

Orchard Outlook



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March 4, 2016

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Winter is not officially over and there is no question that we are still likely to receive one or two more significant snow storms before we can definitely say spring is here. However, with just over two weeks to go until the spring equinox (12 hours day/12 hours night), it is beginning to feel like spring is right around the corner – and it is.

Winter Weather Review

A comparison of mean monthly temperatures during the months of December through March over the past 5 winters reveals an interesting trend (Figure 1). The mean monthly temperature temperatures for December 2015 through February 2016 have been nearly equal to or above that of the same period in winter 2011/2012. Following that through to average bloom dates in those years, milder winter monthly temperature means have generally resulted in an earlier bloom date – most notably when considering the month of March. Obviously, we are just barely into March and the majority of plant development is yet to come. However, historical observations, development models, and of course Shubenacadie Sam point to an early spring.

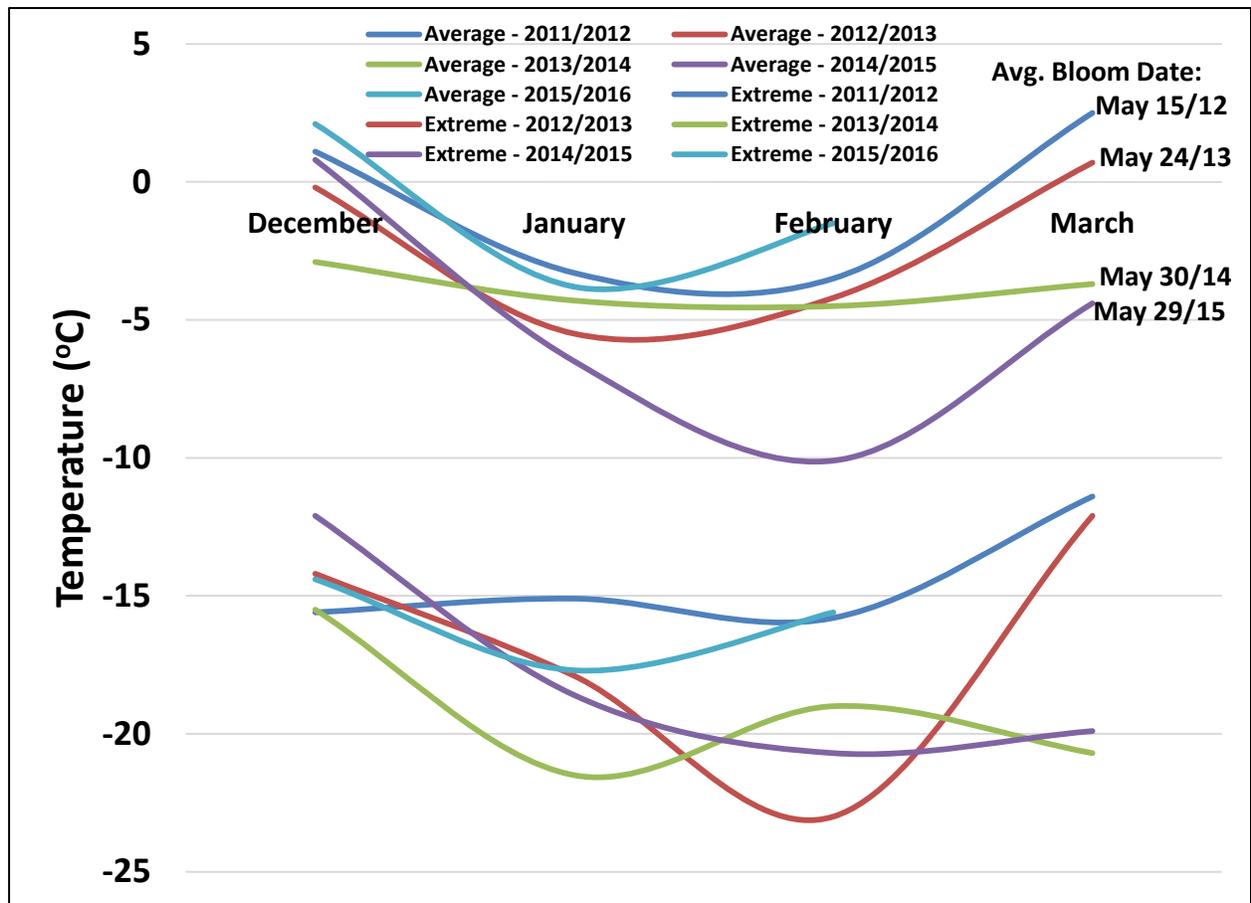


Figure 1: Mean monthly temperatures and extreme minimum temperature from December through March for the past five winters at Kentville AAFC.

Green Tip Prediction – Jeff Franklin, Agriculture and Agri-Food Canada, Kentville

Usually we don't talk about bud break until sometime in late March or April but there is a trend emerging this year that is moving the timetable for development forward. Bud development can begin in early winter once the rest period has completed and the trees are dormant. In most years this happens in December and for this year's growing season it happened in the middle of December. As most of you remember, December was unseasonably warm, and according to the Cornell bud development model, we received 400 of the 2500 degree hours (base 4.4°C) needed for bud break in that month. This combined with a warmer than average February has advanced bud development significantly and we are currently 6 to 7 weeks ahead of normal (Figure 2). In most years we do not reach this point until the second or third week of April. The last time we were well ahead of average was in March 2012, which ended up with green tip in mid-April and the earliest bloom date on record at Kentville AAFC.

Looking forward, it is hard to determine when bud break will occur as we have only accumulated approximately half of the required degree hours. However, all weather forecasting agencies that I follow are suggesting that March, April, and May will be warmer than average. The short term

forecasts (7 to 14 days) indicate that temperatures will be cyclical with alternating warm and cold periods. Looking at all of this information it seems likely that green tip will occur at least a couple of weeks earlier than we have seen in the past. Keep in mind that this is all based on weather forecasts which can, and do change suddenly.

More to follow.....

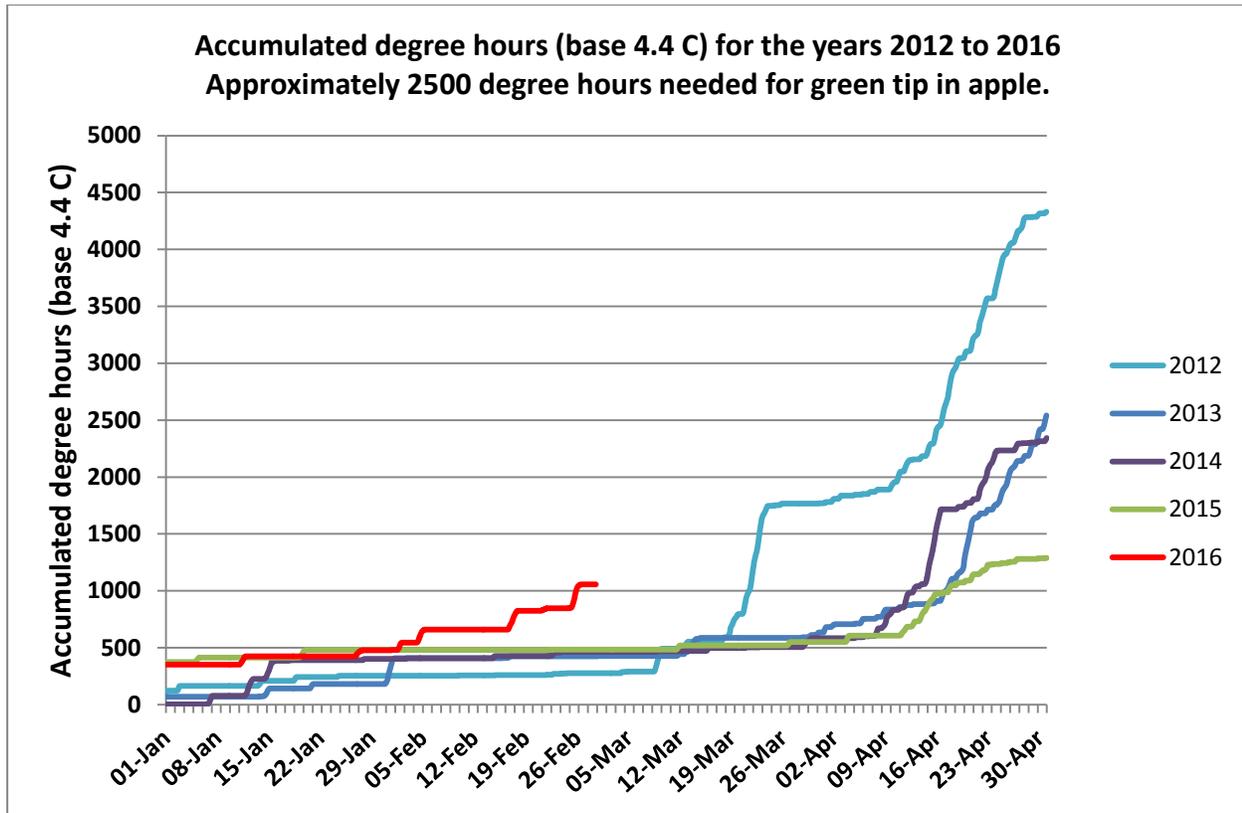


Figure 2: Accumulated degree hours (base 4.4C) from tree dormancy through April for the past 5 season. The Cornell University model indicates 2500 degree hours are required for green tip.

Other Observations on Development

One of the most interesting trees on the Kentville AAFC property is in the crab apple collection down by Main Street. There is a low chill crab selection (I believe it is Russian) that routinely hits bud break 10-14 days before anything else. Last year, it I photographed it on April 20th at bud break (Figure 3). Looking back at Jeff's graph above, this has typically occurred around 1100 degree hours above 4.4°C after acquiring dormancy. Looking earlier this week (still in February!), I observed bud swelling and cracking bud scales on most buds with some buds even showing a tuft of green tissue at the end (Figure 3). This is occurring almost exactly around 1100 degree hours as in previous years.



Figure 3: Buds of early crab at Kentville AAFC on April 20, 2015 (left) and February 29, 2016 (right).

As Jeff noted above, the weather in the coming weeks/months will ultimately decide the rate of tree development. However, the recent Environment Canada long-term forecasts are for a warmer-than-average spring in Nova Scotia (Figure 4). These forecasts can be and have been very wrong as we all know (winter 2014/2015 was supposed to be mild!). However, the stage has been set to see the earliest bud break and bloom date on record if the weather forecasters have anything right.

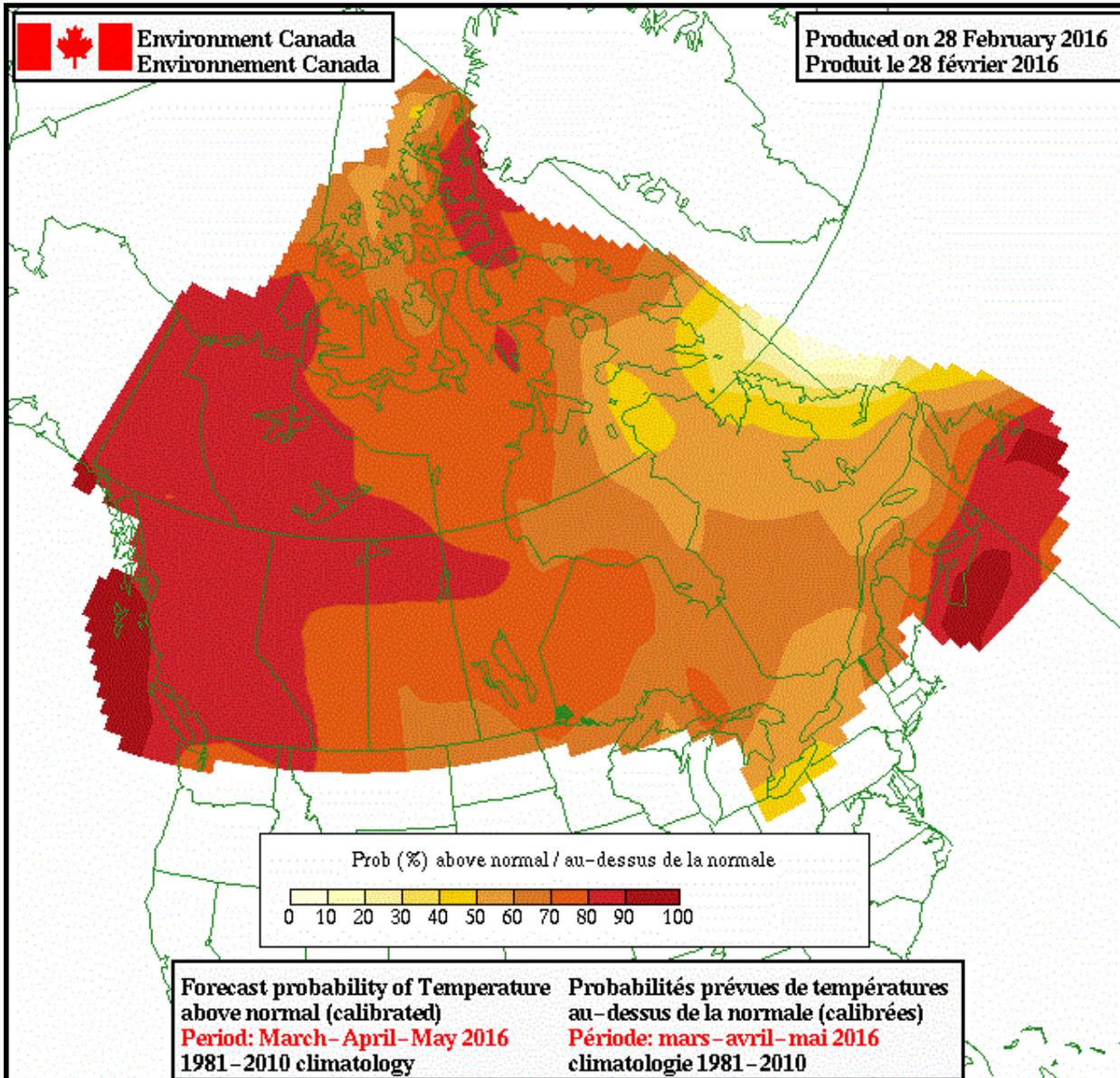


Figure 4: Environment Canada national probabilistic temperature forecast for March, April, May 2016.

Pruning Young Trees

With all indications pointing to an early bud break and the risk of extreme winter cold largely past, ensure that young orchards that still need to fill space are pruned to direct maximum growth into desirable leader growth. Note that there is still a risk of winter cold injury to peaches and peach pruning should wait until later in the month/early April.

Upcoming Events

NSFGA Spring Tree Fruit Workshop & Pruning Tour

On Tuesday, March 29th a Spring Tree Fruit Workshop will be held from 1:00-4:30 pm at the Berwick Fire Hall. Topics will include discussions on thinning, young orchard establishment, mechanical pruning, and new product registrations. Mario Miranda Sazo from Cornell University

will be an invited presenter. PCRP credits will be applied for. The full agenda will be coming out soon.

On March 30th, a Pruning Workshop will be held from 9:00 am-12:00 pm in the Rockland/Morristown area looking at precision pruning and young orchard management. The full agenda will also be coming out soon. Stay tuned.

Precision Fruitset Model Workshop

I will be hosting a workshop on the Precision Fruitset Model on Thursday, March 17th at 10:00 am to 11:00 am at the Kentville Agriculture Centre in the Perennia Training Room. The purpose of this workshop is to review the precision thinning model developed by Dr. Duane Greene of the University of Massachusetts to evaluate thinning efficacy before visual results are apparent. Additional thinning sprays can then be applied before fruit are too large for treatment. For more information on the model see:

https://extension.umass.edu/fruitadvisor/sites/fruitadvisor/files/pdf-doc-ppt/PredictingFruitset2014_0.pdf

Please register with Gail Walsh in advance at gwalsh@perennia.ca or 902 678 7722.

CanadaGAP Workshop

Horticulture Nova Scotia is sponsoring CanadaGAP Food Safety Workshops.

Tuesday, March 8, Waterville Fire Hall

Thursday, March 10, Truro, Agri-Tech Park, Administration Building Room 214

9:30 am – 3:30 pm

Priority registration for members \$25 plus HST

Non-members accommodated as space allows \$65 plus HST. To register call Kim Best 902-670-4397 or email kimbest@xcountry.tv. All CanadaGAP requirements will be discussed as well as changes from last year.

Editor: *Chris Duyvelshoff, Perennia*

The Perennia logo features the word "perennia" in a dark blue, lowercase, sans-serif font. A small green leaf icon is positioned above the letter "i". The logo is set against a white background with a red horizontal line above it and a green-to-white gradient bar below it.