Rutgers Cooperative Extension Compiled by B.A. Majek, W.L. Kline, S.T. Kline Prepared with support from Northeast Region SARE Program Project ENE95-7

TOMATO (PROCESSING) INTEGRATED WEED MANAGEMENT FIELD GUIDE

Year Prior to Planting Tomatoes

Season Prior to Planting Tomatoes:

PROCEDURE	HOW TO SAMPLE	USE OF THIS INFORMATION	ADDITIONAL NOTES
Analysis of Soil	Using a county soil map, identify the different soils in	With this information an integrated weed	Mechanical analysis generally needs to be
Texture and	the field. Take a sample from each area where soil	management program can be designed using	done once unless there is significant erosion or
Organic Matter	types differ. Submit to lab for mechanical analysis of	cultural and/or chemical controls for each soil	changes in cropping patterns. CEC and pH
	texture and for analysis of Cation Exchange Capacity	type in a field. Soil type and pH differences	should be analyzed annually. Organic matter
	(CEC), organic matter (OM), and pH.	within a field affect rate of application,	analysis should be done every 5 - 10 years.
		carryover and other interactions.	

Weeds	Sampling	Frequency	Threshold	Notes
Annual & Biennial Weeds	Scout field in a zigzag pattern, sampling 10	once in late	Number of weeds per 10 ft.	Note whether any herbicide was
	random locations. Either sample 1 square yard or	summer	of row or 1 square yard:	used in the field during the season.
	10 ft. of row at each location, depending on which		< 1 weed = very light	If possible, leave a check plot with
	scheme works best with the field. Identify the		1-4 weed = light	no herbicide to learn what weeds
	weeds and count number of each species. Note		4-10 weeds = medium	are potential problems.
	whether specific weeds are scattered throughout		10-100 weeds = heavy	
	the field or predominate in one area of the field.		> 100 weeds = very heavy	
Perennial Weeds: Canada	Scout for these weeds with the annual and	once in late	presence of perennial or zero	Review "Postharvest Perennial
Thistle, Common Milkweed,	biennial weeds, but map the presence of these	summer	tolerance weeds	Weed Control" for information on
Hemp Dogbane, Bindweed	weeds.			controlling perennial weeds. (292)*
spp., Johnsongrass,				Use information about the zero
Bermudagrass, Quackgrass,				tolerance weeds for planning next
Yellow nutsedge, Horsenettle				year's weed control strategies.
Zero Tolerance Weeds:				Septoria Leaf Spot overwinters on
Groundcherry, Common				nightshade, horsenettle, jimsonweed
cCcklebur, Jimsonweed,				& ground cherry.
Nightshade spp., Galinsoga,				
Common Purslane (277, 1326)*				

Pre-plant Decisions

Use weed maps for selecting herbicides and weed control options for season. Match preplant incorporated and preemergence herbicide rates to soil type and percent organic matter in each field. (292)

Transplant to First Bloom

(three weeks after transplanting)

WEEDS	Sampling	Frequency	Threshold	Notes
Summer Annuals Perennial Weeds: Canada	Scout field in a zigzag pattern, sampling 10 locations. Either sample 1 square yard or 10 ft. of row at each location, depending on which scheme works best with the field. Identify weed species and whether weeds are mostly in the row (those that would be left by cultivation) or between rows (those that would be removed by cultivation). Note the presence of any of these weeds while	Once, 15 - 20 days after transplanting. Once, 15-20	<pre># weeds/10 ft. row or 1 sq. yd. <0.25 weed = no control required 0.25 - 1 weed = some control may be required. > 1 weed = control required.</pre>	This is the most critical time for weed control decisions. Weeds between rows may be cultivated out. Weeds within the row may require an herbicide treatment or hand weeding, depending on species present. Galinsoga and common
Thistle, Common Milkweed, Hemp Dogbane, Bindweed spp., Johnsongrass, Bermudagrass, Quackgrass, Yellow Nutsedge, Horsenettle <u>Zero Tolerance Weeds(ZTW)</u> Groundcherry, Common Cocklebur, Jimsonweed, Nightshade spp., Galinsoga, Common Purslane (277, 1326)	scouting as outlined above. Map where these weeds are found and whether they appear within the row or between rows.	days after transplanting.	tolerance weeds.	purslane reroot from cuttings. Fruits and foliage of the nightshade species are poisonous. Septoria Leaf Spot overwinters on nightshade, horsenettle, jimsonweed & groundcherry.
All Weeds	Scout in the same manner as outlined above to evaluate how well the weed control strategies implemented after the three week scouting have worked.	1 week after the implementation of weed control measures.	Use same thresholds.	Institute controls to bring weed populations under the threshold level.

First Bloom to Early Fruit Set

(five to six weeks after transplanting)

Weeds	Sampling	Frequency	Threshold	Notes
weeus	Bamping	Frequency	Threshold	Totes

Perennials	Sample 1 square yard and 10 ft.	Once, approximately	# weeds/10 ft. ro	ow or 1 sq. yd.	Use this information to assess weed
Zero Tolerance	of row in 10 random locations.	6 weeks after	<0.25 weeds=	no control required	control program, determine if an
Weeds (ZTW)	Identify weeds, note whether	planting.	0.25 - 1 weeds=	some control may be required	additional cultivation will clean out
other weeds	weeds are within the row or		> 1 weed =	control required	remaining weeds or whether hand
	between rows. Map any				weeding or a herbicide treatment is
	perennial weeds.		Perennial/ZTW: presence = control required.		required.

Tomato (Processing) Integrated Weed Management Field Guide, page 3

Pre-Harvest

(approximately 9 weeks after transplanting)

Weeds	Sampling	Frequency	Threshold	Notes
Perennial Weeds: Canada	While scouting for other pests, identify weeds	Once, prior to	Only weeds that would	Clean up perennial weeds after crop is
Thistle, Common Milkweed,	present, note infestation level, where weeds are	harvest,	interfere with harvesting	harvested with recommended strategies.
Hemp Dogbane, Bindweed	located (in row, between rows, on field edge,	approximately	operations or weeds that are	Plant cover crops to discourage winter
spp., Johnsongrass,	etc.) and whether weeds will interfere with	9 weeks after	contaminants need to be	annuals.
Bermudagrass, Quackgrass,	harvest operations. Also note weeds which	planting.	controlled prior to harvest.	
Yellow Nutsedge, Horsenettle	might be a contaminate problem at harvest		Presence of perennials =	
Zero Tolerance Weeds:	(nightshade berries, for example).		fall control required.	
Groundcherry, Common				
Cocklebur, Jimsonweed,				
Nightshade spp., Galinsoga,				
Common Purslane (277, 1326)				(292)

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