

Rutgers Cooperative Extension

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MUSKMELON INTEGRATED WEED MANAGEMENT FIELD GUIDE

Year Prior to Planting Muskmelons

Procedure	HOW TO SAMPLE	USE OF THIS INFORMATION	ADDITIONAL NOTES
Analysis of Soil Texture, Organic Matter and pH	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 analysis of texture by mechanical analysis 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 only 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.

Prior to Harvest

Scout once prior to harvest of current crop to determine weed potential for next season's muskmelons.

Weeds	Sampling	Threshold	Notes
Horsenettle, Ground Cherry, Yellow Nutsedge, Canada thistle, Common Milkweed, Hemp Dogbane, Bindweed spp., Johnsongrass, Bermuda Grass (277*, 1326)	Scout field in a zigzag pattern. Sample 10 random locations 1 square yard in size or 10 ft. of row, whichever pattern best suits existing conditions. Map the location of these weeds.	Presence	See "Postharvest Perennial Weed Control" for treatment options. (292)
Summer Annuals Galinsoga, Common Cocklebur, Jimsonweed (277, 1326)	Scout as outlined above for the presence of existing weeds. Potential weed problems are best identified by a non treated weedy check. Identify the weeds, count # of each species. Note whether specific weeds are scattered throughout the field or predominate in one area of the field.	Number of weeds per 10 ft. of row or 1 sq. yd. < 1 weed = very light 1-4 weed = light 4-10 weeds = medium 10-100 weeds = heavy > 100 weeds = very heavy	Untreated check provides the most reliable information about weed potential for the coming year.

Production Year

Pre-planting Decisions

1. From the information obtained from last year's scouting, select recommended control options for those weeds.
2. Use the map locating perennial weeds to determine if fall treatment eliminated those weeds.
3. Consider using the stale seedbed technique to eliminate germinating weed seeds from top inch of soil.
4. Match preplant incorporated and preemergence herbicide rates to soil type and percent organic matter in each field. (292)

Three Weeks after Emergence or Transplanting

Weeds	How to Sample	When	Threshold																					
Zero Tolerance Weeds (ZTW) = Nightshades, Horsenettle, Yellow Nutsedge, Morning Glory, Jimsonweed, Common Cocklebur, Canada Thistle, Common Milkweed, Hemp Dogbane, Bindweed spp., Johnsongrass, Bermudagrass, Quackgrass Summer Annuals (277, 1326)	In a zigzag pattern, scout 1 sq. yd. in 5 random locations and 10 ft. of row in another 5 random locations. Identify species, count # of each weed species. Map location of ZTW. Determine whether weeds are predominantly within the row or between rows.	Once approximately 3 weeks after transplanting.	<table border="0"> <tr> <td colspan="2"># weeds/10 ft. row or 1 sq. vd.</td> <td>Action</td> </tr> <tr> <td>ZTW:</td> <td>Presence</td> <td>Control required</td> </tr> <tr> <td colspan="3">Summer annuals:</td> </tr> <tr> <td></td> <td>< 0.25 weed</td> <td>None</td> </tr> <tr> <td></td> <td>0.25 - 1 weed</td> <td>Control may be required</td> </tr> <tr> <td></td> <td>> 1 weed</td> <td>Control required</td> </tr> <tr> <td colspan="3">Whether weeds are within the row or between the row determines if cultivation will be an effective control.</td> </tr> </table>	# weeds/10 ft. row or 1 sq. vd.		Action	ZTW:	Presence	Control required	Summer annuals:				< 0.25 weed	None		0.25 - 1 weed	Control may be required		> 1 weed	Control required	Whether weeds are within the row or between the row determines if cultivation will be an effective control.		
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All Weeds	Same as above.	1 week after control measures are implemented from the post transplant scouting.	This information is used to evaluate how well controls worked.																					

Six Weeks After Emergence or Transplanting

Weeds	How to Sample	When	Threshold																		
ZTW (see above) Summer Annuals	In a zigzag pattern, scout 1 sq. yd. in 5 random locations and 10 ft. of row in 5 random locations. Identify species, count # of each weed species. Map location of ZTW. Determine whether weeds are predominantly within the row or between rows.	Once approximately 5 -6 weeks after transplanting.	<table border="0"> <tr> <td colspan="2"># weeds/10 ft. row or 1 sq. vd.</td> <td>Action</td> </tr> <tr> <td>ZTW:</td> <td>Presence</td> <td>Control required</td> </tr> <tr> <td colspan="3">Summer annuals:</td> </tr> <tr> <td></td> <td>< 0.25 weed</td> <td>None</td> </tr> <tr> <td></td> <td>0.25 - 1 weed</td> <td>Control may be required</td> </tr> <tr> <td></td> <td>> 1 weed</td> <td>Control required</td> </tr> </table>	# weeds/10 ft. row or 1 sq. vd.		Action	ZTW:	Presence	Control required	Summer annuals:				< 0.25 weed	None		0.25 - 1 weed	Control may be required		> 1 weed	Control required
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Preharvest

Weeds	Sampling	Frequency	Threshold	Notes
Summer Annuals	Sample 1 sq. yd. in 5 random locations and 10 ft. of row in 5 random locations.	Approximately 9 weeks after transplanting		If weeds are present that will interfere with the harvesting operation, some form of control must be implemented.
Perennial Weeds	Scout for these weeds while scouting for the above mentioned weeds. Map location of any perennial weeds.	Once prior to harvest.	Presence	This information is used to determine if a fall treatment is required to control perennial weeds. See "Postharvest Perennial Weed Control" for treatment options after harvest. (292)

*Bolded numbers in parenthesis indicate sources of additional information found in the 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. They are meant to be used as guidelines. As such, they should be validated on small acreages 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 Agent for additional information or assistance