



RUTGERS UNIVERSITY

**New Jersey Agricultural
Experiment Station**

E308

2024 COMMERCIAL CRANBERRY PEST CONTROL RECOMMENDATIONS FOR NEW JERSEY

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2024 CRANBERRY PEST CONTROL RECOMMENDATIONS FOR NEW JERSEY

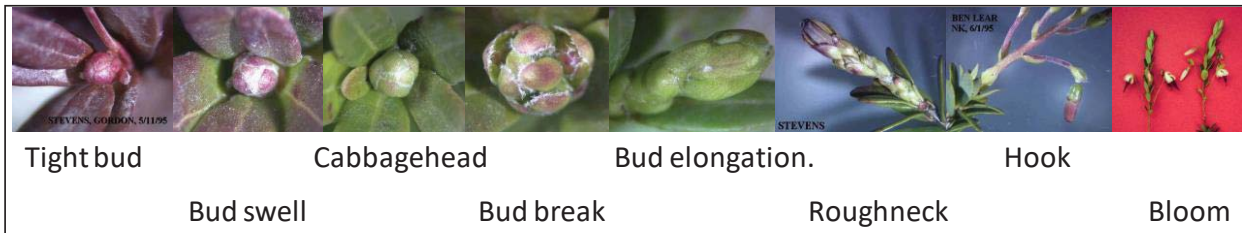
Welcome to the 2024 edition of the New Jersey cranberry recommendations.

In this edition, we are including more information on development of cranberry in relation to pest control. It is very important to make applications at the appropriate time to ensure maximum benefit and minimal side effects.

Many of our pesticides are no longer patented and are being replaced by generic materials. These are often less expensive but careful attention should be placed on the label since the concentration of active ingredient may change. Also, generic pesticides may drop certain crops from the label and when using these materials, READ the label to ensure compliance.

A major addition to this edition is also the integration of weed management among other pest recommendations, providing growers with information on the appropriate timing of herbicide applications with regards to cranberry phenology during the cropping season.

Please, remember that as the markets become more global, MRLs (maximum residue limits) play a stronger role in pesticide choices and can affect how and where a product is marketed. The pesticide label is the law. However, different countries have different rules about residue levels.



Terminology for Cranberry Bud Development and Growth from Workmaster, B.A., Palta, J.P., and Roper, T.R.

PESTS	REMARKS
GENERAL	Cranberry tipworm is much less a problem on April-drawn bogs than on May-drawn bogs. The rapid lush growth of bogs drawn in May encourages infestations of tipworm. Early drawing, however, increases populations of fruitworms and fireworms. Holding flood until early May can aid in reduction of fireworm and cranberry fruitworm populations.

SPRING DORMANT STAGE – PREEMERGENCE HERBICIDE			
WEEDS	MATERIALS	RATE/A	REMARKS
Haircap moss, sedges, annual broadleaf weeds	Spartan 4F	8 to 12 fl oz	Addition of an adjuvant is NOT recommended <i>Spartan 4F received a section 24(c) Special Local Need Label in New Jersey that expires on 12/31/2026.</i> Apply before cranberry bud scales begin to loosen, or stunting may occur. Zeus XC can be chemigated or applied by traditional boom application using a minimum of 15 GPA carrier volume. After application, run sprinkler irrigation and apply 0.25" of water volume per acre to remove Zeus XC herbicide from the foliage and provide soil incorporation.
Annual and perennial broadleaves / grasses	Casoron 4G	100 lb	Addition of an adjuvant is NOT recommended DO NOT apply to young beds (less than 3 years old). Use lowest effective rate possible and avoid continual use to prevent yield losses due to stress. Aerial application not suggested due to chance of overlap. Applications under sand or on weak vines may cause injury. Avoid application when soil and air temperatures are higher than 60°F. Casoron 4G needs to be watered in as soon as possible after application to avoid volatilization.
Annual broadleaves, crabgrass, panicum	Brake On!	21 to 43 fl oz	Addition of an adjuvant is NOT recommended DO NOT apply by air or through any type of irrigation system. DO NOT apply a product containing fluridone to the same field more than 2 crop years in a row. DO NOT apply to young beds (less than 3 years old). Will provide longer residual control of annual weeds than Devrinol. Apply as a single application before weed growth begins. Transient chlorosis of new shoots may be observed but will usually fade in 2-3 weeks.
Annual grasses, small seeded broadleaves, Carolina redroot	Devrinol DF-XT 50DF Devrinol 2-XT 2EC*	12 to 18 lb 8 to 12 lb 9 to 18 qt 9 qt	Established peat beds Established sand beds Established beds New plantings Devrinol can be used under or on top of sand. Devrinol should be watered in through rain or irrigation immediately after application.
Annual grasses, rushes, sedges, poverty grass	Evital 5G	80 to 120 lb 80 lb	Established beds New plantings Apply as a single application before weed growth begins. Injury may occur in areas where water puddles for several days after flooding or heavy rains. Aerial application not recommended. Use lower rates where one or more of the following exists: open areas, recently sanded bogs, sandy soils, and stressed vines.
Annual broadleaf, crabgrass	Callisto Motif Sotrion	8 fl oz	Addition of an adjuvant is NOT recommended for preemergence application DO NOT apply within 10 feet of surface water or to "run-off", or within 48-hr of irrigation for frost protection. Apply when irrigation for frost protection will not be needed anymore, but before weeds have become established. Optimum performance obtained by ensuring a 12 hr rain-free period after application, followed by a light irrigation to move the herbicide into the root zone. Heavy irrigation, such as for frost protection, can move the herbicide below the root zone of target weeds and may result in reduced weed control or weed control failure.

CONTROLLING CAROLINA REDROOT ON CRANBERRY

Timing: Begin application at the spring dormant stage, no later than at cabbagehead. The management calendar for Carolina redroot emphasizes early season split applications of a preemergence herbicide (napropamide) followed by mid-season application of post-emergence herbicide (mesotrione) before emergence of the floral stalk.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Emergence												
Flowering and seed ripening												
Pre-emergence herbicide												
Post-emergence herbicide												

Carolina redroot biological cycle and timing of herbicide applications

Application: Recommendations for controlling Carolina redroot stress proper timing of herbicide application to reduce the number of emerging shoots and prevent the formation of the floral stalk. Ill-timed herbicide treatments will result in ineffective preemergence control as Carolina redroot may have already emerged or ineffective postemergence control that will not prevent the formation of a seedhead. It is essential to apply as uniformly as possible to the treated area otherwise failures will occur. It is expected to take approximately three to four growing seasons to see a significant reduction of Carolina redroot infestation.

Treatment	Timing	Herbicide	Product Rate	Comments
Pre-emergence application	Mid–April following removal of winter flood	Devrinol 2-XT (napropamide 2 lb a.i./gal) Devrinol DF-XT (napropamide 50%) Casoron 4G (dichlobenil 4%)	9 to 18 qt/A 9 to 18 lb/A 100 lb/A	These herbicides should be applied before Carolina redroot starts emerging to provide effective suppression of its growth. Effective control will only be obtained if these applications are followed by postemergence mesotrione applications in mid-June.
Broadcast foliar application	Mid–June to early July	Callisto or Motif (mesotrione 4 lb a.i./gal)	8 fl oz/A	This treatment should be coupled with pre-emergence applications (see below) for optimal Carolina redroot suppression. Apply mesotrione when Carolina redroot leaves have emerged above cranberry canopy but before the emergence of a floral stalk. The use of a nonionic surfactant (NIS) at 0.25% v/v is recommended.
Spot foliar application for small areas infested by Carolina redroot	Mid–June to early July	Callisto (mesotrione 4 lb a.i./gal)	1.1 fl oz/gal	Callisto received a 24(c) (Special Local Needs) label in NJ for spot-application of a concentrated mesotrione solution. At 1.1 fl oz/gal and 30 GPA, you can only spray out 7.3 gal/A per application to stay within the maximum labeled rate of 8 fl oz/A per application. Apply Callisto when Carolina redroot leaves have emerged above cranberry canopy but before the emergence of a floral stalk. Include a nonionic surfactant (NIS) at 0.25% v/v.

CABBAGEHEAD TO PREBLOOM SPRAY			
WEEDS / PESTS	MATERIALS	RATE/A	REMARKS
Dodder, loosestrife, various annual grasses Apply in late April or early May prior to dodder germination and attachment. Repeat the application in early July after cranberry bloom for full season dodder and annual weed control, and to control yellow loosestrife, allowing at least 30 days between applications. Loosestrife control will be observed the following spring. Ocean Spray growers should consult with the cooperative concerning the company’s policy on Quinstar 4L.	Quinstar 4L	8.4 fl oz	Add crop oil concentrate at 2 pt per acre
Upright dieback	Bravo WS Champ Formula 2, Indar 2F	4 to 6.5pt 0.66 gal 12 fl oz	Begin at budbreak and repeat 10-14 days later
Fairy ring To effectively suppress Fairy ring, apply fungicide in sufficient water to wet the soil to approximately 6” in depth. This translates to approximately 8,700 gallons/acre. See page 7 for detailed instructions.	Indar 2F plus Abound	6 to 12 fl oz 15.5 oz	Begin at cabbagehead and do not apply past hook
Blossom worm, spotted fireworm, sparganothis fruitworm, spongy moth, false armyworm, spanworm, blackheaded fireworm	Altacor Confirm 2F Danitol 2.4EC Delegate WG Diazinon AG500 Diazinon AG600 WBC Diazinon 50W Entrust SC Exirel Imidan 70W Intrepid 2F Orthene 97 Rimon 0.83EC Verdepryn	3 to 4.5oz 16 fl oz 16 to 21.33 fl oz 3 to 6 oz 2 to 3 qt 51 to 76.5 fl oz 4 to 6 lb 4 to 10 oz 10 to 20.5 fl oz 1.3 to 4 lb 10 to 16 fl oz 1 lb 12 fl oz 8.2 to 11 fl oz	Keep bees off bogs until 7 days after spraying except for Confirm 2F, Intrepid 2F, Delegate WG application
Spanworm, spongy moth, blossom worm, blackheaded fireworm	Avaunt	6 oz	Keep bees off bogs until 7 days after spraying
Cranberry tipworm Sanding helps to control cranberry tipworm, sparganothis fruitworm, spotted fireworm and cranberry girdler.	Diazinon AG500 Diazinon AG600 WBC Diazinon 50W	2 to 3 qt 51 to 76.5 fl oz 4 to 6 lb	Keep bees off bogs until 7 days after spraying

TREATING FAIRY RING ON CRANBERRY

Timing: Begin applications at bud break - rough neck stages. Applications made after the onset of hook are much less effective

Treatment Area: Measure 10' beyond the active edge of the fairy ring and calculate the area of the shape. Shape is often close to circular however the area of more irregular shapes may need to be measured using a GPS or estimated using additional measurements

Fungicide Concentration: Applications should be made in a sufficient volume water to carry the fungicide to six inches into the soil. Our testing indicates 0.2 gallons/ft² is generally sufficient in typical sandy cranberry beds. Muck soils and older beds may require higher volumes.

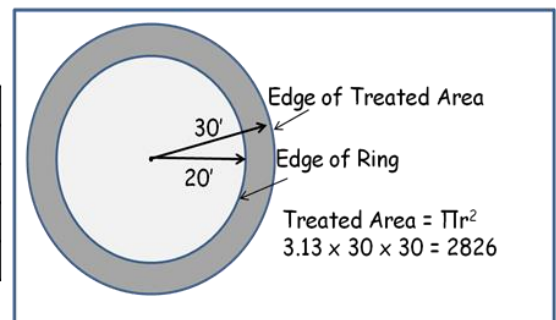
First measure the total area of the bed and the total area to be treated. If the ratio of treated area to bed area is above 0.2 then there is too much fairy ring and an alternate plan should be sought. If the ratio is below 0.1 then the concentration of fungicide can be calculated as follows

Making an application plan (Example)

Method used when treated area (ft²)/bed area (ft²) ≤ 0.2

Example calculation for fungicide application for fairy ring control	
Formula	For example on right
Indar 2F fl.oz. = Fairy ring area (ft ²) x 0.0014	4 fl.oz.
Abound fl.oz. = Fairy ring area (ft ²) x 0.0018	5 fl.oz.
Water (gallons) = Treated area (ft ²) x 0.2	565 gal

Combine Indar and Abound with the calculated volume of water and apply to the treated area at a rate of 0.2 gallons/ft²



Application: Applications should be made by applying the calculated volume of diluted fungicide to the area to be treated. This can be done by first determining the flow rate from the pump and then determining the time required to deliver the desired volume. Alternatively, it is better to utilize a flow meter at the delivery end of the hose to accurately measure the amount being applied. It is essential to apply as uniformly as possible to the treated area otherwise failures will occur.



Applying fungicide to a Fairy Ring.

It is expected to take approximately three growing seasons to see an effect of this treatment

NOTES:

DO NOT make applications in less than 0.2 gallons/ft² unless you are certain that the mixture will penetrate the soil to the desired depth.

To calculate desired depth using a soil probe measure the maximum depth where you can identify cranberry roots and/or runners.

DO NOT apply fungicides at a lower volume and then attempt to wash it in using irrigation. The fungicide will bind to the surface and not move to the desired depths

DO NOT apply using chemigation using an excessive wash off time since this will also result in restricted movement downward

PREBLOOM SPRAY			
PESTS	MATERIALS	RATE/A	REMARKS
Blunt-nosed leafhopper	Closer SC ¹	2.75 to 5.75 fl oz	Dangle stage but before bloom.
	Danitol 2.4EC	16 to 21.33 fl oz	¹ Do not apply this product at any
	Diazinon AG500	2 to 3 qt	time between 3 days prior to
	Diazinon AG600 WBC	51 fl oz	bloom and until after petal fall
	Diazinon 50W	4 lb	
	Fanfare EC	6.4 fl oz	
	Fanfare ES	6.4 fl oz	
Mites	Agri-Mek SC (8% ai)	3.5 fl oz	
Root rot	Phosphite	See below	When soil or reservoir
	Ridomil SL	1 to 1.75 pt	temperatures reach 60°F
	Ridomil Gold GR	20 to 35 lb	
	Ridomil Gold WSP	1 to 1.5 lb	

A note on Phosphite fungicides: Phosphite (AKA phosphonate, phosphorous acid) based fungicides are all similar in activity. None of these are effective as fertilizer because the phosphite molecule must be converted to phosphate by soil bacteria before being useful to the plant. There is no evidence that these materials provide any physiological benefit other than disease control.

There are several materials available (Prophyt, Reveille, K-Phite, Rampart, Confine-Extra, Fungi-Phite, Phostrol, etc.) and the best way to compare these is by examining the label to determine the pounds of phosphorous acid per gallon since this is the standard by which all products labelled. Two examples are provided below with the concentration highlighted in yellow. Please be aware that the labels can be quite different so PLEASE read the label for the product being used.

ACTIVE INGREDIENTS:

Mono- and dibasic sodium, potassium,
and ammonium phosphites* 53.6%

OTHER INGREDIENTS: 46.4%

TOTAL: 100.0%

* Contains 6.27 lb/gallon of the active ingredients mono- and dibasic sodium, potassium, and ammonium salts of phosphorus acid. Equivalent to 4.17 lb/gallon of phosphorus acid or 35.6 % by weight.

Active Ingredients

ACTIVE INGREDIENTS:

Mono- and dipotassium salts of Phosphorous Acid* 56%

OTHER INGREDIENTS:.....44%

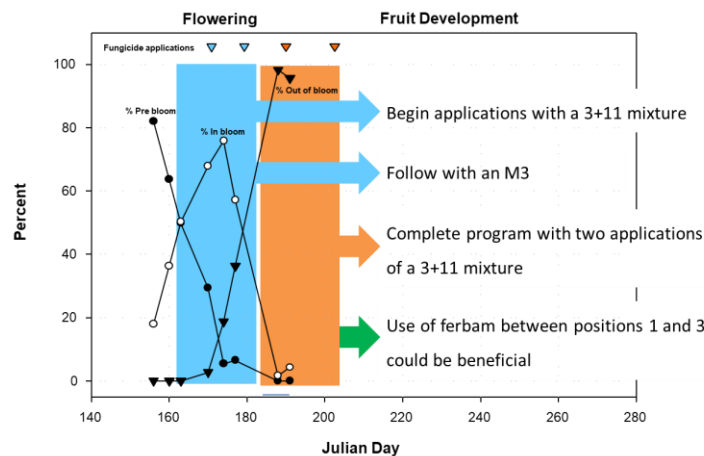
TOTAL:.....100%

*Contains 7.03 lbs./gallon of active ingredients, mono- and dipotassium salts of Phosphorus Acid. Equivalent to 4.41 lbs. Phosphorus Acid/gallon.

FUNGAL FRUIT ROTS: For the most economical and efficient control of fungal fruit rot, four categories for control have been established.

Control of cranberry fruit rot is achieved by proper timing and sequence of fungicide applications. Timing is important because the fungi causing fruit rot tend to cause more infections that lead to rot during the flowering and early fruit development. Sequence is important because different fungicides can affect the plant differently during development. Specifically, chlorothalonil (e.g. Bravo) can be phytotoxic to bloom but provides excellent protection during fruit development. Also, recommendations slightly differ among cultivars. In general, early bloom sprays work well and will guarantee a residue at the site of action. The early timing given below is the latest you should wait. Recent research has shown that combinations of Indar and Abound provide excellent disease control in early applications although new fungicides such as Proline are replacing Indar. In general, for New Jersey, applications begin in mid-June and are complete by late-July. Oso and PHD are newly registered, old fungicides which can play a role during the late season especially on susceptible cultivars. In the section below you will find specific recommendation options for fruit rot control.

This scheme will be useful for growers who cannot use chlorothalonil products



- | | |
|--------------------------------------|--|
| 1. Early Black, Mullica Queen | Begin applications at 30 to 60% bloom. Follow with at least two additional applications at 5- to 10- day intervals |
| 2. Stevens, Crimson Queen | Begin applications at 30 to 60% bloom. Follow with two - four additional applications at 5- to 10- day intervals |
| 3. Ben Lear, Demoranville | Begin applications at scattered bloom. Follow with a second application before 60% out of bloom and make at least two subsequent applications at 5- to 10-day intervals. |
| 4. New and untested varieties | Begin applications at 30 to 60% bloom. Follow with two - four additional applications at 5- to 10- day intervals |

Fungicides labelled for fruit rot control

<u>Fungicide (FRAC Group)</u>	<u>REI (hrs)</u>	<u>PHI (days)</u>	<u>Rate/acre</u>	<u>Max Amt/season</u>
Indar (3)	12	30	12 fl.oz.	48 fl.oz.
Proline (3)	12	45	5 fl.oz.	10 fl.oz.
Cevya (3)	12	14	5 fl.oz.	15 fl.oz.
Abound* (11)	4	3	6-15.5 fl.oz	90 fl.oz.
QuadrisTop (3,11)	12	30	10-14 fl.oz. (see note below)	42 fl.oz.
mancozeb* (M3)	24	30	3-6 lb	18 lb
Mankocide *(M3)	48	30	7 lb	21 lb
chlorothalonil* (M5)	12	50	4-6.5 pt	20 pt
Ferbam (M3)	24	28 days post mid-bloom	6.1 lb	5 applications

* Numerous formulations available. Read product label for specific instructions (see page 17)

Note: Mancozeb containing fungicides may inhibit development of anthocyanins and reduce fruit size. Chlorothalonil-based fungicides can reduce fruit set when used during bloom.

Equalizing QuadrisTop with Abound



Quadrus^{Top}

Fungicide

[Agriculture](#)
[Industry](#)
[Consumer](#)
[Environmental](#)
[Education](#)
[Community](#)

1-800-858-8880



Active Ingredients:

Azoxystrobin [®]	18.2%
Trifluoromethylpyridinol	17.4%
Other Ingredients	64.4%
Total	100.0%

¹WV No. 12-0000-00-00
²WV No. 12-0000-00-00
³WV No. 12-0000-00-00

Quadrus Top Fungicide is formulated as a suspension concentrate (SC) containing 18.2% of azoxystrobin and 17.4% of trifluoromethylpyridinol.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use on inside back panel.

Product of United Kingdom

Formulated in the USA

EPA Reg. No. 100-1103

EPA Est. No. 100-08-01

SCN 131A-LD 0218

0203000

2.5 gallons

Net Contents



www.syngenta.com

ABORTIFERONS GROUP **11** 



Abound®

Flowable Fungicide

syngenta.

Broad spectrum fungicide for control of plant diseases

Active ingredients

Abound® contains: metconazole (2-(2,4-dichlorophenyl)-1-methyl-1H-imidazole-5-carboxamide)	500 g/L
Other ingredients	500 g/L

Contains 2.08 L of active ingredient per gallon (7.68 L)

**KEEP OUT OF REACH OF CHILDREN.
CAUTION**

For information on restricted use chemicals and directions for use visit www.epa.gov

Information is provided for informational purposes only. See individual container labels for mixing/usage instructions.

800 SYNGENTA
800 SYNG 6284
800 SYNG 6284

SCF 100MA-1 LM 1218
41040457

1 gallon
 Net Contents



[illegible]

- Quadris Top at 14 oz/acre equals 0.183 lb ai/acre
- Abound at 15.5 oz/acre equals 0.25 lb ai/acre
- Therefore:
 - 14 oz QuadrisTop
 - 4.26 oz Abound

+

Makes 0.25 lb ai/acre

IN-BLOOM INSECT CONTROL			
PESTS	MATERIALS	RATE/A	REMARKS
Blossom worm,	Confirm 2F	16 fl oz	
spanworm,	Crymax	1 to 1.5 pt	
false armyworm,	DiPel ES	1 to 2.5 lb	
spongy moth,	DiPel DF	1 to 1.5 lb	
blackheaded fireworm	Intrepid 2F	10 to 16 fl oz	
	Altacor	3 to 4.5 oz	
Cranberry fruitworm	Intrepid 2F	10 to 16 fl oz	
Unfortunately, there is still some open bloom when this treatment must be made. Waiting until all blossoms have dropped may result in heavy cranberry fruitworm infestation.			
POST-BLOOM SPRAY			
WEEDS	MATERIALS	RATE/A	REMARKS
Annual broadleaf,	Callisto*		
Carolina redroot,	Motif	8 fl oz	See below for addition of
sedges, poison ivy,	Sotrion		adjuvants
dodder, crabgrass			
DO NOT apply within 10 feet of surface water or to “run-off”. Add nonionic surfactant at 0.25% v:v when cranberries are growing rapidly and warm cloud humid weather encourages thin leaf cuticle to form. Switch to crop oil concentrate at 1% v:v when growth has “hardened off”. See page 4 for detailed instructions on Carolina redroot control.			
*Callisto received a section 24(c) Special Local Need Label in New Jersey that expires on 12/31/2027.			
This 24(c) is for postemergence spot-applications at up to 1.5 oz/gal to control woody perennial and dodder. At 1.5 oz/gal, you can only spray out 5.3 gallons per acre per application to stay within the maximum labeled rate of 8 fl oz/A/application.			
Asters, burnweed,	Stinger 3EC	2.67 to 8 fl oz	Addition of an adjuvant is
goldenrod, ragweed,	Spur 3EC	0.25 to 1 pt	NOT necessary
clover, vetch, wild bean			
DO NOT apply within 5 feet of any water moving off or through the cranberry field. Use the lower rate when applications are made in the spring before bloom until late June. Use the higher rate for most weed problems when applications are made in the. Apply the highest labeled rate to control heavy aster, goldenrod, or Canada thistle infestations. Stinger/Spur may be sprayed as a broadcast (only when cranberry plants are dormant for Spur), a wipe or as a spot application. Contact of the treatment solution with cranberry foliage should be avoided since it will result in injury.			
Dodder, loosestrife,	Quinstar 4L	8.4 fl oz	Add crop oil concentrate
crabgrass			at 2 pt per acre
Apply in early July after cranberry bloom to control yellow loosestrife. Loosestrife control will be observed the following spring. Ocean Spray growers should consult with the cooperative concerning the company's policy on Quinstar 4L.			

POST-BLOOM SPRAY			
WEEDS	MATERIALS	RATE/A	REMARKS
Annual grasses and some perennial grasses	Poast 1.5EC	0.5 to 2.5 pt	Consult the label for additional information on adjuvant
	Select Max 1EC	9 to 16 fl oz	
	Select 2EC	6 to 8 fl oz	
	Shadow 3EC	4 to 5.33 fl oz	
DO NOT apply from 1 week prior to bloom until 1 week after bloom. Apply to actively growing grasses before tillering (annuals) and/or seedhead formation (perennials). Consult the label for recommended size of grasses for treatment. For control of perennial grasses, use higher labeled rates and repeated applications may be needed. Control may be reduced if grasses are large or under hot weather conditions. The use of crop oil concentrate (COC) may increase the risk of crop injury when hot (≥ 90°F) or humid (≥60%) conditions prevail.			
Chairmaker’s bulrush, leatherleaf, dewberry, other broadleaf weeds	Weedar 64	2.4 pt	Addition of an adjuvant is NOT necessary
	Embed Extra	2.5 pt	
DO NOT allow to drip or to touch vines. Only for directed wipe when weed tops are above crop. For wipers, mix 1 part herbicide to 2 parts of water. Wipe mixture over the top of tall weeds. Use of a crop safe dye in the mixture is recommended to mark where you have wiped. Do not apply these herbicides on hot, sunny, and humid days when there is little air movement as they have considerable potential to evaporate and cause severe crop injury.			
Most annual broadleaf weeds and grasses	glyphosate	See label	See below for addition of adjuvants
DO NOT allow to drip or to touch vines. Addition of nonionic surfactant (NIS) at 0.25% v:v and ammonium sulfate (AMS) at 2.5 oz per gallon may increase the performance of glyphosate, particularly under hard water or drought conditions.			
<u>Wiper applicator</u> : Use a 20% solution. Contact at least 50% of the leaf surface with glyphosate solution for effective control. Enhanced results with 2 applications made travelling in opposite directions in the field.			
<u>Spray applications to dry ditches</u> : check the label to verify if labelled for use in dry ditches. Use a 1-2% solution. The ditch should be dry for 1 day before application and remains dry for 2 days after application.			
<u>Post-harvest spot application</u> : check the label to verify if labelled for post-harvest application. Use a 0.4-0.7% solution. Apply only on dormant cranberry vines. Do not apply to more than 10% of the total bog.			

FIRST POST-POLLINATION SPRAY - <u>Remove bees before spraying.</u>			
PESTS	MATERIALS	RATE/A	REMARKS
Cranberry fruitworm, sparganothis fruitworm, spotted fireworm	Altacor	3 to 4.5 oz	
	Confirm 2F	16 fl oz	
	Danitol 2.4EC	16 to 21.33 fl oz	
	Delegate WG	3 to 6 oz	
	Diazinon AG500	2 to 3 qt	
	Diazinon AG600 WBC	51 to 76.5 fl oz	
	Diazinon 50W	4 to 6 lb	
	Entrust SC	4 to 10 oz	
	Exirel	10 to 20.5 fl oz	
	Intrepid 2F	10 to 16 fl oz	
	Verdepryn	8.2 to 11 fl oz	
Cranberry fruitworm	Assail 30SG	4.0 to 6.9 oz	
	Knack	16 fl oz	
Blunt-nosed leafhopper, toadbugs, other leafhoppers	Actara	2 to 4 oz	
	Assail 30SG	4 to 6.9 oz	
	Closer SC	2.75 to 5.75 fl oz	
	Cormoran	9 to 12 fl oz	
	Danitol 2.4EC	16 to 21.33 fl oz	
	Diazinon AG500	2 to 3 qt	
	Diazinon AG600 WBC	51 to 76.5 fl oz	
	Diazinon 50W	4 to 6 lb	
	Fanfare EC	6.4 fl oz	
	Fanfare ES	6.4 fl oz	
	Sevin XLR Plus, 4F	1.5 to 2 qt	
	Scorpion	3.5 to 7 oz	
Cranberry rootworm	Admire Pro	7 to 14 fl oz	Immediately after removal of bees
Scarab grubs	Couraze 2F	16 to 32 oz	This treatment can be made only during post- pollination season
	Macho 4FL	8 to 16 oz	
	Alias 4F	8 to 16 oz	
Applications of imidacloprid (Admire Pro, Couraze 2F, Macho 4FL, Alias 4F) are not permitted by air. Irrigate target area with 0.1 to 0.3 inches before and after the application.			
Cranberry rootworm		Nematodes	See label

SECOND POST-POLLINATION SPRAY			
PESTS	MATERIALS	RATE/A	REMARKS
Fireworms, fruitworms, sparganothis fruitworm	Insecticides same as above		

Phytophthora root rot	Phosphorous Acid	See label	
	Ridomil Gold EC	1 to 1.75 pt	See PHI for specific materials
	Ridomil Gold GR	20 to 35 lb	
	Ridomil Gold WSP	1 to 1.5 lb	

NEW BOG SPRAY			
PESTS	MATERIALS	RATE/A	REMARKS
Cranberry flea beetle and Blunt-nosed leafhopper	Actara	3 to 4 oz	Early July.
	Assail 30SG	4 to 6.9 oz	
	Assail 70WP	1.7 to 3 oz	
	Diazinon AG500	2 to 3 qt	
	Diazinon AG600 WBC	51 to 76.5 fl oz	
	Diazinon 50 W	4 to 6 lb	
	Fanfare EC	6.4 fl oz	
	Fanfare ES	6.4 fl oz	
	Sevin 4F	1.5 to 2 pt	
	Scorpion	3.5 to 7 fl oz	
Blunt-nosed leafhopper	Closer SC	2.75 to 5.75 fl oz	
	Danitol 2.4EC	16 to 21.33 fl oz	
	Fanfare EC	6.4 fl oz	
	Fanfare ES	6.4 fl oz	
Leaf drop fungi	Indar	12 fl oz	
	Proline	5 fl oz	
Make two applications after growth begins. Begin around June 15 and a second ~30 days later.			

Phytophthora root rot	Phosphite fungicide or Mefanoxam fungicide	See label	
Treat plants with fungicides in root rot prone areas during periods of root growth. Follow recommended cultural practices for water management.			

GIRDLER FALL REFLOW			
Cranberry girdler	Nematodes	See label	Last week of September. Reflow for 7 days

BOG RENOVATION			
WEEDS	MATERIALS	RATE/A	REMARKS
Most annuals and perennial weeds Reglone is a desiccant and should only be used as a directed spray during site preparation prior to planting. Retreatment may be necessary for complete control of grasses and older established weeds. The minimum spray volume is 15 gallons per acre. Add a nonionic surfactant at 0.5% v:v. Use of dirty or muddy water for diluting Reglone may result in reduced control.	Reglone	1.5 to 2 pt	ONLY for site preparation
Annual and perennial grasses Apply to actively growing grasses before tillering (annuals) and/or seedhead formation (perennials). Add crop oil concentrate at 1% v/v or nonionic surfactant at 0.25 to 0.5% v:v.	Fusilade DX	16 to 24 fl oz	ONLY for site preparation
Most annuals and perennial weeds Follow label directions and restrictions. Use 37.5 gal/A rate for herbaceous weeds eradication and 75 gal/A rate for perennial weeds eradication. Before and during application, soil temperature in the treatment zone should be between 40 and 90°F. Aboveground vegetation should be burned off or removed before application. Sand for planting should then be applied. Incorporate to 8 inches deep. Drench with water and rototill before and after application for best results. Planting must be delayed until fumigant has dissipated from the soil. See labels for specifics on the number of days to wait before planting.	Vapam HL	37.5 to 75 gal	Soil fumigant

PESTICIDE USE RESTRICTIONS - CRANBERRY

PESTICIDE	CLASS	REI (hrs)	PHI (days)	APPLICATION NOTES
Azoxystrobin*	F	4	3	90 fl oz/acre/season max
Actara	I	12	30	8 oz/acre/season max
Admire Pro	I	12	30	14 fl oz/acre/season max
Agri-Mek SC (8% ai)	I	12	3	14 fl oz/acre/season max, no aerial application
Alias 2F	I	12	30	32 oz/acre/season max
Altacor	I	4	1	3 applications max
Assail 30SG	I	12	1	5 applications max
Avaunt	I	12	30	24 oz/acre/season max
Azera	I	12	0	OMRI listed for organic use
Beleaf	I	12	0	3 applications max
Brake On	H	48	30	43 fl oz/acre/year max, no aerial application or chemigation
Callisto	H	12	45	16 fl oz/acre/12-month period max
Casoron 4G	H	12	N/A	100 lb/acre/season max
Cevya	F	12	14	3 applications max
Chlorothalonil*	F	12	50	3 applications max
Clethodim*	H	24	30	4 applications/year max, no chemigation
Closer SC	I	12	7	17 fl oz/acre/year max
Confirm 2F	I	4	30	4 applications max/year
Cormoran	I	12	1	35 fl oz/acre/year max
Couraze 2F	I	12	30	32 oz/acre/season max
Courier	I	12	3	2 applications/crop cycle max
Crymax	I	4	0	OMRI listed for organic use
Danitrol 24EC	I	24	2	2 applications/acre max
Delegate	I	4	21	19.5 oz/acre or 6 applications/calendar year max
Devrinol DF-XT or 2-XT	H	24	N/A	18 lb or qt/acre/season max
Diazinon	I	24	7	4 applications max
DiPel	I	4	0	OMRI listed for organic use
Embed Extra	H	48	30	2 applications/season max, no chemigation or aerial application
Entrust SC	I	4	21	9 oz/acre/season max
Evital 5G	H	12	60	1 application/12-month period max
Exirel	I	12	14	0.4 lb ai/acre/season max
Fanfare	I	12	30	0.3 lb ai/acre/season max
Ferbam	F	24	28	5 applications max
Fusilade DX	H	12	N/A	72 fl oz/acre/year max, no chemigation or aerial application
Glyphosate*	H	---	30	See label for REI, no chemigation or aerial application
Grandevo	I	4	0	OMRI listed. Temporarily repels bees following application
Imidan 70W	I	24	14	15.6 lb/acre/season max
Indar 2F	F	12	30	4 applications max
Intrepid 2F	I	4	14	64 fl oz/acre/season max
Knack	I	12	7	2 applications max
Macho 2F	I	12	30	32 oz/acre/season max

PESTICIDE USE RESTRICTIONS - CRANBERRY (CON'T)

PESTICIDE	CLASS	REI (hrs)	PHI (days)	APPLICATION NOTES
Mancozeb	F	24	30	See label for max allowable rates
Mankocide	F	24	30	96 lb/acre/season max
Movento	I	24	7	Do not apply until petal fall. 30 fl oz/acre/season max
Nematodes	I	---	0	Apply in late evening. Irrigate
Oberon 2SC	I	12	3	3 applications max
Orthene	I	24	75	1 application max
Oso	F	4	0	78 fl oz/acre/season max
Phosphites*	F	4	3	4 applications max, see label for specifics and note on page 7
Poast	H	12	60	5 pt/acre/12-month period max, no chemigation
Proline	F	12	45	2 applications max. No aerial application
Pyganic EC 1.4	I	12	0	OMRI listed for organic use
Quadris Top	F	12	30	3 applications max, 2 applications in sequence max
Quinstar	H	12	60	16.4 fl oz/acre/12-month period max
Reglone	H	24	N/A	No chemigation or aerial application
Ridomil*	F	48	45	3 applications max
Rimon	I	12	1	36 oz/acre/season max
Senstar	I	24	7	60 fl oz/acre/season. Do not apply until after petal fall
Sevin	I	12	7	5 applications max
Simazine 4L / 90 WDG	H	12	150	1 application/season max, no chemigation or aerial application
Spear-Lep	I	4	0	5 applications max
Spur	H	12	45	1.33 pt/acre/season max, no chemigation or aerial application
Stinger	H	12	50	16 fl oz/acre/season max, no chemigation or aerial application
Venom	I	12	7	8 oz/acre/season max
Venerate	I	4	0	OMRI listed. Do not apply when bees are foraging
Verdepryn	I	4	1	33 fl oz/acre/year max
Weedar 64	H	48	30	2 applications/season max, no chemigation or aerial application
Zeus XC	H	12	N/A	12 fl oz/acre/season max

*Additional trade names:

Azoxystrobin: Abound, Aframe, Azaka, Azoxystar, Azoxyzone, Satori (there are at least 30 products)

Chlorothalonil: Bravo 90DG, Bravo 720, Bravo Ultrex, Echo, Ensign 720, Equus, Initiate, Praiz, Rialto, etc.

Clethodim: Select, Select Max, Intensity, Intensity One, Tapout, Shadow, Shadow 3EC, Section 2EC, Section Three, Cleanse, Clethodim 2E, Arrow 2EC.

Glyphosate: Roundup PowerMAX, Roundup WeatherMAX, Showdown, Mad Dog, Gly Star, Glyphogan (an many more)

Mancozeb: Dithane DF, Dithane F-45, Dithane M-45, Manex II, Manzate DF, Penncozeb DF or WP

Phosphites: Prophyt, Reveille, K-Phite, Rampart, Confine-Extra, Fungi-Phite, Phostrol (and many more)

Ridomil (Metalaxyl/Mefanoxam): Orondis Gold B, Ridomil Gold GR, Ridomil Gold SL, Ultra Flourish, Metalaxyl 2E AG, MetaStar 4S, ReCon 4F, MetaStar 2E

Pesticides labelled for cranberry that are not effective or not recommended for use in NJ				
PESTICIDE	CLASS	REI (hrs)	PHI (days)	APPLICATION NOTES
Aftershock	F	12	1	This product was labelled for strawberries and is not effective for cranberry fruit rot control
Aim EC	H	12	15	Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit
Evito	F	12	1	This product was labelled for strawberries and is not effective for cranberry fruit rot control
Fontelis	F	12	0	This product was labelled for strawberries and is not effective for cranberry fruit rot control
Gatten	F	12	0	This product was labelled for strawberries and is not effective for cranberry fruit rot control
Kenja	F	12	0	This product was labelled for strawberries and is not effective for cranberry fruit rot control
Perrisim	F	12	0	This product has not been tested for cranberry. It is similar to other Group 3 fungicides and needs to be evaluated.
Pruvin	H	4	60	Not labeled for use on cranberry in NJ
Satellite HydroCap	H	24	35	This product has caused significant vine stunting and yield reduction in NJ trial. DO NOT use on established productive beds
All products with propiconazole	F	--	--	Not labelled for NJ and ineffective chemistry for fruit rot

NOTES

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N.J. AGRICULTURAL EXPERIMENT STATION
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK**

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