Prairie Pest Monitoring Network Weekly Updates – May 30 - June 3, 2011

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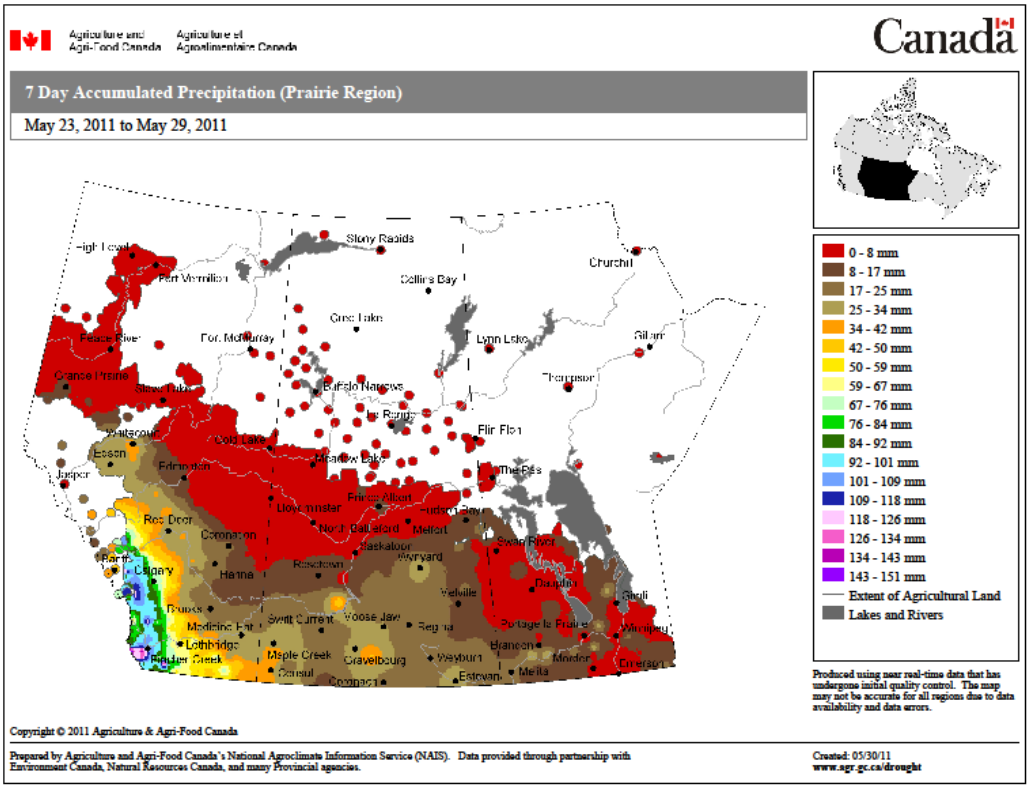
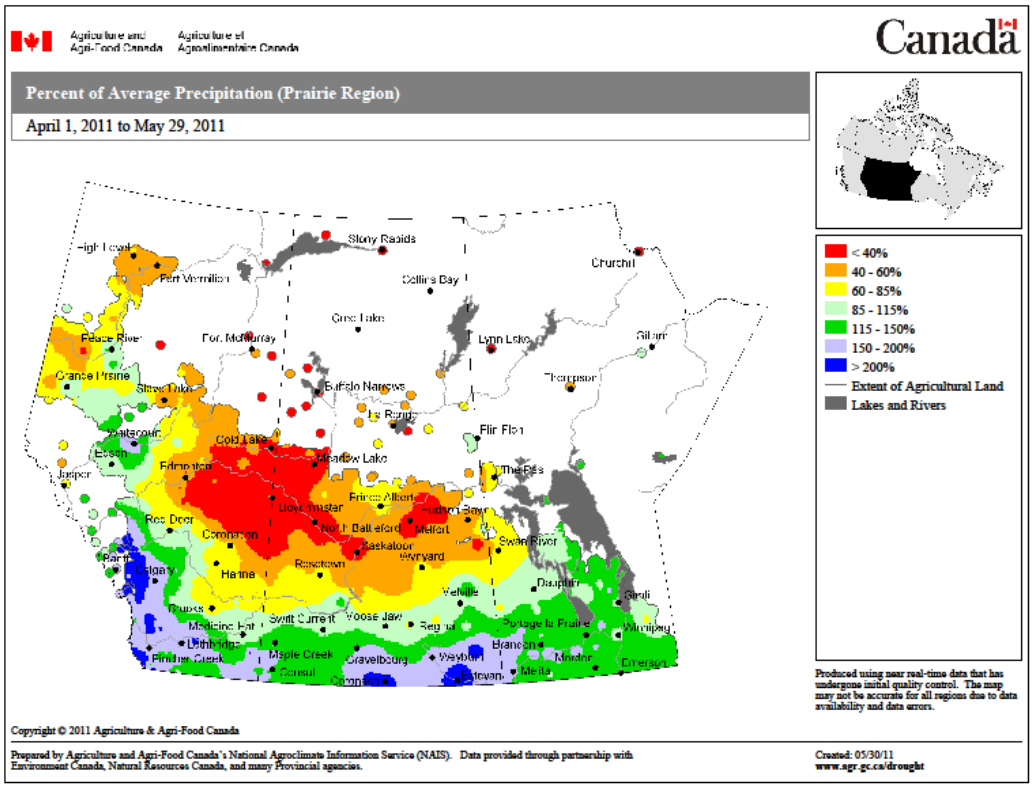
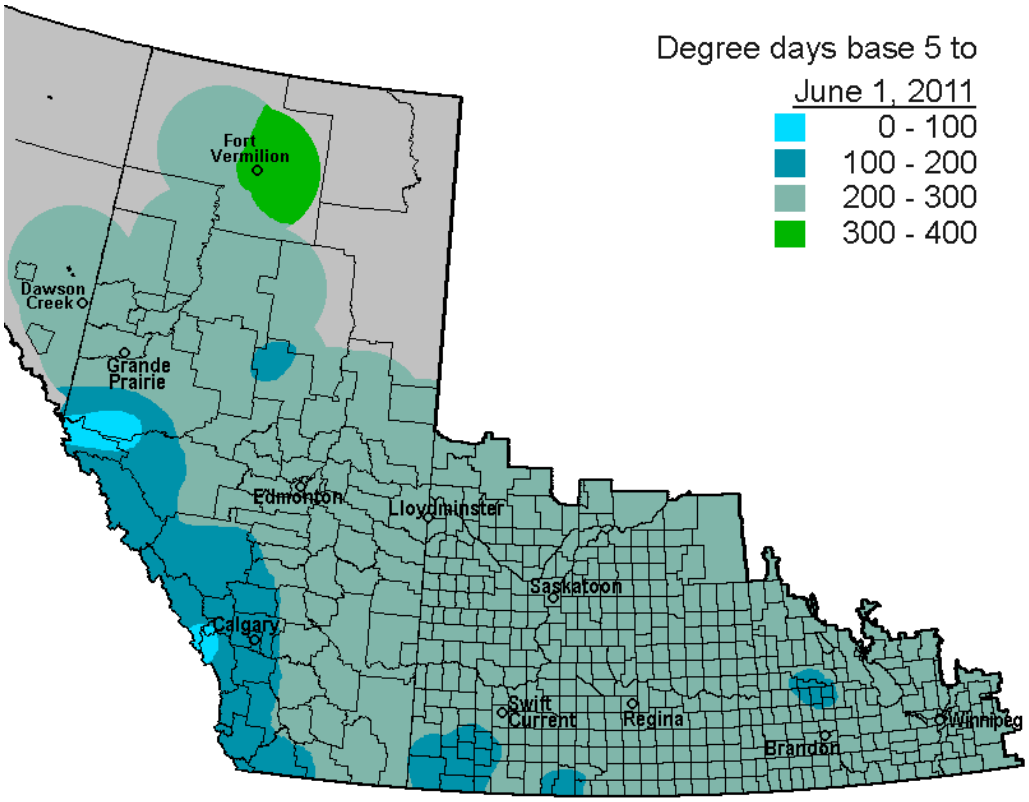
1. **Weather synopsis** – AB, as well as southern SK and MB received significant amounts of rainfall from May 23-29.



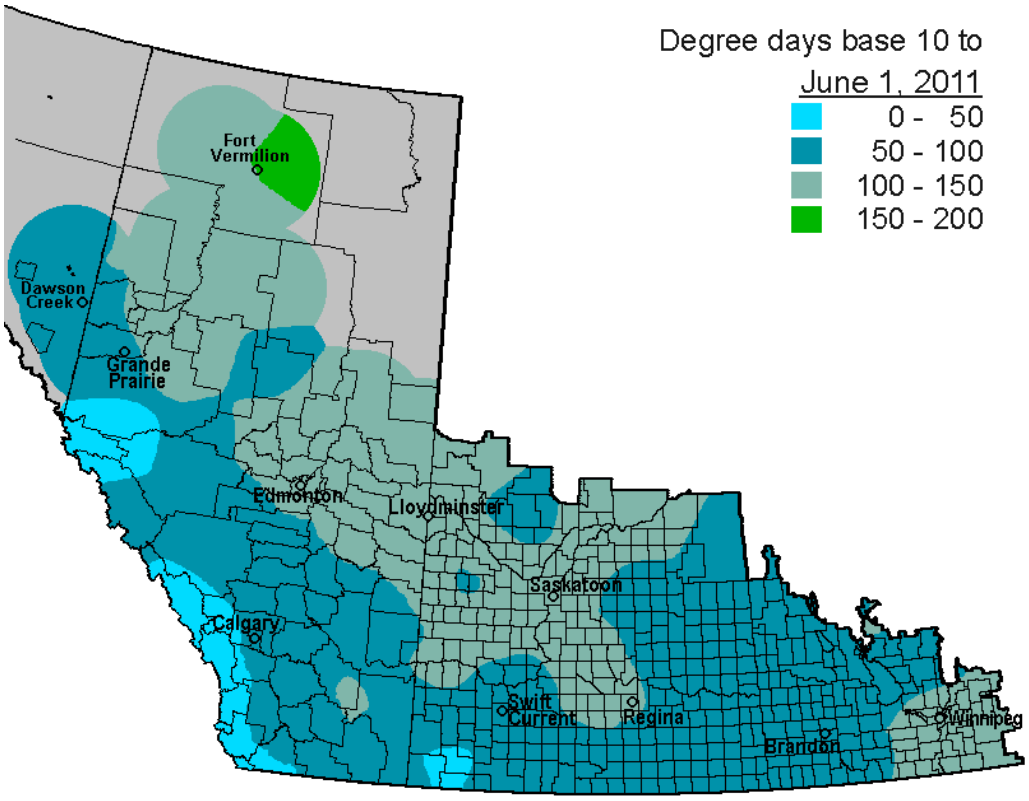
Rainfall amounts for April 1-May 29 continue to be below normal for central regions across AB and SK while conditions are wetter than normal across the south and in MB.



This is how the growing season is shaping up in terms of heat units. Here are the maps for across the prairies starting with Degree days base 5°C:



….And for Degree days base 10°C:



2. **Wind trajectories** – Last week we sent out the initial wind trajectory summary without the descriptive preamble. The following is the background summarized by Dr. Owen Olfert (AAFC-Sakatoon):

   Agriculture & Agri-Food Canada and Environment Canada continue to assess the potential of wind trajectory models to predict possible movement and distribution of invasive alien species such as diamondback moth and plant diseases such as rusts in cereal crops. The goal is to provide an early-warning system for the arrival of these migratory insects and plant disease spores into Canada. Diamondback moths do not usually overwinter in Canada and arrive here each spring carried on air currents from sources of infestation in southern North America. If diamondback moth adults arrive early in the spring the possibility exists that several generations will be produced in a growing season, resulting in numbers high enough to cause damage to canola and other crucifer crops. Pheromone-baited traps are set out each year across the prairies to monitor moth populations and to assess the correlation between moth numbers and wind trajectories.

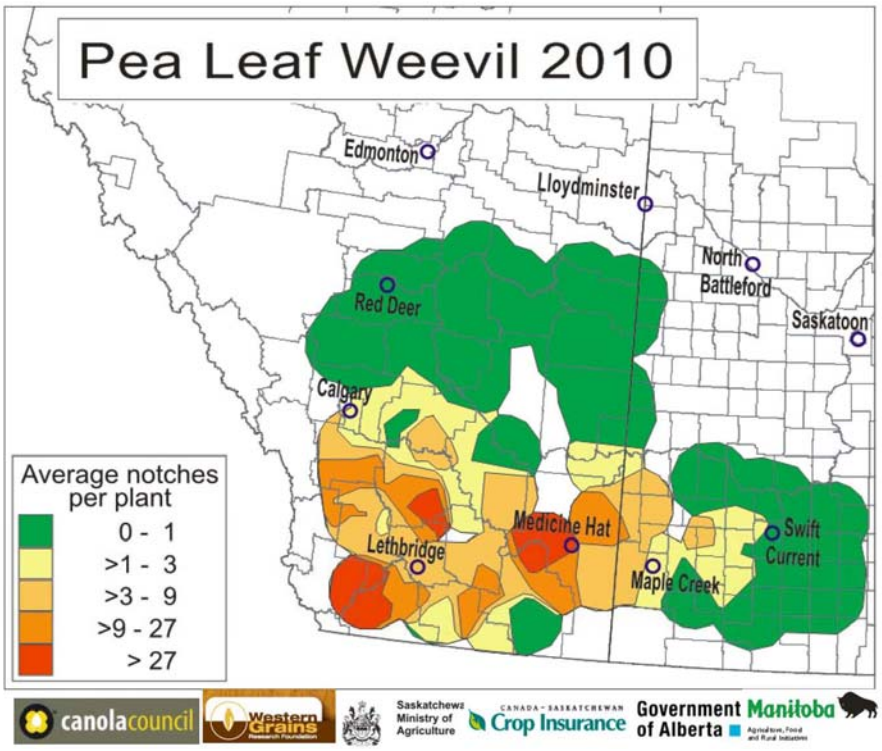
   A wind trajectory describes the path followed by an air parcel as it is affected over time by horizontal and vertical wind fields in the atmosphere. Two types of trajectories are modeled in this project, reverse trajectories and forward trajectories. A reverse trajectory models the path of an air parcel from a particular destination in Canada backward over the previous five days to a source site in the Pacific Northwest (USA) or to a source in southern Texas and Mexico where pest numbers may be high. A forward trajectory predicts the possible path of air parcels from potential pest source areas in Mexico, the southern United States, or the Pacific Northwest to their final destination five days later.

   For the week of May 24-30 there were 11 prairie locations that had wind events that originated over Washington and Oregon (Pacific Northwest – PNW). Trajectories that cross over the PNW generally cross over AB. This past week the trajectories crossed southern AB (Lethbridge) before crossing a number of locations in eastern SK and MB. There were no wind events crossing the prairies that originated in Texas and Mexico. These locations were further west than reported locations for May 12-17.

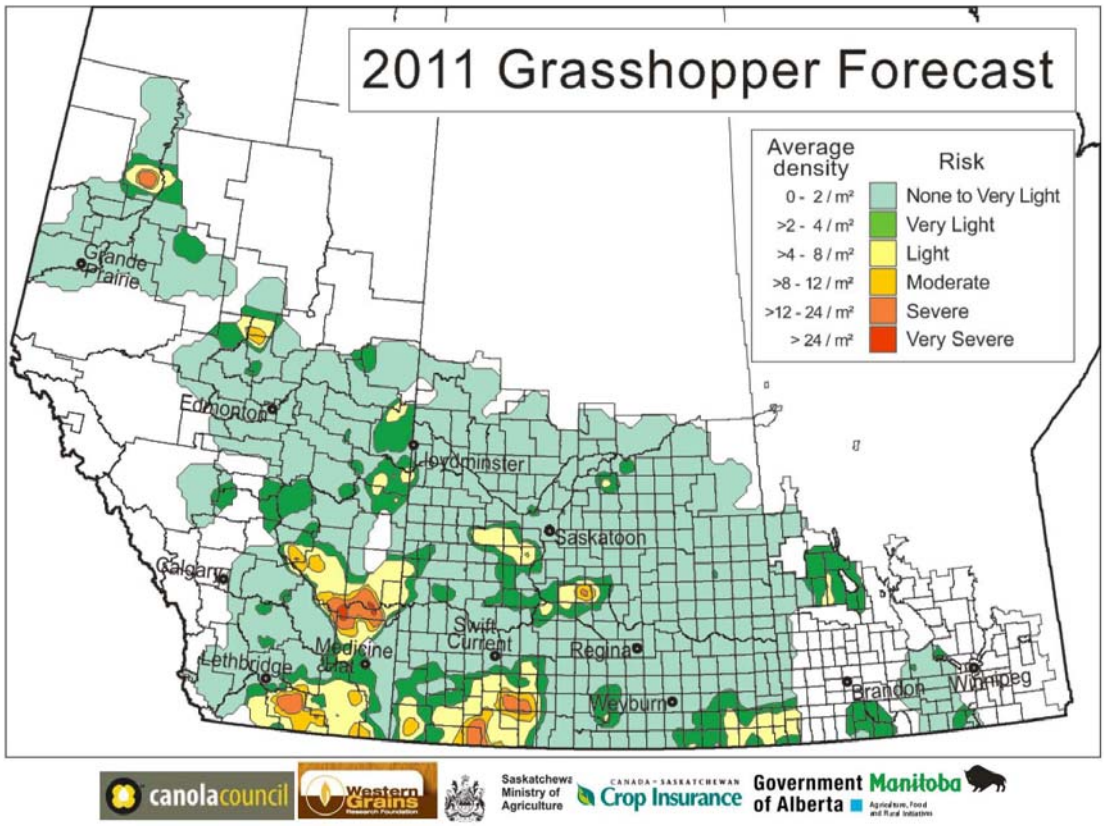
3. **Diamondback Moth** – Moths have been showing up in traps across the prairies for a few weeks now. A reminder to those of you who had your pheromone traps out by mid-April – the grey lures last 6 weeks and will need to be changed to remain attractive to the moths.

   Remember that early season DBM counts are **needed now** – the data is needed to estimate the number of generations of DBM this season and when they might occur across the prairies.

4. **Pea Leaf Weevil** – Feeding damage and overwintered adults have been reported in southern Alberta. The map below shows the results of surveying for PLW feeding damage in fields in 2010.



5. **Grasshoppers** - Over the past week there has been a marginal increase in grasshopper egg development. Egg development was greatest in AB, particularly in the Fort Vermillion region, and slowest across the southern prairies. The model also predicted that grasshopper hatch is just beginning in most locations. Just as a reminder, here's the 2011 Grasshopper Forecast Map that was circulated back in January:



6. **Bertha Armyworm** – Dust off your pheromone traps!! BAW traps are normally placed in the field in early June, just prior to emergence of adults. Remember to load the pheromone trap with the orange lure (wear gloves) and make sure the insecticidal strip is inside the base of the trap.

   Our BAW model was used to determine when BAW will have completed 80% of pupal development. The following table indicates when pupal populations should have achieved 80% development. The table should serve as an approximate guideline to determine when traps should be placed in the field. **Note that traps should be placed in the field <u>prior to the following dates</u>:**

Location	Date
Brandon MB	17-Jun-11
Calgary AB	29-Jun-11
Carman MB	14-Jun-11
Dauphin MB	21-Jun-11
Edmonton AB	22-Jun-11
Estevan AB	15-Jun-11
FairView AB	20-Jun-11
Fort Vermilion AB	10-Jun-11
Grande Prairie AB	23-Jun-11
Halkirk AB	27-Jun-11
High Level AB	22-Jun-11
Kindersley SK	18-Jun-11
Lethbridge AB	20-Jun-11
Manning AB	20-Jun-11
Maple Creek SK	23-Jun-11
Medicine Hat AB	15-Jun-11
Melfort SK	17-Jun-11
Melita MB	12-Jun-11
North Battleford SK	22-Jun-11
Prince Albert SK	21-Jun-11
Red Deer AB	28-Jun-11
Regina SK	16-Jun-11
Rosetown SK	20-Jun-11
Saskatoon SK	17-Jun-11
Scott SK	21-Jun-11
Swan River MB	20-Jun-11
Swift Current SK	23-Jun-11
Val-Marie SK	22-Jun-11

The following illustrates the percentage of heat requirements accumulated so far for BAW pupal development across the prairies: