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Groundwater Protection and Water Regulations

Brian Wick
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Groundwater Protection Regulations

Intended to prevent contamination of public drinking water supply wells through regulating the application of pesticide products on the Groundwater Protection List within primary recharge areas.
Definition: Primary Recharge Area

- Interim Wellhead Protection Area (IWPA)
- Zone II
- Primary recharge areas are updated yearly by the state
- Regulations ONLY apply to public drinking water wells that pump greater than 100,000 gallons of water per day.
Are You Subject to the Regulations?

Step 1: Determine if your cranberry bog is in a Zone II area

Step 2: Check the cranberry pesticides on the groundwater protection list

Step 3: Requirements for existing producing cranberry bogs

Step 4: Requirements for new plantings

Step 5: Submission form requirements
Zone II Maps

- CCCGA Office
- Plymouth County Conservation District Office
- UMass Cranberry Station
- DeCran Ag Supplies Inc.
- R.A.S.P. Inc.
- R.F. Morse & Son Inc.
Cranberry Growing Region
Wellhead Protection List
2006

Most cranberry towns contain Zone II areas within their boundaries
Other Resources for Maps

- DEP Title V maps (Board of Health)
- MDAR Web Site
  (www.mass.gov/agr/pesticides/water)
- MassGIS Web Site
  (www.mass.gov/mgis/mapping.htm)
- DEP/SERO
Water Quality and Pesticides

Are you using a product on the Groundwater Protection List?
- Groundwater Regulations
- Groundwater Protection List
- Groundwater Protection List Details

Are you working in a Regulated Primary Recharge Area?
- Wellhead Protection List
- Locate Zone IIIs and MPIAs online
- Step By Step Guide to Identifying Primary Recharge Areas

For Areas with Greater than 50% Foliar Cover
- Guide to Groundwater Protection Program
- Asecthlor Permit

For Areas with Less than 50% Foliar Cover
Groundwater Protection List

Refers to a list of pesticide active ingredients that could potentially impact groundwater due to their chemical characteristics and toxicological profile.
Cranberry compounds on the Groundwater Protection List

- Chlorothalonil – Bravo, Echo, Equus
- Pronamide – Kerb (Section 18 needed!)
- Thiamethoxam - Actara
- Methoxyfenozide – Intrepid
- Simazine – Princep, Caliber
BRAVO, ECHO, EQUUS, CHLOROTHALONI L 720

You cannot use Chlorothalonil products in a Zone II area unless you can document that you have tried alternatives in the past, at this same location and they failed.
KERB

Verify that Section 18 has been approved prior to use!

You cannot use Kerb in a Zone II area unless you can document that you have tried Casoron in the past at this same location and it failed.
THI AMETHOXAM

ACTARA

Actara is the **only viable alternative** for managing resistant cranberry weevil and is allowed in a Zone II area.
METHOXYFENOZOIDE

INTREPID

This compound CANNOT be used in Zone 11 areas.

There are available alternatives.
SIMAZINE

CALIBER, PRINCEP

This compound **CANNOT** be used in Zone II areas.

There are available alternatives.
Requirements for Existing Producing Cranberry Bogs

• >50% foliar coverage
• No viable alternatives for the pesticide
• IPM plan from MDAR approved sources
  o 2006 Cranberry Chart Book
  o UMASS Extension IPM fact sheets
• IPM program specific to GP regs
• Letter from UMass Cranberry Station
• Documentation that past alternatives failed
IPM Records

- The name of the applicator
- Location (IWPA, Zone II and property) and dates of app.
- A problem statement which outlines the reason for using the pesticide product on the Groundwater Protection List
- An account of the method used by the applicator to identify the problem (i.e. IPM scouting records or fruit rot records from prior harvest). Lab results kept
- An account of the IPM measures that have been taken to manage the problem (i.e. late water, sanding, etc.)
- A letter or statement from the UMass Cranberry Station stating that there is no viable alternative
Requirements for New Plantings

For a pesticide product which is soil applied or applied to an area with less than 50% foliar ground cover

- There is no viable alternative for the use of the pesticides on the Groundwater Protection List
- A Pesticide Management Plan (PMP) for that use pattern has been approved by the MDAR. A PMP is developed specifically for new plantings in a Zone II area.
Pesticide Management Plan

• Name and EPA registration number of pesticide used
• All maps necessary to identify the anticipated use site
• Written evaluations of alternative control methods including economic ramifications
• Information on the target pest, method of application, rate of application, irrigation practices (if any), crop and the percent of ground cover
• Storage, handling and loading procedures
Pesticide Management Plan

• The specific department approved IPM program that has been adopted

• Site specific data – top soil horizon depth; depth to seasonal high water table; NRCS soils hydrologic group; percent organic matter soil test results; monitoring data from wells on site including a list of wells

• Other data which supports a finding that the anticipated use site is not a highly vulnerable site

• All data must be referenced
PMP Approval Process

• The MDAR, DEP and the Department of Public Health will review the plan

• MDAR must respond within 60 days

Criteria:

• The anticipated use site is not a highly vulnerable site

• There is unlikely to be an unreasonable adverse effect on the environment

• There is no viable alternative control method

• The product has not been detected as a result of a groundwater monitoring program
Submission Form Requirements

• MDAR must be notified of any applications of a product on the Groundwater Protection List within **10 days of the end of each month**.

• Include all applications made during that month

• Do not include chemicals that are not on GPL

• May use one form to report multiple applications that occurred in the same month
Submission Form Requirements

• MDAR Web Site
  (www.mass.gov/agr/pesticides/water/cranberry/advisory.htm)

• CCCGA Web Site
  (www.cranberries.org - grower ~ forms)
Guidance for Cranberry Growers

Cranberry Advisory: an advisory for cranberry growers developed by the Cape Cod Cranberry Growers Association

Notification Form: An electronic notification form

Cranberry Notification Form: A notification form for mailing to the Department of Agricultural Resources

Cape Cod Cranberry Growers Association

Cranberry Experiment Station
Groundwater Protection Program Notification Form

You must notify the Department of Food and Agriculture Pesticide Bureau when you apply a pesticide product which is listed on the groundwater protection list. Thank you for your assistance!

Fields in red are required.

FIRST NAME: ___________________________ LAST NAME: ___________________________

PESTICIDE LICENSE NUMBER: ___________________________

DAYTIME PHONE: ___________________________ (include area code)

E-MAIL ADDRESS: ___________________________

ADDRESS: ___________________________
Zone II Appeals Process

• Wrongly placed in a Zone II, redelineation can appeal to DEP

• Submit new and improved geologic and hydrologic information – must be better than the original source

• Fees and engineering costs to be considered

• Cranberry Country sub-soils are relatively uncomplicated
Commenting on Proposed Wells

• Early Notice Guidance in the Environmental Monitor

• Environmental Notification Form sent to MEPA and local paper

• Presence and the affect of the water supply could limit the placement of a new well:
  o Agricultural Uses
  o Lakes & Ponds
  o Other Public Water Withdrawals
  o Private Wells
  o Vernal Pools
Evaluating Competing Water Needs and Demands

- DEP & USGS began three-year investigation to improve the understanding of the water resources of the Plymouth-Carver region
- Primary objective is to develop, calibrate, and apply a new ground-water-flow model of the region to evaluate:
  1. Potential future ground-water withdrawals
  2. Seasonal variations in ground-water pumping and aquifer recharge
  3. Extended periods of drought on the ground-water flow system and on the sources of water to public-supply wells and streams.
Thank You!

Remember to visit
www.cranberries.org