

Tomato (Field or Greenhouse) Pest Management Survey
Pest management Resources Online for New England
(PRO New England)

This survey should be completed by the person most responsible for tomato management decisions on your farm. Please complete if you grow either field grown or greenhouse grown tomatoes.

Do you grow field tomatoes for sale?

Yes ----> continue below

No ----> if no to both, please put this blank survey in the enclosed return envelope in order to avoid getting follow-up mailings and reminders from us.

Do you grow greenhouse tomatoes for sale?

Yes ----> continue below

No ----> if no to both, please put this blank survey in the enclosed return envelope in order to avoid getting follow-up mailings and reminders from us.

Please circle the number of your response, fill in the blanks, or circle the correct selection where indicated in the questions below.

- A1. How many acres of tomatoes do you grow? _____ Acres
- A1. How many square feet of greenhouse tomatoes do you grow? _____ Square feet
- A2. Over the past 5 years, what is your average production of field tomatoes per acre? _____ Bushels
- Over the past 5 years, what is your average production of greenhouse tomatoes per square foot? _____ Bushels
- A3. What percentage of your tomatoes are sold through each of these markets?
- | | |
|-----------------------------------|---------|
| Processing | _____ % |
| Fresh market, retail (pre-picked) | _____ % |
| Fresh market, wholesale | _____ % |
| Other (specify _____) | _____ % |
| Total | 100 % |

HORTICULTURAL MANAGEMENT

B1. Which of the following planting practices do you use? (Check all that apply.)

fresh manure

composted manure

drip irrigation

overhead irrigation

staking

Other (please specify: _____)

B2. Do you use leaf analysis to determine fertilizer needs in most years? (Circle answer)

Yes or No

If yes, how frequently is it performed?

1) 1 time each year

2) More than 1 time each year

3) Every other year

4) Every third year

5) Other (please specify) _____

B3. Field Tomato: How many plants per acre do you plant? _____

B3 Greenhouse Tomato: How many plants per square foot do you plant? _____

GENERAL PEST MANAGEMENT INFORMATION

C1. Please estimate your average pesticide use in a typical year:

Number of times you spray for insects each year _____

Number of times you spray for mites each year _____

Number of times you spray for diseases each year _____

Number of times you spray weeds each year _____

C2. Which of these pests requires routine, annual control, is an occasional pest requiring control, or is rarely a problem on your farm?

Pest	How Important is This PEST			
Aphids	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Cabbage Looper	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Tomato Fruitworm	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Tomato Hornworm	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Colorado Potato Beetle	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Cutworms	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Flea Beetles	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Leafminers	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Two Spotted Spider Mite	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
White Fly	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Early Blight	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Septoria Leafspot	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Anthracnose	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Late Blight	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Powdery Mildew	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Sclerotinia Blight	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Fruit Rot	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Bacterial Cancer	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Cucumber Mosaic Virus	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Tobacco Mosaic Virus	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Blossom End Rot	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Blotchy Ripening	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Wilt (Fusarium, Verticillium)	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Seed Decay Damping off	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Other insects/mites:	(Specify: _____)			
	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Other diseases:	(Specify: _____)			

	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Weeds	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Any vertebrate pests	Routine, annual control	Occasional pest	Rarely a problem	Never a problem
Please specify vertebrate pests: _____				

C3. How frequently do the following weather factors influence your management decisions, either directly or by their influence on predictive models? **(Please circle your answers)**

		How Important?		
Rain forecast	Routine, most decisions affected	Occasional influence	Rare influence	Never
Rain accumulated since previous spray (for effect on residue or as disease risk indicator)				
	Routine, most decisions affected	Occasional influence	Rare influence	Never
Leaf wetness hours for disease models				
	Routine, most decisions affected	Occasional influence	Rare influence	Never
Temperature	Routine, most decisions affected	Occasional influence	Rare influence	Never
Humidity	Routine, most decisions affected	Occasional influence	Rare influence	Never
Wind speed forecast	Routine, most decisions affected	Occasional influence	Rare influence	Never
Wind Direction	Routine, most decisions affected	Occasional influence	Rare influence	Never

C4. What factors do you consider when choosing pesticides for use on your farm? **(Please circle your answers)**

		How Important?		
_____	Toxicity of materials available (self, family, employees)	Very Impt	Somewhat Impt	Not Impt.
	Potential environmental impacts	Very Impt	Somewhat Impt.	Not Impt.
	Safety of packaging (such as water soluble bags, etc)	Very Impt	Somewhat Impt.	Not Impt.
	Cost per acre/unit	Very Impt	Somewhat Impt.	Not Impt.
	Effectiveness (how well it does the job)	Very Impt	Somewhat Impt.	Not Impt.
	Impact on non-target critters including beneficial insects and mites	Very Impt	Somewhat Impt.	Not Impt.
	Phytotoxicity (potential for injury to crop)	Very Impt	Somewhat Impt.	Not Impt.

In order for USDA to understand the importance of various pesticides to tomato pest management, the following sections D-G asks for specific information about you actual pesticide use.

For all pesticides used, “Full Rate” means highest labeled rate and “Reduced Rate” means less than the highest labeled rate.

INSECT AND MITE MANAGEMENT

For each of the following insect and mite pests, indicate the total number of acres treated in 2001 and fill in the blanks or circle the appropriate answers about the control measures you used. **If you did not treat for the pest, put “0” in the “acres treated” slot.**

D1. Aphids

a) Acres treated in 2001: _____Acres. Greenhouse growers: use % of GH crop treated _____%

b) Pesticide(s) used	Yes or No		Rate used (based on label guidelines)		Effectiveness of Control		
	Yes	No	Full Rate	Reduced Rate	Excellent	Good	Poor
Circle all that apply							
Diazinon (D-Z-N)	Yes	No	Full	Reduced	Excellent	Good	Poor
Endosulfan (Thiodan*50WP)	Yes	No	Full	Reduced	Excellent	Good	Poor
Imidacloprid (Provado 1.6F)	Yes	No	Full	Reduced	Excellent	Good	Poor
Insecticidal Soap (M-Pede)	Yes	No	Full	Reduced	Excellent	Good	Poor
Methomyl (Lannate)	Yes	No	Full	Reduced	Excellent	Good	Poor

D2. Cabbage Looper, Tomato Fruitworm, Tomato Hornworm

a) Acres treated in 2001: _____Acres. Greenhouse growers: use % of GH crop treated _____%

b) Pesticide(s) used	Yes or No		Rate used (based on label guidelines)		Effectiveness of Control		
	Yes	No	Full Rate	Reduced Rate	Excellent	Good	Poor
Circle all that apply							
Azinphosmethyl(Guthion)	Yes	No	Full	Reduced	Excellent	Good	Poor
Bacillus Thuringiensis aizawai	Yes	No	Full	Reduced	Excellent	Good	Poor
Bacillus thuringiensis kurstaki	Yes	No	Full	Reduced	Excellent	Good	Poor
Endosulfan (Thiodan*50WP)	Yes	No	Full	Reduced	Excellent	Good	Poor
Esfenvalerate(Asana*XL)	Yes	No	Full	Reduced	Excellent	Good	Poor
Lamba-cyhalothrin (Karate)	Yes	No	Full	Reduced	Excellent	Good	Poor
Methomyl (Lannate)	Yes	No	Full	Reduced	Excellent	Good	Poor
Nuclear polyhedrosis virus	Yes	No	Full	Reduced	Excellent	Good	Poor

Permethrin (Ambush)	Yes	No	Full	Reduced	Excellent	Good	Poor
Spinosad (SpinTor 2SC)	Yes	No	Full	Reduced	Excellent	Good	Poor
Tebufenozide (Confirm 2F)	Yes	No	Full	Reduced	Excellent	Good	Poor

D3. Colorado Potato Beetle

a) Acres treated in 2001: _____Acres.

Greenhouse growers: use % of GH crop treated _____%

Rate used (based on label guidelines) Effectiveness of Control

b) Pesticide(s) used Yes or No Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Abamectin (Agri-Mek 0.150)	Yes	No	Full	Reduced	Excellent	Good	Poor
Azadirachtin (Neemix 4.5)	Yes	No	Full	Reduced	Excellent	Good	Poor
Azinphosmethyl(Guthion)	Yes	No	Full	Reduced	Excellent	Good	Poor
Bacillus thuringiensis tenebrionis	Yes	No	Full	Reduced	Excellent	Good	Poor
Imidacloprid (Admire 2F)	Yes	No	Full	Reduced	Excellent	Good	Poor
Spinosad (SpinTor 2SC)	Yes	No	Full	Reduced	Excellent	Good	Poor
Imidacloprid (Admire 2F)	Yes	No	Full	Reduced	Excellent	Good	Poor
Endosulfan (Thiodan*50WP)	Yes	No	Full	Reduced	Excellent	Good	Poor
Esfenvalerate(Asana*XL)	Yes	No	Full	Reduced	Excellent	Good	Poor

D4. Cutworms

a) Acres treated in 2001: _____Acres.

Greenhouse growers: use % of GH crop treated _____%

Rate used (based on label guidelines) Effectiveness of Control

b) Pesticide(s) used Yes or No Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Carbaryl (Sevin XLR+)	Yes	No	Full	Reduced	Excellent	Good	Poor
Esfenvalerate(Asans*XL)	Yes	No	Full	Reduced	Excellent	Good	Poor

D5. Flea Beetle

a) Acres treated in 2001: _____Acres. Greenhouse growers: use % of GH crop treated _____%

Rate used (based on label guidelines) Effectiveness of Control

b) Pesticide(s) used Yes or No Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Pesticide(s) used	Yes	No	Full Rate	Reduced Rate	Excellent	Good	Poor
Azinphosmethyl (Guthion*Solupak50%)	Yes	No	Full	Reduced	Excellent	Good	Poor
Carbaryl (Sevin XLR+)	Yes	No	Full	Reduced	Excellent	Good	Poor
Cyromazine (Trigard)	Yes	No		Full Reduced	Excellent	Good	Poor
Endosulfan (Thiodan*50WP)	Yes	No	Full	Reduced	Excellent	Good	Poor
Esfenvalerate(Asana*XL)	Yes	No	Full	Reduced	Excellent	Good	Poor
Spinodad (SpinTor 2SC)	Yes	No	Full	Reduced	Excellent	Good	Poor

D6. Leafminers

a) Acres treated in 2001: _____Acres. Greenhouse growers: use % of GH Crop treated _____%

Rate used (based on label guidelines) Effectiveness of Control

b) Pesticide(s) used Yes or No Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Pesticide(s) used	Yes	No	Full Rate	Reduced Rate	Excellent	Good	Poor
Abamectin (Agri-Mek)	Yes	No	Full	Reduced	Excellent	Good	Poor
Azadirachtin (Neemix 4.5)	Yes	No	Full	Reduced	Excellent	Good	Poor
Diazinon (D-Z-N*50wp)	Yes	No	Full	Reduced	Excellent	Good	Poor
Dimothoate (Dimethoate4EC)	Yes	No	Full	Reduced	Excellent	Good	Poor
Esfenvalerate(Asana*XL)	Yes	No	Full	Reduced	Excellent	Good	Poor

D7. Two Spotted Spider Mite

a) Acres treated in 2001: _____Acres.

Greenhouse growers: use % of GH crop treated _____%
 Rate used (based on label guidelines) Effectiveness of Control

b) Pesticide(s) used Yes or No

Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Abamectin (Agri-Mek)	Yes	No	Full	Reduced	Excellent	Good	Poor
Dicofol(Kelthane MF)	Yes	No	Full	Reduced	Excellent	Good	Poor

D8. White Fly

a) Acres treated in 2001: _____Acres.

Greenhouse growers: use % of GH crop treated _____%
 Rate used (based on label guidelines) Effectiveness of Control

b) Pesticide(s) used Yes or No

Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Endosulfan (Thiodan 50WP)	Yes	No	Full	Reduced	Excellent	Good	Poor
Imidacloprid (Provado1.6)	Yes	No	Full	Reduced	Excellent	Good	Poor
Lamba-cyhalothrin (Karate)	Yes	No	Full	Reduced	Excellent	Good	Poor
Esfenvalerate(Asana*XL)	Yes	No	Full	Reduced	Excellent	Good	Poor

DISEASE MANAGEMENT

E1. All Diseases

a) Acres treated in 2001: _____Acres.

Greenhouse growers: use % of GH crop treated _____%
 Rate used (based on label guidelines) Effectiveness of Control

b) Pesticide(s) used Yes or No

Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Azoxystrobin (Quadris)	Yes	No	Full	Reduced	Excellent	Good	Poor
Chlorothalonil (Bravo Ultrex 82WDG)	Yes	No	Full	Reduced	Excellent	Good	Poor
Cupric hydroxide	Yes	No	Full	Reduced	Excellent	Good	Poor

F2. Pre-emergence incorporation

a) Acres treated in 2001: _____Acres. Greenhouse growers: use % of GH crop treated _____%

b) Pesticide(s) used Yes or No Rate used (based on label guidelines) Effectiveness of Control
Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Pesticide(s)	Yes	No	Full Rate	Reduced Rate	Excellent	Good	Poor
Napropanide (Devrinol)	Yes	No	Full	Reduced	Excellent	Good	Poor
Metribuzin (Sencor 75DF)	Yes	No	Full	Reduced	Excellent	Good	Poor
Trifluralin (Treflan 4E)	Yes	No	Full	Reduced	Excellent	Good	Poor

c) Cultural weed management practices employed:

Practice	Yes	No	How useful?		
Mowing	Yes	No	Excellent	Good	Poor
Mulching	Yes	No	Excellent	Good	Poor
Cultivation	Yes	No	Excellent	Good	Poor

F3. Post-emergence

a) Acres treated in 2001: _____Acres. Greenhouse growers: use % of GH Crop treated _____%

b) Pesticide(s) used Yes or No Rate used (based on label guidelines) Effectiveness of Control
Full Rate Reduced Rate Excellent Good Poor

Circle all that apply

Pesticide(s)	Yes	No	Full Rate	Reduced Rate	Excellent	Good	Poor
Metribuzin (Sencor75DF)	Yes	No	Full	Reduced	Excellent	Good	Poor
Paraquat (Gramoxone Extra)	Yes	No	Full	Reduced	Excellent	Good	Poor
Rimsulfuron (Shadeout 25DG)	Yes	No	Full	Reduced	Excellent	Good	Poor
Pelargonic acid (Scythe 4.2)	Yes	No	Full	Reduced	Excellent	Good	Poor
Sethoxydim (Poast 1.53)	Yes	No	Full	Reduced	Excellent	Good	Poor

VERTEBRATE PEST MANAGEMENT

G3. Which vertebrate pests have required control? (Bird, deer, rabbit, voles, mice, woodchucks, other_____)

If so what control strategies have you used?

<u>Practices employed</u>	<u>Effectiveness of Control</u>		
Specify _____	Excellent	Good	Poor
Specify _____	Excellent	Good	Poor
Specify _____	Excellent	Good	Poor
Specify _____	Excellent	Good	Poor

INFORMATIONAL MANAGEMENT DECISIONS:

H1. If IPM practices such as insect trapping, degree-day accumulation, or field sampling are done, who most often does them?

(Circle one answer only.)

- a) You
- b) Private IPM scout/consultant
- c) Farm employee or family member
- d) Other (specify: _____)

H2. What sampling methods or weather-pest models are used?

(Circle all that apply)

- a) sampling pattern is standardized – a fixed number of leaves for each plant and a fixed number of plants per row
- b) sampling pattern is informal
- c) insect traps are used
- d) model(s) to estimate insect pest timing or damage risks.
- e) model(s) to estimate disease timing or damage risk

H3. What are your important sources of information for use when making pest management decisions?

Circle all that apply

a)	Twilight meetings	Very Important	Somewhat Important	Not Important
b)	Off Season educational meeting	Very Important	Somewhat Important	Not Important
c)	New England Veg. Guide	Very Important	Somewhat Important	Not Important
d)	Newsletters	Very Important	Somewhat Important	Not Important
e)	Web sites	Very Important	Somewhat Important	Not Important
f)	Trade publication	Very Important	Somewhat Important	Not Important
g)	Other growers	Very Important	Somewhat Important	Not Important
h)	Suppliers/dealers	Very Important	Somewhat Important	Not Important
i)	Other _____	Very Important	Somewhat Important	Not Important

H4. How would you describe your tomato production practices? (Circle one.)

Conventional

IPM

Organic

Other

Thank you for completing the survey!