	10
6) Bonus: use trickle irrigation and fertigation.	10% 25% 50%	3 5 10

B. Transplants		
I. For growers producing their own transplants: Greenhouse practices		
1) Disinfect greenhouse structure, benches, and flats	100%	10
2) Obtain disease-free seed (hot water and/or surface disinfected if needed) from a reputable seed source.	50%	10
3) Produce tomato transplants in a separate greenhouse from bedding plants.	100%	10
4) If history of bacterial diseases indicates, treat transplants with bactericide in greenhouse.	100%	10
5) Use yellow sticky traps in greenhouse to monitor for insect pests.	100%	5
II. For growers buying transplants:		
1) Request that transplant grower(s) follow practices 1-4 described above.	100%	10
2) Inspect transplants for insects and diseases upon arrival.	100%	10
C. Planting		
1) If manure is applied to field, apply only before planting and incorporate.	100%	10
2) Use disease-resistant varieties as available and feasible.	100%	10
3) Bonus: Stake, prune, and tie, or cage plants.	10%	10
4) If staking, disinfect stakes re-used from previous seasons.	100%	10
5) Mulch (organic or plastic) for weed and disease management.	10%	5
6) Bonus: Transplant into a killed cover crop. (If using leguminous cover add 5 points)	10%	5 (10)
D. Pest management		
1) Calibrate sprayer at least once per season or every time nozzles are changed.	100%	10
2) Bonus: check spray coverage with water sensitive paper.	100%	5
3) Use one of the following management practices for Colorado potato beetle: a. Long distance rotation b. Edge treatments (border sprays) c. Trench trapping d. Eggplant as a trap crop	25%	5
4) Update weed map/list to determine need for postemergent herbicide. See the Weed Assessment List available for use in satisfying this element.	50%	5
5) Cultivate at least once for weed control if not mulching.	10%	5
6) Scout crop weekly from transplanting to harvest; twice weekly until transplants are established or if late blight is in the area .	25%	3
	50%	5
	100%	10

7) Use disease forecasts (Tomcast and Blitecast) for timing fungicide applications if weather data is available.	100%	10
8) Use copper applications only if the farm has a history of bacterial diseases or at first detection of bacterial disease symptoms.	50%	5
9) Use thresholds for insect pests.	25%	3
	50%	5
	100%	10
10) Choose labeled pesticides with the lowest environmental impact.	10%	3
11) Treat only hot spots of insect pests if population is localized.	50%	5
12) Keep records of pest populations, pesticide applications, and cultural practices.	100%	10
13) If field is abandoned because of late blight epidemic, destroy plants within 5 days to prevent sporulation and spread.	100%	10
E. Post harvest		
1) If washing crop, chlorinate wash water and monitor chlorine levels.	100%	10
2) Update weed map/list for use the following season. See the Weed Assessment List available for use in satisfying this element.	50%	5
3) Disk down fields and/or remove plants after harvest.	50%	5
4) Establish a cover crop to scavenge nutrients and control weeds.	50%	5

Growers producing their own transplants:

Total points available (without bonus points): 213

Points needed to qualify (80%): 170

Growers buying transplants:

Total points available (without bonus points): 188

Points needed to qualify (80%): 150

Bonus points available for both categories of growers: 35

TO LEARN MORE...

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

[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