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

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

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	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).	Once, 15 - 20 days after transplanting.	**# 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.	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.
Perennial Weeds: Canada Thistle, Common Milkweed, Hemp Dogbane, Bindweed spp., Johnsongrass, Bermudagrass, Quackgrass, Yellow Nutsedge, Horsenettle Zero Tolerance Weeds(ZTW) Groundcherry, Common Cocklebur, Jimsonweed, Nightshade spp., Galinsoga, Common Purslane (277, 1326)	Note the presence of any of these weeds while scouting as outlined above. Map where these weeds are found and whether they appear within the row or between rows.	Once, 15-20 days after transplanting.	Presence of perennial or zero tolerance weeds.	Galinsoga and common 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

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

Pre-Harvest

(approximately 9 weeks after transplanting)

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