



This is a section from the

**2018**

**Mid-Atlantic**

**Commercial Vegetable**

**Production Recommendations**

The manual, which is published annually, is **NOT** for home gardener use.

The **full manual**, containing recommendations specific to New Jersey, can be found on the Rutgers NJAES website in the Publications section:

*<http://njaes.rutgers.edu/pubs/publication.asp?pid=E001>*.

The **label** is a legally-binding contract between the user and the manufacturer. The user must follow all rates and restrictions as per label directions. The use of any pesticide inconsistent with the label directions is a violation of Federal law.

**Cooperating Agencies:** Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

## F. Commodity Recommendations

### Pesticide Use Disclaimer

#### THE LABEL IS THE LAW

**Before using a pesticide, check the label for up to date rates and restrictions.**

Labels can be downloaded from: <http://www.cdms.net/>, <http://www.greenbook.net/> or <http://www.agrian.com/labelcenter/results.cfm>

#### Guide to the Recommended Pesticide Tables in the Following Crop Chapters:

1. Pesticides are listed by **group or code number based on chemical structure and mode of action**, as classified by the Weed Science Society of America (WSSA) for herbicides, the Insecticide Resistance Action Committee (IRAC) for insecticides, and the Fungicide Resistance Action Committee (FRAC) for fungicides.  
**If the number is in bold font, the product may have resistance concerns.**
2. For **restricted use pesticides**, the restricted active ingredients are labeled with a \*. See the Pesticide Safety chapter for more information.
3. **In addition to the pesticides listed below, other formulations or brands with the same active ingredient(s) may be available. ALWAYS CHECK THE LABEL:**
  - a) to ensure a pesticide is labeled for the same use,
  - b) to ensure the pesticide is labeled for the desired crop, and
  - c) for additional restrictions.
4. All pesticide recommendations are made for spraying a **broadcast area of 1 acre** (43,560 square feet). **Adjust the rate for banded applications** (for more information, see the Pest Management chapter, Calibrating Granular Applicators section).
5. Check the label for the maximum amount of pesticide per application and the maximum number of applications per year.
6. **Bee Toxicity Rating (Bee TR):** N=nontoxic; L=minimum impact on bees; M=moderately toxic, can be used if dosage, timing and method of application are correct, but should NOT be applied directly to crop if bees are present; H=highly toxic, severe losses expected, -- = data not available.

# Muskmelons and Mixed Melons

## Recommended Varieties<sup>1,2</sup>

Type	Flesh Color	Variety	Days <sup>3</sup>	Rind Description	Lb	PM <sup>4</sup>	FW <sup>5</sup>
Muskmelon	Orange	Accolade	74	Oval, medium netting, light sutures	5	1,2	0,1,2
		Aphrodite	80	Light netting, light sutures	7	1	0,1,2
		Astound	75	Oval, fine netting, light sutures	5	1,2	0,1,2
		Athena	79	Oval, medium netting, light sutures	6	1,2	0,1,2
		Atlantis	74	Oval, medium netting, light sutures	7	1,2	0,1,2
		Avatar	72	Oval, medium netting	8	1,2	0,1,2
		Caribbean Gold	80	Round, netted, no sutures	3	2	0,1,2
		Goddess	68	Oval, medium netting, light sutures	5	1,2	0,1,2
		Grand Slam	85	Oval, coarse netting, no sutures	7	1,2	0,2
		Halona	73	Round, netted, heavy sutures	4	1,2	0,1,2
		Minerva	78	Oval, coarse netting, light sutures	8	1,2	0,1,2
		Orange Sherbert	80	Oval, medium netted, heavy sutures	7	1	1,2
		Sarah's Choice	76	Round, netted, no sutures	3	1,2	0,1,2
		Strike	85	Oval, coarse netting, no sutures	7	1,2	0,2
Sugar Cube	80	Mini, round, netted, no sutures	2	1,2	0,1,2		
Canary	White	Amy	75	Slight oval, yellow, no net	3		
		Camino Europa	84	Oval, yellow, wrinkled, no net	5	1,2	0,1,2
		Camposol	80	Oval, yellow, wrinkled, no net	6	1,2	
Galia	Green	Arava	77	Slight oval, fine net, no sutures	3	1,2	
		Courier	85	Slight oval, fine net, no sutures	5	1,2	0,1,2
		Diplomat	75	Slight oval, fine net, no sutures	5	1,2	
		Visa	75	Slight oval, fine net, no sutures	4	1,2	
Honeydew	Light green	Dewlightful	90	Round, white, smooth	7	1,2	
		Earli-Dew	80	Round, white, smooth	3		2
		New Moon	85	Round, white, smooth	5	1	0,2
		Summer Dew	88	Round, white, smooth	5	1,2	0,2
Asian	White	Sprite	70	Oval, smooth, white rind	1		
Christmas	Light green	Lambkin	70	Oval, smooth, green/yellow rind	3		

<sup>1</sup>Listed alphabetically. <sup>2</sup>All varieties are hybrids. <sup>3</sup>Relative days to harvest. <sup>4</sup>PM=Powdery Mildew; resistance to PM races as reported from source seed companies. <sup>5</sup>FW=Fusarium Wilt; resistance to FW races as reported from source seed companies.

## Melon Descriptions

<b>Ananas</b>	Middle Eastern Melons. Oval shaped with medium-fine netting over pale green to orange rind. Very sweet, aromatic white flesh or orange-pink flesh. Average weight 3-4 pounds.
<b>Canary</b>	Bright yellow rinds and an oblong shape. Inside, the pale, cream-colored flesh is juicy, and the flavor is very mild.
<b>Casaba</b>	Oval shape with a pointy end, wrinkled yellow skin, weighing 4-7 pounds. The pale, almost white flesh is extremely sweet.
<b>Charentais</b>	French melons identifiable by their smooth, gray, or gray-blue rinds with sutures and orange flesh and are small in size.
<b>Christmas</b>	Football shape and weighing upwards of 5 to 8 pounds. They have green mottled rinds and pale orange to light green flesh depending upon the variety. Sweet flesh.
<b>Crenshaw</b>	Casaba cross with a slightly more oblong shape, weighing at least 5 pounds. The slightly wrinkled green rind ripens to yellow. Inside, the flesh is pale peachy orange. It has a strong, spicy aroma.
<b>Crosses</b>	There are a number of crosses, e.g., muskmelon x Galia and Charentais x Muskmelon that produce excellent melons.
<b>Galia</b>	Israeli melons that have netted rinds similar to cantaloupes but paler in color. The sweet pale green to almost white flesh has the consistency of a honeydew with what has been described as a spicy-sweet or banana-like aroma. When ripe, they slip from the vine.
<b>Honeydew</b>	Smooth, white to greenish-white rinds (some may be yellow) and sweet flesh that may be green, white, or orange. Its texture is similar to a cantaloupe, but the flavor more subtle and sweet.
<b>Musk</b>	The familiar American cantaloupes with orange flesh and netted skin. This includes deep sutured round to oval "Superstar" types, Eastern "Athena" types that are oval with slight sutures, and Western shipping types without sutures.
<b>Oriental</b>	Small (weighing a little more than 1 pound), elongated yellow melons with white sutures, and sweet, pale peach to white flesh. Because the seeds are so small and the rind is so thin, the entire melon can be eaten.
<b>Other</b>	Specialty melons that do not fit into the other categories are also available including those categorized as "Gourmet".
<b>Persian</b>	Bigger than cantaloupes, have a dark green rind with light brown netting. As it ripens, the rind turns to light green. Bright pink-orange flesh has a delicate flavor. Unlike most melons in the Reticulatus group, Persian melons do not slip from the vine when mature.

### Recommended Nutrients Based on Soil Tests

In addition to using the table below, check the suggestions on rate, timing, and placement of nutrients in your soil test report and the Soil and Nutrient Management chapter. Your state’s soil test report recommendations and/or your farm’s nutrient management plan supersede recommendations found below.

Musk-melons <sup>1</sup>	N (lb/A)	Soil Phosphorus Level				Soil Potassium Level				Nutrient Timing and Method
		Low	Med	High (Opt)	Very High	Low	Med	High (Opt)	Very High	
	75-150	150	100	50	0 <sup>1</sup>	200	150	100	0 <sup>1</sup>	Total nutrient recommended
	25-50	150	100	50	0 <sup>1</sup>	200	150	100	0 <sup>1</sup>	Broadcast and disk-in or follow fertigation schedule
	25-50	0	0	0	0	0	0	0	0	Sidedress when vines begin to run or follow fertigation schedule
	25-50	0	0	0	0	0	0	0	0	Sidedress prior to first harvest or follow fertigation schedule

<sup>1</sup>For plasticulture, fertilization rates are based on a standard row spacing of 6 ft. Apply 1-2 lb/A of boron (B) with broadcast fertilizer; see also Table B-7 in the Soil and Nutrient Management chapter. <sup>1</sup>In VA, crop replacement values of 25 lb/A of P<sub>2</sub>O<sub>5</sub> and 50 lb/A of K<sub>2</sub>O are recommended on soils testing Very High.

### Fertigation Schedule Examples

This table provides examples of fertigation schedules based on two common scenarios – sandy coastal plain soils and heavier upland soils. Modify according to specific soil tests and base fertility.

Fertigation recommendations for 100 lb N and 100 lb K <sub>2</sub> O <sup>1,2</sup>								
For soils with organic matter content less than 2% or coarse texture and low to medium or deficient K								
Preplant (lb/A) <sup>3</sup>			Nitrogen			Potash		
			50			100		
			N	N	N	K <sub>2</sub> O	K <sub>2</sub> O	K <sub>2</sub> O
Stage and Description	Weeks	Days	lb/day	lb/week	lb/stage	lb/day	lb/week	lb/stage
1 Early vegetative	1-4	1-28	0.9	6.3	25.2	0.9	6.3	25.2
2 Late vegetative	5-7	29-49	1.3	9.1	27.3	1.3	9.1	27.3
3 Flowering and fruiting	8-11	50-77	1.5	10.5	42	1.5	10.5	42
4 Harvest <sup>4</sup>	12-13	78-91	0.7	4.9	9.8	0.7	4.9	9.8

  

Fertigation recommendations for 60 lb N and 60 lb K <sub>2</sub> O <sup>1,2</sup>								
For soils with organic matter content greater than 2% or fine texture and high or optimum K								
Preplant (lb/A) <sup>3</sup>			Nitrogen			Potash		
			40			40		
			N	N	N	K <sub>2</sub> O	K <sub>2</sub> O	K <sub>2</sub> O
Stage and Description	Weeks	Days	lb/day	lb/week	lb/stage	lb/day	lb/week	lb/stage
1 Early vegetative	1-4	1-28	0.5	3.5	14	0.5	3.5	14
2 Late vegetative	5-7	29-49	0.8	5.6	16.8	0.8	5.6	16.8
3 Flowering and fruiting	8-11	50-77	0.9	6.3	25.2	0.9	6.3	25.2
4 Harvest <sup>4</sup>	12-13	78-91	0.4	2.8	5.6	0.4	2.8	5.6

<sup>1</sup>Rates are based on 7,260 linear bed ft/A (6-ft bed spacing). If beds are closer or wider, fertilizer rates should be adjusted proportionally. Drive rows should not be used in acreage calculations (see the Fertigation section in the Irrigation Management chapter). <sup>2</sup>Base overall application rate on soil test recommendations. <sup>3</sup>Applied under plastic mulch to effective bed area using modified broadcast method. <sup>4</sup>For extended harvest after 10 weeks continue fertigation at this rate.

### Plant Tissue Testing

Plant tissue testing can be a valuable tool to assess crop nutrient status during the growing season to aid with in-season fertility programs or to evaluate potential deficiencies or toxicities. Critical muskmelon tissue test values for most recently matured leaves prior to fruit set: N 4-5 %, P 0.4-0.7 %, K 5.0-7.0 %, Ca 3-5%, Mg 0.35-0.45% and S 0.2%. For additional nutrients and other growth stages consult with a tissue testing laboratory or this web link at the University of Florida: <http://edis.ifas.ufl.edu/ep081>

**Seed Treatment** Seed should be treated; check with your seed company and see Disease Control below.

### Plant Production, Planting and Spacing

## F Muskmelons and Mixed Melons

Transplants should be grown in pots or cells with at least 2 x 2 inches per plant. Smaller pots or cells will restrict root growth and provide less protection to the newly set transplant. If the seed is of good quality with a high germination test, one seed per pot is sufficient. One ounce of muskmelon seed contains 950-1,250 seeds.

Transplant container-grown plants through plastic mulch when daily mean temperatures have reached 60°F (16°C). Temperatures below 45°F (7°C) can stunt plant growth. Planting dates vary from May 1 in southern regions to June 5 in northern areas. Early plantings should be protected from winds with hot caps, tents, row covers, or rye strips. The recommended spacing for muskmelons is 5-6 ft between rows and 2-3 ft between plants in the row.

### **Drip/Trickle Fertilization**

Before mulching, adjust soil pH to around 6.5, apply enough farm-grade fertilizer to supply 25-50% of N and K<sub>2</sub>O requirements and thoroughly incorporate into the soil. At least 50% of N should be in the nitrate (NO<sub>3</sub><sup>-1</sup>) form. Apply all P<sub>2</sub>O<sub>5</sub> pre-plant and incorporate into the soil. Apply the balance of N and K<sub>2</sub>O through the drip irrigation system throughout the season. The first fertigation application should be within a week after field transplanting or direct seeding.

**Manganese Toxicity** This disorder occurs in acid soils (pH < 5.8). Maintain soil pH at 6.5 to avoid toxicity.

### **Mulching**

Plastic mulch laid on moist soil before field plantings conserves moisture, increases soil temperature, and increases early and total yields. Various widths of plastic mulch are available; choose a width that works with your production system and available equipment. Fumigation aids in the control of weeds and soil-borne diseases. Several fumigants can be used on muskmelon depending on what the predominant pests are. Plastic and fumigant should be applied to well-prepared soil 30 days before field planting. Fumigation alone may not provide satisfactory weed control under plastic. Black plastic or paper can be used without an herbicide.

### **Pollination**

Honeybees, squash bees, bumblebees and other wild bees are important for pollination and fruit set. Populations of pollinating insects may be adversely affected by insecticides applied to flowers or weeds in bloom. Apply insecticides only in the evening hours or wait until bloom is completed before application. See section on “Pollination” in the General Production Recommendations chapter and/or Tables below for relative toxicity of various pesticides for bees.

### **Harvest and Post Harvest Considerations**

Muskmelons should be harvested no sooner than at half-slip and preferably at full-slip for optimum fruit quality. Canary melons and Galia melons also slip, but Honeydews do not. Pick honeydew melons when the stem end becomes slightly springy and the skin takes on a creamy yellow appearance. Harvest daily in hot weather. Cooling to remove field heat is desired. Precooling can be done with cold water, cold air, or ice. Hydrocooling is the most efficient method, but room cooling and forced air cooling are also suitable for melons. After precooling, muskmelons should be stored at 36-41°F (2-5°C) and 95% relative humidity. A full-slip melon can be kept about 15 days at this temperature. Honeydews and other non-slip melons should not be stored below 40°F (4°C), as chilling injury will result. They will retain adequate quality for 2-3 weeks at 45-50°F (7-10°C).

## **Weed Control**

**THE LABEL IS THE LAW - See the Pesticide Use Disclaimer on page F 1.**

### **Recommended Herbicides**

1. Identify the weeds in each field and select recommended herbicides. More information is available in the “Herbicide Effectiveness on Common Weeds in Vegetables” Table (E-2) in the Pest Management chapter.
2. Minimize herbicide resistance development. Identify the herbicide site mode of action group and follow recommended good management practices. Include non-chemical weed control whenever possible.

Labeled Applications Sites for Muskmelon									
		Plastic mulch production					Bare-ground production		
		Soil-Applied		Postemergence			Soil-applied	POST	Post-harvest
Herbicides	WSSA group number	Under Plastic	Row Middles	Over Plastic	Row Middles	Post-Harvest			
Sandea	2	YES	YES	YES	YES		YES	YES	
Curbit	3		YES				YES		
Prowl H2O	3		YES						
Treflan	3		YES						
Prefar	8	YES	YES				YES		
Command	13		YES				YES		
Strategy	3 + 13		YES				YES		
Poast	1			YES				YES	
Select	1			YES				YES	
SelectMax	1			YES				YES	
Gramoxone	22				YES	YES			YES

1. Soil-Applied						
Group	Product Name	Product Rate	Active Ingredient (* = Restricted Use)	Active Ingredient Rate	PHI (d)	REI (h)
2	Sandea 75DF	0.5 to 1 oz/A	halosulfuron	0.023 to 0.047 lb/A	57	12
<p><b>-Labeled for use on cantaloupes, honeydew melons, and Crenshaw melons, but NOT labeled on muskmelons.</b></p> <p><b>-Plasticulture:</b> can be applied in a band under the plastic, immediately before laying the mulch; delay seeding or transplanting for 7 days after application. Row middles: apply before or after weed emergence; apply as a shielded application to avoid contact with the crop. If weeds have emerged, use a non-ionic surfactant at 0.25% v/v or include a non-selective herbicide.</p> <p><b>-Bareground:</b> apply broadcast after seeding but before crop emergence or no sooner than 7 days before transplanting.</p> <p>-Suppresses or controls yellow nutsedge and certain broadleaf weeds.</p> <p>-Sandea provides both residual and postemergence control of susceptible weed species. Effective postemergence control requires an adjuvant.</p> <p>-Sandea is an ALS inhibiting herbicide and resistant weed populations are common in the region. <b>Do not</b> use Group 2 herbicides repeatedly in the same field.</p> <p><b>-Do not</b> apply Sandea to crops treated with a soil applied organophosphate insecticide, or use a foliar applied organophosphate insecticide within 21 days before or 7 days after a Sandea application.</p> <p>-Maximum number of Sandea applications per year is 2 and <b>do not</b> exceed 2 oz/A during the crop season.</p>						
3	Curbit 3EC	1 to 3 pt/A	ethalfluralin	0.38 to 1.13 lb/A	--	24
<p><b>-Plasticulture:</b> row middles only: apply as a banded spray after crop emergence or after transplanting. <b>Do not</b> soil incorporate.</p> <p><b>-Bareground:</b> apply broadcast after direct-seeding but prior to crop emergence; <b>do not</b> use on transplanted melons.</p> <p>-Controls annual grasses and certain annual broadleaf weeds, including carpetweed and pigweed sp.</p> <p>-Use lower rate for coarse-textured soils or soils with low organic matter.</p> <p>-Where overhead irrigation is available, activate Curbit with 0.5 inch of irrigation within 2 days after application; if no irrigation or rainfall occurs within 5 days of application, activity of Curbit can be reduced.</p> <p>-Available as a pre-mix herbicide Strategy. Strategy at 3 pt/A= Curbit at 26 fl oz (0.6 lb ai) and Command at 8 fl oz (0.188 lb ai)</p> <p>-Maximum applications per season: not specified</p>						
3	Prowl H2O 3.8CS	2.1 pt/A	pendimethalin	1 lb/A	35	24
<p><b>-Plasticulture:</b> row middles only: apply as a banded spray before seeded crop has emerged or before transplanting.</p> <p><b>-Bareground:</b> apply with shielded sprayer band between rows, leaving 6 inches of untreated area on both sides of the seeded or transplanted row. Apply before seeded crop emerges or before transplanting.</p> <p>-Where overhead irrigation is available, activate Prowl with 0.5 inch of rainfall or sprinkler irrigation within 48 hr of application; if no irrigation or rainfall occurs within 5 days of application, activity of Prowl can be reduced</p> <p>-A second application at the same rate may be applied to row middles as a banded spray postemergence a minimum of 21 days after the first application, but before the vines begin to run.</p> <p><b>-Do not</b> apply over the top of the crop, or severe injury may occur.</p> <p>-Maximum number of Prowl H2O applications per season is 2 and <b>do not</b> exceed 4.2 pt/A during the crop season.</p>						
3	Treflan 4EC	1 to 2 pt/A	trifluralin	0.5 to 1 lb/A	30	12
<p><b>-Plasticulture:</b> row middles only: apply as a directed spray after emergence when plants have reached the 3 to 4 true leaf stage of growth. Not labeled for bareground production. Primarily controls annual grasses with a few broadleaf weeds.</p> <p><b>-Do not</b> use (or reduce the rate) when cold, wet soil conditions are expected, or crop injury may result.</p> <p>-Maximum applications per season: not specified.</p>						

1. Soil-Applied continued on next page

## F Muskmelons and Mixed Melons

### 1. Soil-Applied - continued

3 + 13	Strategy 2.1SC	1.5 to 6 pt/A	<b>ethalfuralin plus clomazone</b>	0.39 to 1.58 lb/A	45	24
<p><b>-Plasticulture:</b> row middles application. <b>Bareground:</b> apply broadcast just before planting or after planting but before crop emergence.</p> <p>-Strategy is a prepackage mixture of Curbit 3EC and Command 3ME.</p> <p><b>-Do not</b> apply prior to planting crop. <b>Do not</b> soil incorporate. Refer to individual products for comments.</p> <p>-Maximum applications per season: not specified.</p>						
8	Prefar 4E	5 to 6 qt/A	<b>bensulide</b>	5 to 6 lb/A	--	12
<p><b>-Plasticulture</b> under plastic: apply in a band under the plastic, immediately before laying the mulch. Plasticulture: row middles application is labeled. <b>Bareground:</b> apply preemergence or preplant incorporated. Preemergence applications should be followed by irrigation within 36 hrs (apply enough water to wet the soil at least 2 to 4 inches deep). Preplant incorporated applications should be incorporated 1 to 2 inches deep (deeper than 2 inches will result in reduced weed control).</p> <p>-Prefar provides control/suppression of some annual grass weeds and some broadleaves including pigweeds, purslane, and lambsquarters. Maximum applications per season: not specified.</p>						
13	Command 3ME	6,4 to 10.7 fl oz/A	<b>clomazone</b>	0.15 to 0.25 lb/A	--	12
<p><b>-Plasticulture:</b> row middles application only. <b>Bareground:</b> apply broadcast just before planting or after planting but before crop emergence. Use the lower rate when used on coarse-textured soils low in organic matter, when weed pressure is light, or to minimize herbicide carryover that could affect subsequent crops.</p> <p>-Controls annual grasses and many broadleaf weeds including common lambsquarters, velvetleaf, spurred anoda, and jimsonweed. Carpetweed, morningglory sp., pigweed sp., and yellow nutsedge will not be controlled. Higher rates will improve control (or expand number of species controlled) such as common cocklebur, common ragweed, or jimsonweed (refer to label for specific weeds and rates).</p> <p><b>-WARNING:</b> Command spray or vapor drift may injure sensitive crops and other vegetation up to several hundred yards from the point of application (refer to label for restrictions).</p> <p>-Available as a pre-mix herbicide Strategy: Strategy at 3 pt/A= Command at 8 fl oz (0.188 lb ai) and Curbit at 26 fl oz (0.6 lb ai)</p> <p>-Maximum number of Command applications per year: 1.</p>						

### 2. Postemergence

Group	Product Name	Product Rate	Active Ingredient (* = Restricted Use)	Active Ingredient Rate	PHI (d)	REI (h)
1	Select 2EC	6 to 8 fl oz/A	<b>clethodim</b>	0.094 to 0.13 lb/A	14	24
	Select Max 0.97EC	12 to 16 fl oz/A				
	Poast 1.5EC	1 to 1.5 pt/A	<b>sethoxydim</b>	0.19 to 0.28 lb/A	14	12
<p>-Postemergence as broadcast spray with both plasticulture and bareground</p> <p><b>-Select 2EC:</b> use crop oil concentrate (COC) at 1% v/v (1 gal/100 gal of spray solution). <b>Select Max:</b> use nonionic surfactant (NIS) at 0.25% v/v (1 qt/100 gal of spray solution). <b>Poast:</b> Apply with COC at 1.0% v/v. <b>The use of COC may increase the risk of crop injury when hot or humid conditions prevail.</b> To reduce the risk of crop injury, omit additives or switch to nonionic surfactant when grasses are small and soil moisture is adequate.</p> <p>-Use lower labeled rates for annual grass control and higher labeled rates for perennial grass control. Yellow nutsedge, wild onion, wild garlic, and broadleaf weeds will not be controlled. Controls many annual and certain perennial grasses, including annual bluegrass, but will not consistently control goosegrass. Control may be reduced if grasses are large or under hot or dry weather conditions.</p> <p>-If repeat applications are necessary, allow 14 days between applications.</p> <p><b>-Do not</b> tank-mix with or apply within 2 to 3 days of any other pesticide - unless labeled - as this may increase the risk of crop injury or reduce the control of grasses.</p> <p>-Rainfastness is 1 hr.</p> <p><b>-Do not</b> apply more than 8 fl oz of Select 2EC in a single application and <b>do not</b> exceed 32 fl oz/A for the season; <b>do not</b> apply more than 16 fl oz of Select Max in a single application and <b>do not</b> exceed 64 fl oz/A for the season.</p> <p><b>-Do not</b> apply more than 1.5 pt/A Poast in single application and <b>do not</b> exceed 3 pt/A for the season.</p>						
2	Sandea 75DF	0.5 to 0.66 oz/A	<b>halosulfuron</b>	0.023 to 0.031 lb/A	57	12
<p><b>-Labeled for use on cantaloupes, honeydew melons, and Crenshaw melons, but NOT labeled on muskmelons.</b></p> <p><b>-Plasticulture:</b> broadcast (over the top) or directed to row middles; broadcast for bareground.</p> <p><b>-Bareground:</b> apply Sandea after the crop has at least 3 to 5 true leaves but before first female flowers appear and no sooner than 14 days after transplanting. If weeds have emerged, use a non-ionic surfactant at 0.25% v/v.</p> <p>-Suppresses or controls yellow nutsedge and certain broadleaf; control of weeds taller than 3 inches may not be adequate. Sandea will not control common lambsquarters or eastern black nightshade if applied postemergence; for row middle application, tankmix with a non-selective herbicide to increase spectrum of control.</p> <p>-Sandea provides both residual and postemergence control of susceptible weed species. Effective postemergence control requires an adjuvant. Sandea is an ALS inhibiting herbicide and resistant weed populations are common in the region. <b>Do not</b> use Group 2 herbicides repeatedly in the same field.</p> <p><b>-Do not</b> apply Sandea to crops treated with a soil applied organophosphate insecticide, or use a foliar applied organophosphate insecticide within 21 days before or 7 days after a Sandea application.</p> <p>-Rainfastness is 4 hrs. Maximum number of Sandea applications per year is 2 and <b>do not</b> exceed 2 oz/A during the crop season</p>						

### 2. Postemergence continued on next page

2. Postemergence - continued

22	Gramoxone SL 2.0	1.95 pt/A	paraquat *	0.49 lb/A	14	24
<p><b>-A Supplemental Label has been approved for the use of Gramoxone 2SL for postemergence weed control in DE, MD, NJ, PA, and VA.</b> Row middles as a shielded application.</p> <p>-Apply as a directed spray in a minimum of 20 gallons spray mix per acre to control emerged weeds between the rows after crop establishment. Include a nonionic surfactant at 0.25% v/v. Use shields or hoods to prevent spray contact with the crop and low spray pressure (maximum of 30 psi) to reduce small droplets that are prone to drift. See the label for additional information and warnings.</p> <p>-Rainfastness is 30 minutes. A maximum of 3 applications per year are allowed.</p>						

3. Postharvest

Group	Product Name	Product Rate	Active Ingredient (*=Restricted Use)	Active Ingredient Rate	PHI (d)	REI (h)
22	Gramoxone SL 2.0	2.25 to 3 pt/A	paraquat*	0.56 to 0.75 lb/A	--	24
<p><b>-For postharvest desiccation of vegetable vines. A Special Local-Needs 24© label has been approved for the use of Gramoxone SL 2.0 for postharvest desiccation of the crop in DE, NJ and VA.</b></p> <p>-Apply after the last harvest for bareground or plasticulture. Always include an adjuvant.</p> <p>-Spray coverage is essential for optimum effectiveness. See the label for additional information and warnings.</p> <p>-Rainfastness 30 minutes. A maximum of 2 applications for crop dessication are allowed.</p>						

4. Other Labeled Herbicides These products are labeled but limited local data are available; and/or are labeled but not recommended in our region due to potential crop injury concerns.

Group	Product Name	Active Ingredient (*=Restricted Use)
2	League	imazosulfuron
3	Dacthal	DCPA
9	Roundup (various)	glyphosate
14	Aim EC	carfentrazone

**Insect Control**

**THE LABEL IS THE LAW - See the Pesticide Use Disclaimer on page F 1.**  
**Recommended Insecticides**

**Seedcorn Maggot** To prevent seedcorn maggot damage to transplants, a banded application of a soil-incorporated neonicotinoid (Group 4A) insecticide may be needed at planting. See also the Pest Management chapter (Insect Management section).

**Aphids** Note. Aphids transmit multiple viruses.

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1A	Lannate LV (melon aphid)	1.5 to 3.0 pt/A	methomyl*	3	48	H
1A	Vydate 2L	2.0 to 4.0 pt/A	oxamyl*	1	48	H
1B	Dimethoate 400	0.5 to 1.0 pt/A	dimethoate*	3	48	H
3A + 6	Gladiator	19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A + 4A	Endigo ZC	4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
4A	Admire Pro 4.6SC	7.0 to 10.5 fl oz/A	imidacloprid - soil only	21	12	H
4A	Assail 30SG	2.5 to 4.0 oz/A	acetamiprid	0	12	M
4A	Platinum 75SG	1.66 to 3.67 oz/A	thiamethoxam - soil/drip	30	12	H
4A	Actara 25WDG	1.5 to 3.0 oz/A	thiamethoxam - foliar	0	12	H
4A	Belay 2.13SC	9.0 to 12.0 fl oz/A	clothianidin - soil	21	12	H
4A	Belay 2.13SC	3.0 to 4.0 fl oz/A	clothianidin - foliar	7	12	H
4A	Scorpion 35SL	9.0 to 10.5 fl oz/A	dinotefuran - soil	21	12	H
4A	Scorpion 35SL	2.0 to 7.0 fl oz/A	dinotefuran - foliar	1	12	H
4A	Venom 70SG	5.0 to 6.0 oz/A	dinotefuran - soil	21	12	H
4A	Venom 70SG	1.0 to 4.0 oz/A	dinotefuran - foliar	1	12	H

Aphids continued on next page



## F Muskmelons and Mixed Melons

*Aphids - continued.*

4A + 28	Durivo	10.0 to 13.0 fl oz/A	thiamethoxam + chlorantraniliprole - <b>soil</b>	30	12	H
4A + 28	Voliam Flexi	4.0 to 7.0 oz/A	thiamethoxam + chlorantraniliprole - <b>foliar</b>	1	12	H
4D	Sivanto 200SL	21.0 to 28.0 fl oz/A	flupyradifurone	21	4	M
9B	Fulfill 50WP	2.75 oz/A	pymetrozine	0	12	L
9C	Beleaf 50SG	2.0 to 2.8 oz/A	flonicamid	0	12	L
28 + 6	Minecto Pro	10.0 fl oz/A	cyantraniliprole + abamectin*	7	12	H

## Beet Armyworms

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*= <b>Restricted Use</b> )	PHI (d)	REI (h)	Bee TR
1A	Lannate LV	1.5 to 3.0 pt/A	methomyl*	3	48	H
3A + 6	Gladiator	19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A + 28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	1	24	H
5	Entrust 2SC (OMRI)	4.0 to 8.0 fl oz/A	spinosad	3	4	M
5	Radiant 1SC	5.0 to 10.0 fl oz/A	spinetoram	3	4	H
18	Intrepid 2F	4.0 to 10.0 fl oz/A	methoxyfenozide	3	4	L
22A	Avaunt 30WDG	3.5 to 6.0 oz/A	indoxacarb	3	12	H
28	Coragen 1.67SC	3.5 to 5.0 fl oz/A	chlorantraniliprole - <b>soil/drip/foliar</b>	1	4	L
28 + 6	Minecto Pro	5.5 to 10.0 fl oz/A	cyantraniliprole + abamectin*	7	12	H

## Cabbage Loopers

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*= <b>Restricted Use</b> )	PHI (d)	REI (h)	Bee TR
1A	Lannate LV	1.5 to 3.0 pt/A	methomyl*	3	48	H
3A	Baythroid XL 1EC	1.6 to 2.4 fl oz/A	beta-cyfluthrin*	0	12	H
3A	Asana XL	5.8 to 9.6 fl oz/A	esfenvalerate*	3	12	H
3A	Bifenture 2EC, Sniper	2.6 to 6.4 fl oz/A	bifenthrin*	3	12	H
3A	Danitol 2.4EC	10.67 to 16.00 fl oz/A	fenprothrin*	7	24	H
3A	Hero EC	4.0 to 10.3 fl oz/A	zeta-cypermethrin* + bifenthrin*	3	12	H
3A	Lambda-Cy, LambdaT CS	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	Mustang Maxx	2.8 to 4.0 fl oz/A	zeta-cypermethrin*	1	12	H
3A	Perm-Up 3.2EC	4.0 to 8.0 fl oz/A	permethrin*	0	12	H
3A	Tombstone 2EC	1.6 to 2.4 fl oz/A	cyfluthrin*	0	12	H
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	1	24	H
3A + 6	Gladiator	14.0 to 19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A + 4A	Endigo ZC	4.0 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	1	24	H
4A + 28	Voliam flexi	4.0 to 7.0 oz/A	thiamethoxam + chlorantraniliprole - <b>foliar</b>	1	12	H
5	Entrust 2SC (OMRI)	4.0 to 8.0 fl oz/A	spinosad	3	4	M
5	Radiant 1SC	5.0 to 10.0 fl oz/A	spinetoram	3	4	H
11A	Dipel (OMRI)	0.5 to 2.0 lb/A	<i>Bacillus thuringiensis kurstaki</i>	0	4	N
18	Intrepid 2F	4.0 to 10.0 fl oz/A	methoxyfenozide	3	4	L
22A	Avaunt 30WDG	2.5 to 6.0 oz/A	indoxacarb	3	12	H
28	Coragen 1.67SC	3.5 to 5.0 fl oz/A	chlorantraniliprole - <b>soil/drip/foliar</b>	1	4	L
28 + 6	Minecto Pro	5.5 to 10.0 fl oz/A	cyantraniliprole + abamectin*	7	12	H

## Cucumber Beetles

Cucumber beetles transmit bacterial wilt, and most varieties of muskmelons are highly susceptible to this disease. Adult beetles can also cause direct feeding injury to young plants. Insecticides should be used to control adults before they feed extensively on the cotyledons and first true leaves. If foliar insecticides are used, begin spraying shortly after plant emergence and repeat applications at weekly intervals if new beetles continue to invade fields. Treatments may be required until vines begin to run. Seeds pretreated with a neonicotinoid such as Farmore DI-400 should provide up to 14 days of control of cucumber beetle. Otherwise, apply one of the following formulations:

*Cucumber Beetles - continued*

Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1A	Lannate LV	1.5 to 3.0 pt/A	methomyl*	3	48	H
1A	Sevin XLR Plus	1.0 qt/A	carbaryl	3	12	H
3A	Baythroid XL	2.4 to 2.8 fl oz/A	beta-cyfluthrin*	0	12	H
3A	Asana XL	5.8 to 9.6 fl oz/A	esfenvalerate*	3	12	H
3A	Bifenture 2EC, Sniper	2.6 to 6.4 fl oz/A	bifenthrin*	3	12	H
3A	Danitol 2.4EC	10.67 to 16.0 fl oz/A	fenpropathrin*	7	24	H
3A	Hero EC	4.0 to 10.3 fl oz/A	zeta-cypermethrin* + bifenthrin*	3	12	H
3A	Lambda-Cy	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	LambdaT	4.0 to 4.5 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	Mustang Maxx	2.8 to 4.0 fl oz/A	zeta-cypermethrin*	1	12	H
3A	Perm-Up 3.2 EC	4.0 to 8.0 fl oz/A	permethrin*	0	12	H
3A	Tombstone	2.4 to 2.8 fl oz/A	cyfluthrin*	0	12	H
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	1	24	H
3A + 6	Gladiator	14.0 to 19.0 fl oz/A	zetacypermethrin* + avermectin B1	7	12	H
3A + 4A	Endigo ZC	4.0 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	1	24	H
4A	Admire PRO	7.0 to 10.5 fl oz/A	imidacloprid - soil	21	12	H
4A	Assail 30SG	2.5 to 5.3 oz/A	acetamiprid	0	12	M
4A	Belay 2.13SC	9.0 to 12.0 fl oz/A	clothianidin - soil	21	12	H
4A	Belay 2.13SC	3.0 to 4.0 fl oz/A	clothianidin - foliar	7	12	H
4A	Platinum 75SG	1.66 to 3.67 oz/A	thiamethoxam - soil	30	12	H
4A	Actara 25WDG	3.0 to 5.5 oz/A	thiamethoxam - foliar	0	12	H
4A	Scorpion 35SL	9.0 to 10.5 fl oz/A	dinotefuran - soil	21	12	H
4A	Scorpion 35SL	2.0 to 7.0 fl oz/A	dinotefuran - foliar	1	12	H
4A	Venom 70SG	1.0 to 4.0 oz/A	dinotefuran - foliar	1	12	H
4A + 28	Durivo	10.0 to 13.0 fl oz/A	thiamethoxam + chlorantraniliprole - soil	30	12	H
4A + 28	Voliam Flexi	4.0 to 7.0 oz/A	thiamethoxam + chlorantraniliprole - foliar	1	12	H

**Cutworms** - See also the Pest Management chapter, Insect Management section.

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1A	Lannate LV (variegated)	1.5 pt/A	methomyl*	3	48	H
1A	Lannate LV (granulate)	1.5 to 3.0 pt/A	methomyl*	3	48	H
3A	Baythroid XL	0.8 to 1.6 fl oz/A	beta-cyfluthrin*	0	12	H
3A	Asana XL	5.8 to 9.6 fl oz/A	esfenvalerate*	3	12	H
3A	Bifenture 2EC, Sniper	2.6 to 6.4 fl oz/A	bifenthrin*	3	12	H
3A	Hero EC	4.0 to 10.3 fl oz/A	zeta-cypermethrin* + bifenthrin*	3	12	H
3A	Lambda-Cy, Lambda T	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	Mustang Maxx	1.28 to 4.00 fl oz/A	zeta-cypermethrin*	1	12	H
3A	Perm-Up 3.2EC	4.0 to 8.0 fl oz/A	permethrin*	0	12	H
3A	Tombstone	0.8 to 1.6 fl oz/A	cyfluthrin*	0	12	H
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	1	24	H
3A + 6	Gladiator	19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A + 4A	Endigo ZC	4.0 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	1	24	H

**Leafhoppers** High numbers cause leaf yellowing (chlorosis) known as hopper burn, and yield loss.

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1B	Dimethoate 400	1.0 pt/A	dimethoate*	3	48	H
3A	Baythroid XL 1EC	0.8 to 1.6 fl oz/A	beta-cyfluthrin*	0	12	H
3A	Asana XL	5.8 to 9.6 fl oz/A	esfenvalerate*	3	12	H
3A	Bifenture 2EC, Sniper	2.6 to 6.4 fl oz/A	bifenthrin*	3	12	H

*Leafhoppers continued on next page*

## F Muskmelons and Mixed Melons

### Leafhoppers - continued

3A	Hero EC	4.0 to 10.3 fl oz/A	zeta-cypermethrin* + bifenthrin*	3	12	H
3A	Lambda-Cy, LambdaT CS	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	Mustang Maxx	2.8 to 4.0 fl oz/A	zeta-cypermethrin*	1	12	H
3A	Perm-Up 3.2 EC	4.0 to 8.0 fl oz/A	permethrin*	0	12	H
3A	Tombstone 2EC	0.8 to 1.6 fl oz/A	cyfluthrin*	0	12	H
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	1	24	H
3A + 6	Gladiator	14.0 to 19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A + 4A	Endigo ZC	4.0 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	1	24	H
4A	Admire PRO 4.6SC	7.0 to 10.5 fl oz/A	imidacloprid - <b>soil only</b>	21	12	H
4A	Assail 30SG	2.5 to 4.0 oz/A	acetamiprid	0	12	M
4A	Belay 2.13SC	9.0 to 12.0 fl oz/A	clothianidin - <b>soil</b>	21	12	H
4A	Belay 2.13SC	3.0 to 4.0 fl oz/A	clothianidin - <b>foliar</b>	7	12	H
4A	Platinum 75SG	1.66 to 3.67 oz/A	thiamethoxam - <b>soil/drip only</b>	30	12	H
4A	Scorpion 35SL	9.0 to 10.5 fl oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Scorpion 35SL	2.0 to 7.0 fl oz/A	dinotefuran - <b>foliar</b>	1	12	H
4A	Venom70SG	5.0 to 6.0 oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Venom 70SG	1.0 to 4.0 oz/A	dinotefuran - <b>foliar</b>	1	12	H
4A + 28	Durivo	10.0 to 13.0 fl oz/A	thiamethoxam + chlorantraniliprole - <b>soil</b>	30	12	H

## Leafminers

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*= <b>Restricted Use</b> )	PHI (d)	REI (h)	Bee TR
1A	Vydate 2L	2.0 to 4.0 pt/A	oxamyl*	1	48	H
1B	Dimethoate 400	1.0 pt/A	dimethoate*	3	48	H
3A + 6	Gladiator	19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A + 4A	Endigo ZC	4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 28	Voliam Xpress	9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	1	24	H
4A	Belay 2.13SC	9.0 to 12.0 fl oz/A	clothianidin - <b>soil</b>	21	12	H
4A	Platinum 75SG	1.66 to 3.67 oz/A	thiamethoxam - <b>soil/drip</b>	30	12	H
4A	Actara 25 WDG	3.0 to 5.5 oz/A	thiamethoxam - <b>foliar</b>	0	12	H
4A	Scorpion 35SL	9.0 to 10.5 fl oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Scorpion 35SL	2.0 to 7.0 fl oz/A	dinotefuran - <b>foliar</b>	1	12	H
4A	Venom 70S G	5.0 to 6.0 oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Venom 70S G	1.0 to 4.0 oz/A	dinotefuran - <b>foliar</b>	1	12	H
4A + 28	Durivo	10.0 to 13.0 fl oz/A	thiamethoxam + chlorantraniliprole - <b>soil</b>	30	12	H
4A + 28	Voliam Flexi	4.0 to 7.0 oz/A	thiamethoxam + chlorantraniliprole - <b>foliar</b>	1	12	H
5	Entrust 2SC (OMRI)	6.0 to 8.0 fl oz/A	spinosad	3	4	M
5	Radiant 1SC	6.0 to 10.0 fl oz/A	spinetoram	3	4	H
6	Agri-Mek 0.7 SC	1.75 to 3.5 fl oz/A	abamectin*	7	12	H
17	Trigard 75WSP	2.66 oz/A	cyromazine	0	12	L
28	Coragen 1.67SC	5.0 to 7.5 fl oz/A	chlorantraniliprole - <b>soil/drip</b>	1	4	L
28	Coragen 1.67SC	5.0 to 7.0 fl oz/A	chlorantraniliprole - <b>foliar</b>	1	4	L
28 + 6	Minecto Pro	5.5 to 10.0 fl oz/A	cyantraniliprole + abamectin*	7	12	H

## Mites

Infestations generally begin around field margins and grassy areas. **DO NOT** mow or maintain these areas after midsummer since this forces mites into the crop. Localized infestations can be spot treated. Begin treatment when 10-15% of the crown leaves are infested early in the season.

Apply one of the following formulations. Note: Continuous use of carbaryl or pyrethroids may result in mite outbreaks.						
Group	Product Name	Product Rate	Active Ingredient(s) (*= <b>Restricted Use</b> )	PHI (d)	REI (h)	Bee TR
3A + 6	Gladiator	19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
6	Agri-Mek 0.7 SC	1.75 to 3.5 fl oz/A	abamectin*	7	12	H
10B	Zeal Miticide1	2.0 to 3.0 oz/A	etoxazole	7	12	L
20D	Acramite 50WS	0.75 to 1.00 lb/A	bifenazate	3	12	M

Mites continued on next page

Mites - continued

21A	Portal	2.0 pt/A	fenpyroximate	3	12	L
23	Oberon 2SC	7.0 to 8.5 fl oz/A	spiromesifen	7	12	M
28 + 6	Minecto Pro	5.5 to 10.0 fl oz/A	cyantranilprole + abamectin*	7	12	H

## Pickleworms, Melonworms

<b>If foliar materials are used, make one treatment prior to fruit set, and then treat weekly. If soil or drip applications are used, check the label for instructions.</b>						
Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1A	Lannate LV	1.5 to 3.0 pt/A	methomyl*	3	48	H
1A	Sevin XLR	0.5 to 1.0 qt/A	carbaryl	3	12	H
3A	Baythroid XL 1EC	1.6 to 2.4 fl oz/A	beta-cyfluthrin*	0	12	H
3A	Asana XL (pickleworm)	5.8 to 9.6 fl oz/A	esfenvalerate*	3	12	H
3A	Bifenture 2EC, Sniper	2.6 to 6.4 fl oz/A	bifenthrin*	3	12	H
3A	Hero EC	4.0 to 10.3 fl oz/A	zeta-cypermethrin* + bifenthrin*	3	12	H
3A	Lambda-Cy, LambdaT CS	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	Mustang Maxx	2.8 to 4.0 fl oz/A	zeta-cypermethrin*	1	12	H
3A	Perm-Up 3.2 EC	4.0 to 8.0 fl oz/A	permethrin*	0	12	H
3A	Tombstone 2EC	1.6 to 2.4 fl oz/A	cyfluthrin*	0	12	H
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	1	24	H
3A+4A	Endigo ZC	4.0 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 6	Gladiator	14.0 to 19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A+28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantranilprole	1	24	H
4A	Assail 30SG	2.5 to 5.3 oz/A	acetamiprid	0	12	M
4A+28	Durivo	10.0 to 13.0 fl oz/A	thiamethoxam + chlorantranilprole - <b>soil</b>	30	12	H
4A+28	Voliam flexi	4.0 to 7.0 oz/A	thiamethoxam + chlorantranilprole - <b>foliar</b>	1	12	H
5	Entrust 2SC	4.0 to 8.0 fl oz/A	spinosad	3	4	M
5	Radiant 1SC	5.0 to 10.0 fl oz/A	spinetoram	3	4	H
18	Intrepid 2F	4.0 to 10.0 fl oz/A	methoxyfenozide	3	4	L
22A	Avaunt 30WDG	2.5 to 6.0 oz/A	indoxacarb	3	12	H
28	Coragen 1.67SC (melonworm)	2.0 to 3.5 fl oz/A	chlorantranilprole - <b>drip/foliar</b>	1	4	L
28	Coragen 1.67SC (pickleworm)	3.5 to 7.5 fl oz/A	chlorantranilprole - <b>foliar</b>	1	4	L
28 + 6	Minecto Pro	5.5 to 10.0 fl oz/A	cyantranilprole + abamectin*	7	12	H

## Rindworms

Damage to the rinds may result from a complex of insect pests including cucumber beetle, wireworms, and a number of “worm” species (e.g., beet armyworm). Management of adult cucumber beetles early in the season may help reduce damage. See cucumber beetle section for labeled products.

<b>For Lepidopteran rindworms, use one of the following formulations:</b>						
Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
3A	Baythroid XL 1EC	1.6 to 2.4 fl oz/A	beta-cyfluthrin*	0	12	H
3A	Asana XL	5.8 to 9.6 fl oz/A	esfenvalerate*	3	12	H
3A	Bifenture 2EC, Sniper	2.6 to 6.4 fl oz/A	bifenthrin*	3	12	H
3A	Hero EC	4.0 to 10.3 fl oz/A	zeta-cypermethrin* + bifenthrin*	3	12	H
3A	Lambda-Cy, LambdaT CS	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	Mustang Maxx	2.8 to 4.0 fl oz/A	zeta-cypermethrin*	1	12	H
3A	Perm-Up 3.2EC	4.0 to 8.0 fl oz/A	permethrin*	0	12	H
3A	Tombstone 2EC	1.6 to 2.4 fl oz/A	cyfluthrin*	0	12	H
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	1	24	H
3A + 4A	Endigo ZC	4.0 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 6	Gladiator	14.0 to 19.0 fl oz/A	zeta-cypermethrin* + avermectin B1	7	12	H
3A + 28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantranilprole	1	24	H
4A + 28	Voliam Flexi	4.0 to 7.0 oz/A	thiamethoxam + chlorantranilprole - <b>foliar</b>	1	12	H
5	Entrust 2SC (OMRI)	4.0 to 8.0 fl oz/A	spinosad	3	4	M
5	Radiant 1SC	5.0 to 10.0 fl oz/A	spinetoram	3	4	H
18	Intrepid 2F	4.0 to 10.0 fl oz/A	methoxyfenozide	3	4	L

## F Muskmelons and Mixed Melons

### Thrips

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1A	Vydate2L	2.0 to 4.0 pt/A	oxamyl*	1	48	H
1B	Dimethoate 400	1.0 pt/A	dimethoate*	3	48	H
3A	Lambda-Cy, LambdaT CS	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	1	24	H
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	1	24	H
3A + 4A	Endigo ZC	4.0 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
3A + 28	Voliam Xpress	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	1	24	H
4A	Admire PRO 4.6SC	7.0 to 10.5 fl oz/A	imidacloprid - <b>soil</b>	21	12	H
4A	Belay 2.13SC	9.0 to 12.0 fl oz/A	clothianidin - <b>soil</b>	21	12	H
4A	Platinum 75SG	1.66 to 3.67 oz/	thiamethoxam - <b>soil/drip</b>	30	12	H
4A	Scorpion 35SL	9.0 to 10.5 fl oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Scorpion 35SL	2.0 to 7.0 fl oz/A	dinotefuran - <b>foliar</b>	7	12	H
4A	Venom 70SG	5.0 to 6.0 oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Venom 70SG	1.0 to 4.0 oz/A	dinotefuran - <b>foliar</b>	7	12	H
4A + 28	Durivo	10.0 to 13.0 fl oz/A	thiamethoxam + chlorantraniliprole - <b>soil</b>	30	12	H
5	Entrust 2SC (OMRI)	6.0 to 8.0 fl oz/A	spinosad	3	4	M
5	Radiant 1SC	6.0 to 10.0 fl oz/A	spinetoram	3	4	H

### Whiteflies

Apply one of the following formulations:						
Group	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
3A + 4A	Endigo ZC	4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	1	24	H
4A	Admire PRO 4.6SC	7.0 to 10.5 fl oz/A	imidacloprid - <b>soil</b>	21	12	H
4A	Belay 2.13SC	9.0 to 12.0 fl oz/A	clothianidin - <b>soil</b>	21	12	H
4A	Belay 2.13SC	3.0 to 4.0 fl oz/A	clothianidin - <b>foliar</b>	7	12	H
4A	Platinum 75SG	1.66 to 3.67 oz/A	thiamethoxam - <b>soil/drip</b>	30	12	H
4A	Actara 25WDG	3.0 to 5.5 oz/A	thiamethoxam - <b>foliar</b>	0	12	H
4A	Scorpion 35SL	9.0 to 10.5 fl oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Scorpion 35SL	2.0 to 7.0 fl oz/A	dinotefuran - <b>foliar</b>	1	12	H
4A	Venom 70SG	5.0 to 6.0 oz/A	dinotefuran - <b>soil</b>	21	12	H
4A	Venom 70SG	1.0 to 4.0 oz/A	dinotefuran - <b>foliar</b>	1	12	H
4A + 28	Durivo	10.0 to 13.0 fl oz/A	thiamethoxam + chlorantraniliprole- <b>soil/drip</b>	30	12	H
4A + 28	Voliam Flexi	4.0 to 7.0 oz/A	thiamethoxam + chlorantraniliprole - <b>foliar</b>	1	12	H
7C	Knack	8.0 to 10.0 fl oz/A	pyriproxyfen	7	12	L
9B	Fulfill 50WDG	2.75 oz/A	pymetrozine	0	12	L
9C	Beleaf 50SG	2.8 oz/A	flonicamid	0	12	L
21A	Portal XLO	2.0 pt/A	fenpyroximate	3	12	L
23	Oberon 2SC	7.0 to 8.5 fl oz/A	spiromesifen	7	12	M
28 + 6	Minecto Pro. Plus	5.5 to 10.0 fl oz/A	cyantraniliprole + abamectin*	7	12	H

## Disease Control

**THE LABEL IS THE LAW - See the Pesticide Use Disclaimer on page F 1.**

### Recommended Fungicides

**Nematode Control** - See also the Pest Management Chapter.

Use fumigants listed under Soil Fumigation in the Pest Management Chapter, or one of the nematicides listed below.

Code	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1A	Vydate L	0.5 to 1.0 gal/A Incorporate into top 2-4 inches of soil, <b>OR</b> 2.0 to 4.0 pt/A apply 2 w after planting and repeat 2-3 w later.	oxamyl*	1	48	H
7	Velum Prime	6.5 to 6.84 fl oz/A	fluopyram	0	12	--
--	Nimitz 4EC	3.5 to 5.0 pt/A Incorporate or drip-apply 7 d before planting.	fluensulfone	n/a	12	N

**Seed Treatment** If seed has not been treated with a fungicide and insecticide, use a mixture of thiram 480DP (4.5 fl oz/100 lb) and an approved commercially available insecticide.

### Damping-Off caused by Phytophthora, Pythium, and Rhizoctonia

Code	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>Apply one of the following at-planting (see label for application timing, methods, and restrictions):</b>						
<b>Phytophthora and Pythium root rot</b>						
4	Ridomil Gold 4SL	0.5 to 1.0 pt/A	mefenoxam	AP	48	N
4	Ultra Flourish 2E	2.0 to 4.0 pt/A	mefenoxam	AP	48	N
4	MetaStar 2EAG	4.0 to 8.0 pt/A	metalaxyl	AP	48	N
<b>Phytophthora, Pythium, and Rhizoctonia root rot</b>						
4 + 11	Uniform 3.66SE	0.34 fl oz/1000 ft row. Avoid direct seed contact, which may cause delayed emergence.	mefenoxam + azoxystrobin	AP	0	N
<b>Rhizoctonia root rot</b>						
11	azoxystrobin 2.08F	0.40 to 0.80 fl oz/1000 ft row	azoxystrobin	AP	4	N
<b>Pythium root rot only</b>						
28	Previcur Flex 6F	1.2 pt/A in transplant water, drip irrigation, or direct spray at base of plant and soil	propamocarb HCL	2	12	N

### Bacterial and Fungal Diseases

#### Alternaria Leaf Blight

Rotate muskmelons with unrelated crops. Begin sprays when vines begin to run, or earlier if symptoms are detected.

Code	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>Begin sprays when vines begin to run. ALTERNATE one of the following:</b>						
M3	mancozeb 75DF <sup>1</sup>	2.0 to 3.0 lb/A <sup>1</sup>	mancozeb	5	12,24	N
M5	chlorothalonil 6F	2.0 to 3.0 pt/A	chlorothalonil	0	12	L
<b>WITH A TANK MIX of one of the following fungicides PLUS chlorothalonil 6F 2.0 to 3.0 pt/A every 14 days. Materials with different modes of action (FRAC codes) should always be alternated.</b>						
7 + 11	Pristine 38WG	12.5 to 18.5 oz/A	boscalid + pyraclostrobin	0	12	--
3 + 9	Inspire Super 2.8F	16.0 to 20.0 fl oz/A	difenoconazole + cyprodonil	0	12	--
3 + 11	Quadris Top 2.7F	12.0 to 14.0 fl oz/A	difenoconazole + azoxystrobin	0	12	--
7 + 11	Luna Sensation 4.25SC <sup>1</sup>	7.6 fl oz/A	fluopyram + trifloxystrobin	0	12	--
7 + 3	Aprovia Top 1.63EC	10.5 to 13.5 fl oz/A	benzovindiflupyr + difenoconazole	0	12	N
7 + 11	Merivon 500SC <sup>1</sup>	4.0 to 5.5 fl oz/A	fluxapyroxad + pyraclostrobin	0	12	N
3 + 11	TopGuard EQ	5.0 to 8.0 fl oz/A	azoxystrobin + flutriafol	1	12	--
11	azoxystrobin 2.08F	11.0 to 15.5 fl oz/A (do not apply near apples, see label)	azoxystrobin	0	12	N
11	Cabrio 20EG	12.0 to 16.0 oz/A	pyraclostrobin	0	12	N
11	Reason 500SC	5.5 fl oz/A	fenamidone	14	12	--

<sup>1</sup>The varieties 'Harvest Queen', 'Gold Star', 'Super Star', 'Sweet and Early', and 'Saticoy' are sensitive to mancozeb.

#### Angular Leaf Spot and Bacterial Leaf Spot

At first sign of disease, apply the labeled rates of fixed copper plus mancozeb. Some coppers are OMRI-approved and can be used in organic systems to help suppress Angular leaf spot and other fungal diseases. Repeat every 7 d. Avoid overhead irrigation when symptoms are present and working in field while foliage is wet.

#### Bacterial Wilt

Controlling striped and spotted cucumber beetles is essential for preventing bacterial wilt. See preceding "Cucumber Beetle" section under Insect Control for specific recommendations. Insecticide applications made at seeding may not prevent beetle damage all season; additional foliar insecticide applications may be necessary.

#### Downy Mildew

Scout fields for disease incidence beginning in early summer. Begin sprays when vines run or if disease is predicted for the region (check the Cucurbit Downy Mildew Forecasting website at: <http://cdm.ipmpipe.org>). **Preventative**

## F Muskmelons and Mixed Melons

**applications are much more effective than applications made after detection.** Materials with different modes of action (FRAC codes) should always be alternated. Tank mix with protectant if not included in the product.

Code	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>The following are the most effective products. Sprays should be applied on a 7-day schedule. Under severe disease conditions spray interval may be reduced IF the label allows.</b>						
U15+40	Orondis Ultra	5.5 to 8 fl oz/A	oxathiapiprolin + mandipropamid	0	4	--
21	Ranman 400SC	2.10 to 2.75 fl oz/A ( <b>do not</b> apply with copper; see label for details)	cyazofamid	0	12	L
<b>Other materials for use in rotation as tank mix partners with a protectant:</b>						
M3 + 22	Gavel 75DF contains protectant	1.5 to 2.0 lb/A	mancozeb + zoxamide ( <b>note:</b> some cultivars are sensitive to mancozeb)	5	48	--
M5 + 22	Zing! 4.9SC contains protectant	36 fl oz/A	chlorothalonil + zoxamide	0	12	N
M5 + 27	Ariston 42SC contains protectant	3.0 pt/A	chlorothalonil + cymoxanil	3	12	--
11 + 27	Tanos 50WDG	8.0 oz/A	famoxadone + cymoxanil	3	12	--
27	Curzate 60DF	3.2 oz/A	cymoxanil	3	12	N
28	Previcur Flex 6F	1.2 pt/A	propamocarb	3	12	N
40	Forum 4.17SC	6.0 fl oz/A	dimethomorph	0	12	N
40 + 45	Zampro 525SC	14.0 fl oz/A	acetotradin + dimethomorph	0	12	--
43	Presidio 4SC	4.0 fl oz/A	fluopicolide	2	12	L

## Fusarium Wilt

Rotate to allow 5 years between muskmelon plantings in any given location. Use resistant cultivars when possible, see table Recommended Varieties.

Code	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>Application of Proline through drip irrigation may reduce Fusarium wilt early season:</b>						
3	Proline 480SC	5.7 fl oz/A	prothioconazole	7	12	--

## Gummy Stem Blight

In the mid-Atlantic regions, fungicide that only contain FRAC code 11 components are not recommended. Pristine, which contains both FRAC code 11 and 7 components should always be tank-mixed with a protectant fungicide to reduce the possibility of resistance development. **When tank-mixing use at least the minimum labeled rate of each fungicide. Alternate fungicides with different modes of action. Do not apply FRAC code 11 fungicides more than 4 times total per season.** Begin sprays when vines begin to run.

Code	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>Under LOW DISEASE PRESSURE, apply the following every 7 days:</b>						
M5	chlorothalonil 6F	2.0 to 3.0 pt/A	chlorothalonil	0	12	L
<b>Under HIGH DISEASE PRESSURE, ALTERNATE:</b>						
M5	chlorothalonil 6F	2.0 to 3.0 pt/A <sup>1</sup>	chlorothalonil	0	12	L
<b>WITH A TANK-MIX containing a protectant fungicide (such as chlorothalonil) PLUS one of the following:</b>						
3	Proline 480SC	5.7 fl oz/A	prothioconazole	7	12	--
3	tebuconazole 3.6 F <sup>2</sup>	8.0 fl oz/A	tebuconazole	7	12	N
3 + 9	Inspire Super 2.8F	16.0 to 20.0 fl oz/A	difenoconazole + cyprodinil	0	12	--
3 + 11	Aprovia Top 1.62EC	10.5 to 13.5 fl oz/A	difenoconazole + benzovindiflupyr	0	12	N
7	Fontelis 1.67SC	12.0 to 16.0 fl oz/A	penthiopyrad	1	12	L
7 + 11	Merivon 500SC	5.5 fl oz/A	fluxapyroxad + pyraclostrobin	7	12	N
7 + 11	Pristine 38WG	12.5 to 18.5 oz/A	boscalid + pyraclostrobin	0	12	--
9 + 12	Switch 62.5WG	11.0 to 14.0 fl oz/A	cyrpdinil + fludioxonil	1	12	N

<sup>1</sup>Use low rate early in season. <sup>2</sup>Note: reduced sensitivity of the pathogen to tebuconazole has been found in the Southern U.S.

## Phytophthora Crown and Fruit Rot

Multiple practices should be used to minimize the occurrence of this disease. Grow muskmelons on raised beds and drain fields adequately so that water will not accumulate around the base of the plants. Rotate away from susceptible crops (cucurbits, peppers, lima beans and beans, eggplants and tomatoes) for as long as possible. Apply preplant fumigants to suppress disease. Apply fungicides when conditions are favorable for disease development.

*Phytophthora Crown and Fruit Rot - continued*

Code	Product Name	Product Rate	Active Ingredient(s) (* = Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>Apply one of the following fungicides and tank mix with fixed copper at labeled rates when conditions favor disease development (for suppression only). Materials with different modes of action (FRAC codes) should always be alternated to reduce the chances for fungicide resistance development:</b>						
M3 + 22	Gavel 75DF	1.5 to 2.0 lb/A	mancozeb + zoxamide ( <b>note:</b> some cultivars are sensitive to mancozeb)	5	48	--
11 + 27	Tanos 50DF	8.0 to 10.0 oz/A	famoxadone + cymoxanil	3	12	--
21	Ranman 400SC	2.75 fl oz/A ( <b>Do not</b> apply with copper, see label for additional precautions)	cyazofamid	0	12	L
40+U15	Orondis Ultra	5.5 to 8.0 fl oz/A	mandipropamid + oxathiapiprolin	0	4	--
40	Forum 4.17SC	6.0 fl oz/A	dimethomorph	0	12	N
40	Revus 2.08F	8.0 fl oz/A	mandipropamid	0	4	--
40 + 45	Zampro 525SC	14.0 fl oz/A	acetoxtradin + dimethomorph	0	12	--
43	Presidio 4SC <sup>1</sup>	4.0 fl oz/A	fluopicolide	2	12	L

<sup>1</sup>Presidio may also be applied through the drip irrigation (see supplemental label). Soil drench followed by drip application has given good results in some trials on crown rot caused by *Phytophthora capsici*.

**Powdery Mildew**

Excellent host resistance is available (see table Recommended Varieties). The fungus that causes cucurbit powdery mildew has developed resistance to high-risk fungicides. In the Eastern US, resistance to strobilurin (FRAC code 11), SDHI (FRAC code 7), and DMI (FRAC code 3) fungicides has been reported. Proper fungicide resistance management should be followed to help delay the development of resistance and minimize control failures. Materials with different FRAC codes should always be alternated. Powdery mildew generally occurs from mid-July until the end of the season. Scout fields for the presence of powdery mildew. If one lesion is found on the underside of 45 old leaves per acre, begin the following fungicide program:

Code	Product Name	Product Rate	Active Ingredient(s) (* = Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>TANK MIX one of these products with a protectant such as chlorothalonil 6F 2.0 to 3.0 pt/A:</b>						
U6	Torino 0.85SC	3.4 fl oz/A	cyflufenamid	0	4	--
U8	Vivando 2.5SC	15.4 fl oz/A	metrafenone	0	12	--
13	Quintec 2.08SC	6.0 fl oz/A	quinoxifen	3	12	--
3 + 7	Luna Experience 3.34SC	10.0 to 17.0 fl oz/A	fluopyram + tebuconazole	7	12	--
7 + 11	Luna Sensation 4.25SC	7.6 fl oz/A	fluopyram + trifloxystrobin	0	12	--
<b>AND ALTERNATE with a TANK MIX of one of the following and a protectant such as chlorothalonil 6F 2.0 to 3.0 pt/A:</b>						
3	Proline 480SC	5.7 fl oz/A	prothioconazole	7	12	--
3	Procur 480SC	4.0 to 8.0 fl oz/A	triflumizole	0	12	N
3	Rally 40WSP	5.0 oz/A	myclobutanil	0	24	N
3	tebuconazole 3.6F	4.0 to 6.0 fl oz/A	tebuconazole	7	12	N
7	Fontelis 1.67SC	12.0 to 16.0 fl oz/A	penthiopyrad	1	12	L
3 + 11	Aprovia Top 1.62EC	10.5 to 13.5 fl oz/A	difenoconazole + benzovindiflupyr	0	12	N
3	Rhyme 2.08F	5.0 to 7.0 fl oz/A	flutriafol	0	12	--
U8	Vivando 2.5SC	15.4 fl oz/A	metrafenone	0	12	--
7 + 11	Pristine 38WG	12.5 to 18.5 oz/A	boscalid + pyraclostrobin	0	12	--
3 + 9	Inspire Super 2.8F	16.0 to 20.0 fl oz/A	difenoconazole + cyprodonil	0	12	--
13	Quintec 2.08SC	6.0 fl oz/A	quinoxifen	3	12	--

**Scab** The fungus that causes Scab typically occurs during periods of cool, wet weather when temperatures are below normal. Rotate away from fields with a history of Scab for at least 2 years.

Code	Product Name	Product Rate	Active Ingredient(s) (* = Restricted Use)	PHI (d)	REI (h)	Bee TR
<b>Begin sprays as true leaves form and repeat every 5-7 days:</b>						
M5	chlorothalonil 6F	2.0 to 3.0 pt/A	chlorothalonil	0	12	L

**Viruses** The most prevalent virus in the mid-Atlantic region is **WMV2**, followed by **PRSV**, **ZYMV** and **CMV**. Plant fields as far away from existing cucurbit plantings as possible to help reduce the chances of aphid transmission of viruses from existing fields to new fields.



**For Immediate Medical Attention**

**Call 911**

**For a Pesticide Exposure Poisoning  
Emergency Call**



**For All States**

This number will automatically connect you to the poison center nearest you.

**Anyone with a poisoning emergency can call the toll-free telephone number for help.** Personnel at the Center will give you first-aid information and direct you to local treatment centers if necessary.

### **For Pesticide Spills**

**Small Spills:** See the product label for cleanup advice.

**Large spills:** Call the National Response Center at 1-800-424-8802 or CHEMTREC at 800-424-9300 (24 hours) - Industry assistance with emergency response cleanup procedures for large, dangerous spills.

**Be aware of your responsibility to report spills to the proper state agency.**