



**UMass  
Extension**

# Cranberry Station Newsletter

MARCH 28, 2014

UMASS CRANBERRY STATION

1 STATE BOG ROAD

P.O. BOX 569

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<http://www.umass.edu/cranberry>

## NUTRIENT MANAGEMENT REGULATIONS PENDING IN MASSACHUSETTS

Regulations regarding the use of nutrients on agricultural and non-agricultural lands have been drafted by the MA Department of Agricultural Resources (MDAR). All farmers will be subject to the regulations, although those with less than 10 acres may not be required to have certified plans. The regulations are in the comment period (see below) and may look quite different when they go into effect.

In 2012 the Massachusetts Legislature passed Chapter 262 of the Acts of 2012, An Act Relative to the Regulation of Plant Nutrients. This new law directed MDAR to develop regulations for fertilizer and nutrient management. **MDAR has completed proposed state-wide regulations which will be subject to public comment in the coming weeks.** Cape Cod, Martha's Vineyard and Nantucket retained the option to develop unique local regulations, and are currently at various stages in the process.

There are a series of public hearings and an open comment period for the statewide regulations coming up soon. Brian Wick of CCCGA will be attending the Lakeville hearing on April 3 at the MassDEP office at 10:00 a.m. and he encourages any interested grower to attend as well, send in comments to MDAR, or contact him with thoughts or opinions. You can find a copy of the regulations on the MDAR web site at <http://www.mass.gov/eea/docs/agr/docs/draft-nutrient-management-regulations.pdf> and a copy of the public hearing notice and comment procedure at <http://www.mass.gov/eea/docs/agr/docs/notice-of-public-hearing-330-cmr-31-00-plant-nutrient-application-requirements-pdf>

Representatives of UMass Extension and Mass Farm Bureau will also offer testimony at the hearings in Boston and Springfield. The intent of all parties is to end up with regulations that fit the legislative intent while providing a workable framework for farmers as they implement their nutrient management.

UMass Extension has reviewed, revised and expanded technical information regarding the management of nutrients, fertilizers and soils so that growers can be aware of best practices in nutrient management. This information can be accessed at: <http://ag.umass.edu/agriculture-resources/nutrient-best-management-practices>

CAROLYN DEMORANVILLE

### **2014 PESTICIDE APPLICATOR LICENSE TRAINING WORKSHOPS**

Held at the UMass Cranberry Station Library  
Sponsored by Pesticide Education, Agriculture and  
Landscape Program - April 17 & 18, 2014  
For more information and to register contact:  
Natalia Clifton at 413-545-1044

### **WORKER PROTECTION TRAININGS CRANBERRY STATION LIBRARY, 2-4 PM**

Worker Protection Trainings for cranberry workers in the handler category will be offered in 2014: April 30, May 28, and June 25. There is a \$5 fee to cover the cost of the WPS training manual. If you have a pesticide license, you do not need this training. **Contact Martha Sylvia: 508-295-2212, ext. 20** to sign up or for additional information.

**Carolyn DeMoranville, Director**

### Using Late Water Floods in 2014

Late Water (LW) is a 30-day spring re-flood applied several weeks after the winter flood has been removed and before the plants have lost dormancy. LW suppresses some insects, especially cranberry fruitworm (CFW) and Southern red mite (SRM). Fruit rot disease is reduced and keeping quality is improved. LW has been shown to suppress growth of dewberries (brambles). LW delays, compresses, and reduces bloom, and reduces the nitrogen requirement for that year.

Late water may be a very good option for you in 2014, especially if you are trying to reduce inputs and costs related to Frost Protection, Fertilizer, and Pesticide Use. With the set-aside this year, it may be worth the risk/outcome of reduced yield to gain the advantage of having to use fewer inputs to manage the bog and pests.

Any condition that reduces the plant's carbohydrate reserves can lead to reduced yield. Such conditions include a heavy crop in the most recent season, abnormally warm late fall, low previous year sunshine, oxygen deficiency, and winter temperature extremes (see Weather Data Summary 2008-2014).

#### *Weather Snapshot*

September 2013 was cool, sunny and dry. Daytime temps were 0.6°F below 30-year average and nighttime temps were 1.2°F below the 30-year average.

October 2013 was mild, sunny, and dry. Daytime temps were 2.5°F above average and nighttime temps were 0.2°F above average (but at night, still 4.3°F cooler than 2012).

November 2013 was cool, sunny, and dry. Daytime temps were 1.6°F below average and nighttime temps were 2.0°F below average.

December 2013 temperatures were right around average. January 2014 had a very cold minimum (-1.3°F) and a fairly high maximum (55°F). We had 8 and 6 nights in the single digits in January and February 2014, respectively (we usually have <4). We have had more than 53 inches of snow already (Dec-Feb).

#### *Take-home*

The fall was cool (good for LW). We had 7 months with above average sunshine (and 1 month right at average) to give above average sunshine for 2013 (good for LW). Winter has been very cold (concern for LW) with lots of snow (>53 inches). See graphs to assess the temperature patterns for Dec-Feb.

- \* Bogs that can hold and maintain a flood easily and with good, clean water resources are good candidates for LW.
- \* If you want to use a bloom-time flood to eliminate your crop, LW is a great way to compress (synchronize) the bloom period and increase your chance to significantly reduce the crop.
- \* While last year's weather indicators were positive, the winter has been harsh. Perform a thorough inspection of your bog looking for signs of winter injury prior to deciding to use LW.
- \* In normal economic situations, we would not recommend using LW in the spring following an extended fall flood due to an increased chance of plant stress and reduced yield. However, if your vines look strong after the fall and winter floods, you could take the chance but understand that your crop might be down. Sanding can also increase the chances of plant stress and crop reduction.
- \* To minimize crop reduction, late water should not be used more often than once every three years.

**When to Apply.** Generally, the 30-day LW flood is applied between April 15-20 (coastal areas - later end of the date range). If temperatures in late March - early April are warm (5°F per day above normal) or the season is early due to warm winter temperatures, the flood may be applied earlier (up to one week). This is not likely for 2014.

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Do not apply the flood if the buds have broken dormancy. Put sprinkler heads out *prior* to the flood so you will be ready if a frost night occurs immediately after flood removal.

**Depth and Temperature.** Flood depth should be maintained so that all vines are well covered by water. Shallow floods and/or flood temperatures consistently greater than 65°F should be avoided to prevent injury and crop reduction. Flood water temperatures will generally be cooler if the flood is deep (> 12 inches above the vines). Beds severely out of grade are poor candidates for LW.

**Scout for Algae Growth.** If your flood is shallow or if you usually get algae growth on your floods, plan to use a liquid copper algacide applied 2 weeks into the flood period (Algae-Pro, Cutrine Plus, etc; see 2014 Chart Book). The material is injected into the sprinkler system running at 20 psi (30 minute injection, you may continue running for 1-2 hours after to disperse the material).

If you do not use this treatment, you must scout shore ditch edges for the presence of algae and treat with copper compounds as soon as scum is observed. Remember that copper only prevents further algal growth; prompt treatment is necessary. If severe, early withdrawal of the flood may be necessary.

**Releasing the Flood.** Release the flood slowly over the top board to protect water resources. The date of flood removal will vary with location and date of application. If air temperatures are unseasonably warm, and flood water temperature becomes too high, the LW flood may need to be removed prior to 30 days. On the other hand, if cool temperatures are forecast at the 30-day mark, holding a few extra days to avoid having to frost protect immediately should not be a problem.

### After You Remove the Flood

**Frost protection.** After removal of the flood, cranberry buds are sensitive to frost injury. A 1-week flood early in the spring has no impact on frost tolerance — protect the buds based on appearance. For floods longer than 1 week, protect the bogs for 27°F (flood duration = 2 weeks) or 30°F (any duration longer than 2 weeks).

**Fertilizer use.** LW bogs respond readily to fertilizer; N dose should be reduced to avoid overgrowth. The best tactic for a LW bog is to add no fertilizer for at least 2 weeks after flood withdrawal and then add small amounts with close monitoring of response. Generally, no fertilizer should be needed until bloom. If the LW flood was terminated early (3 weeks or less), standard fertilizer programs may be followed.

**Disease management.** Fungicides may be eliminated on processed-fruit beds if keeping quality is forecast to be good. If one application is to be made, apply at 50% bloom. If two fungicide applications are made, apply the first at 10% bloom and the second two weeks later. *Reduced fungicide rates should be employed*, especially for Howes, which has greater resistance to rot.

**New Plantings.** LW is a good choice for a newly planted bog as it will help prevent fungal inoculum buildup as well as help the vines spread over the surface of the soil.

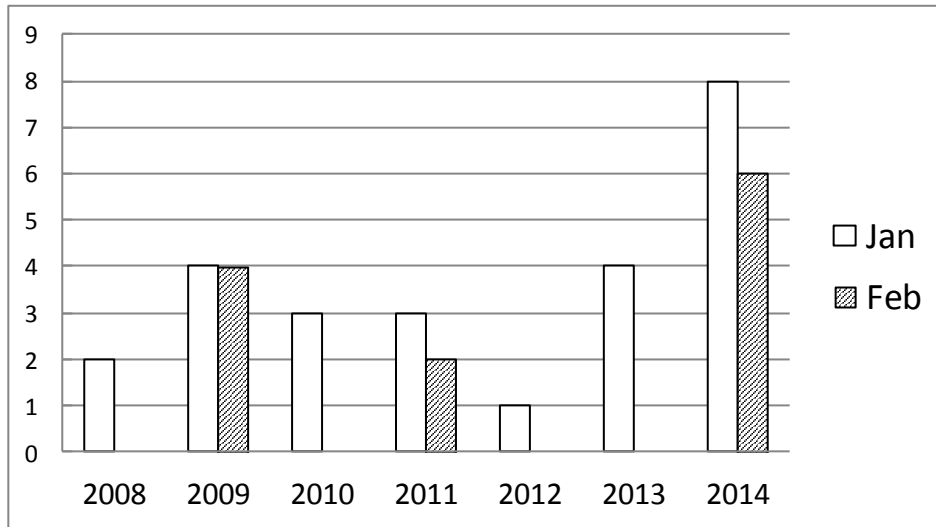
**Insect and mite management.** Scouting for early season insects is important! Pre-bloom sprays can often be eliminated but do not count on it. Mortality of CFW is highest when the flood is warm (approx. 60°F) and held for 4 weeks. Monitoring for egg infestation is important (see 2014 Chart Book for Scouting after LW). Fruitworm sprays may be eliminated or reduced on LW bogs. Sparganothis fruitworm is not controlled by LW but the flight is synchronized making management easier. SRM infestations can be essentially eliminated in the year of LW.

**Weed management.** Do not apply preemergence herbicides *prior* to LW. Low rates of Casoron (up to 40 lb/A) may be applied *after* LW flood is withdrawn. Floods may delay weed development and suppress the growth of dewberries/brambles. Sawbriers are minimally affected. LW does *not* control dodder. Apply Casoron as soon as possible after the withdrawal of the flood (be sure the vines are dry and the soil has drained).

We do not have experience using Callisto or QuinStar for weed control after LW. We also have not tried the new formulations of Devrinol after LW. If you try any of these, please let us know (Hilary Sandler at 508.295.2212 x21).

**Winter Weather Data Summary for 2008-2014**

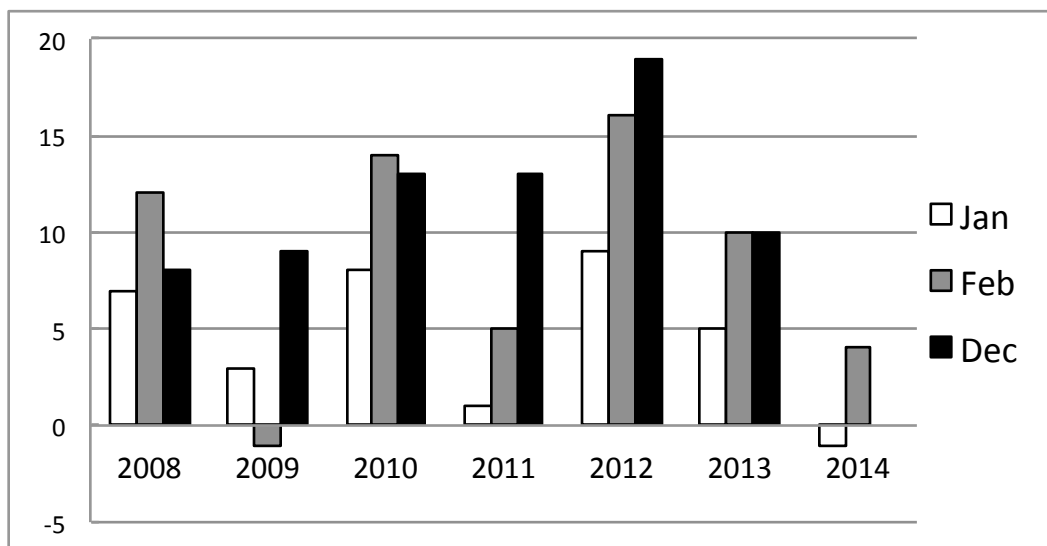
Below is a compilation of winter weather data that may be useful to aid your decisions about holding a late water flood. You can compare the winter (Dec-Feb) temperatures to those in the past few years. First, you can see that the winter thus far has been very cold with 14 nights in the single digits for January and February, the highest number in the past 7 years.



*Number of nights in the single digits in January and February in East Wareham, MA.*

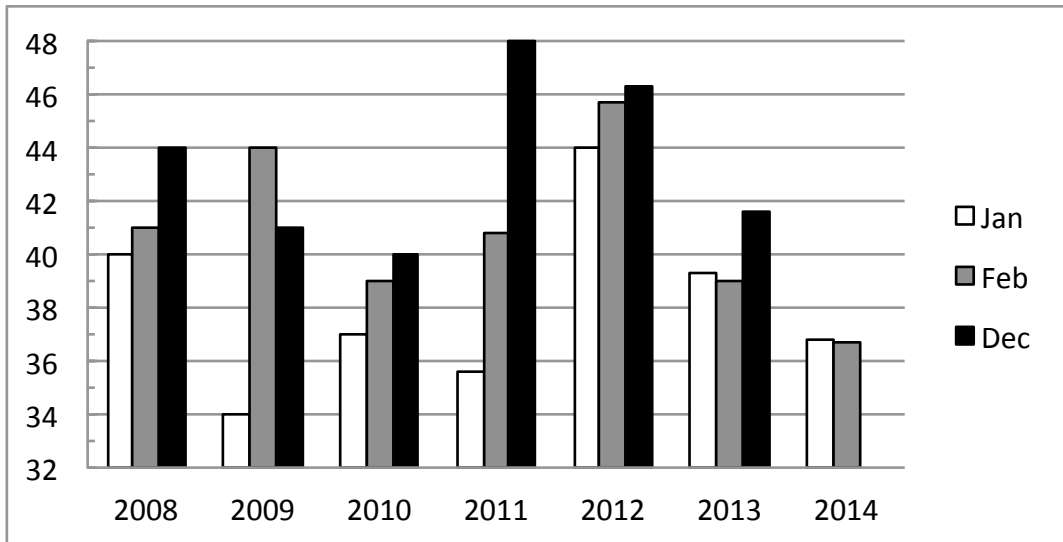
Next is a graph of the minimum temperatures recorded for the months of January, February and December. This figure shows the min temperatures, grouped by calendar year. Our winter minimums have been quite low compared to the past few years.

The official Winter months (according to the weather service) are Dec-Feb, so in any particular “Winter Season”, two calendar years will be represented in any official summary report (see the Weather Summaries on our web site). Note that the most recent winter months (Dec 13-Feb14) have been very cold.

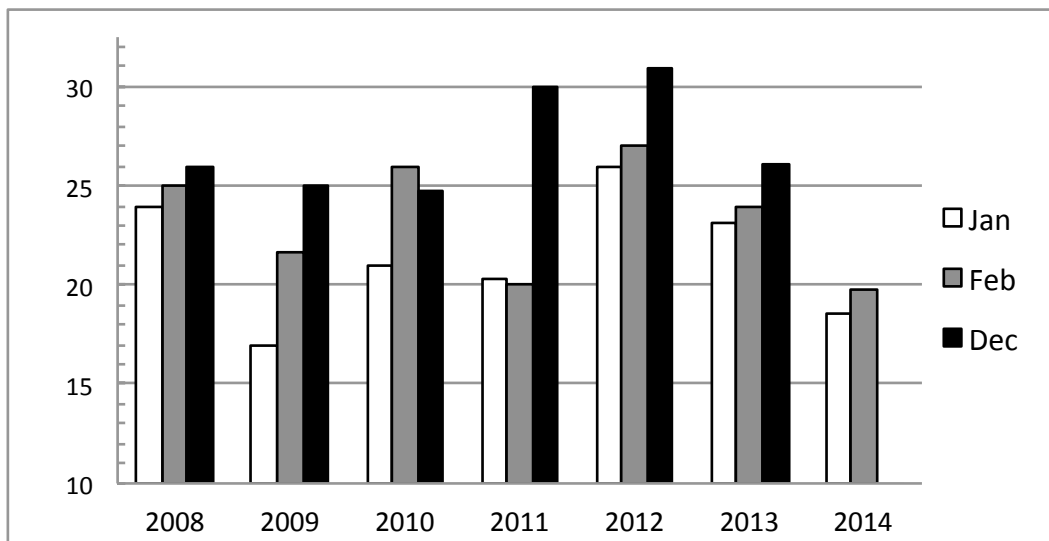


*Minimum temperatures for Jan, Feb and Dec for 2008-2014 recorded in East Wareham, MA.  
All temperatures in Fahrenheit.*

The next two graphs show the average (based on 30-year average) day time and night time temperatures. Again, note how cold the most recent winter months have been relative to the past few years. Day time temperatures for January and February 2014 were 0.9 and 2.8 degrees colder than the 30-year average, respectively. 2014 January day time temps are about mid-range compared to the past few years; February has been colder than in the past few years. Night time temperatures for January and February 2014 were 1.7 and 2.5 degrees colder than the 30-year average, respectively, but still falling in about the middle of the range of temperatures for the past few years.



*Day time average temperatures (°F) for January, February, and December in East Wareham.*

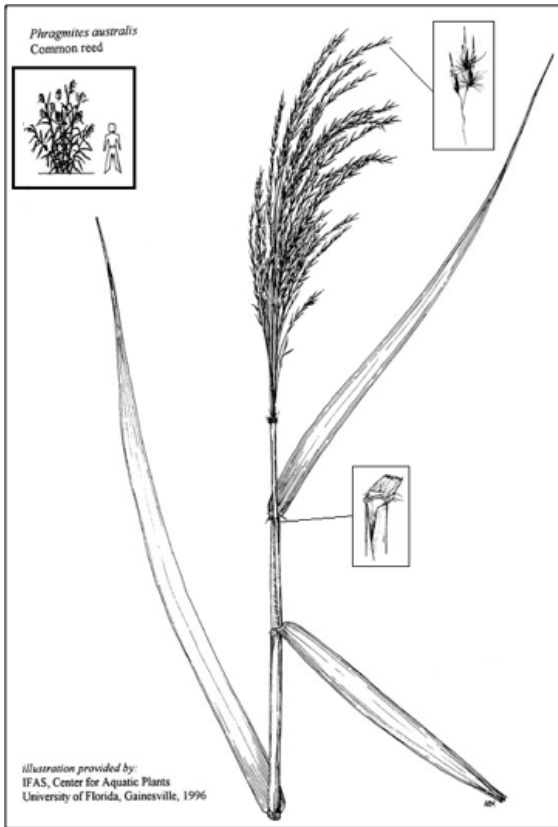


*Night time average temperatures (°F) for January, February, and December in East Wareham.*

***Take-home:***

While we experienced some extreme cold and snow events during the winter, the overall daily average day and night temperatures, though below normal, were not extremely so. Overall outlook for LW in 2014 is promising with the exception of bogs that show signs of winter damage.

**HILARY SANDLER AND DEBORAH CANNON**



## Do you have Phragmites?

*Phragmites australis*, also known as cord grass or common reed, is an invasive species, meaning it is not native and is spreading. If you have noticed that it has been encroaching into bog production areas or actually on the bog, please let us know. *Phragmites* can appear as a small bright green leafy sprout a foot or two tall and grow to be between six and twenty feet in height. We are interested in mapping where it occurs and if it is becoming a more common weed on bogs.

If you have (or think you have) *Phragmites*, please call or email Dahlia and leave your name and phone number.

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