

Green Gold Report – May 19, 2015 – EASTERN

Here is the third release for the **Optimum Alfalfa Harvest Date for 2015**. Cold, rain and snow continue to slow alfalfa growth. Tuesday AM saw frost on most fields sampled.

SITE	RFV NIR	RFV PEAQ	Height	CP
Il de Chene			8	
St Pierre	308	287	10	33
Grunthal	303	277	11	28
Kleefeld south	280	277	11	26
Kleefeld east			8	
Steinbach	304	260	13	30
Giroux	292	260	13	29
NewBothwell	286	277	11	30
AVERAGE	297.4	272.2	10.57	29.2

With some warmer weather last week Thursday to Saturday the alfalfa grew about 1 inch. The biggest growth seemed to be in the slower plots that hadn't been sampled. Presently we are at about 160 GDD which is again close to normal. Over the weekend the Eastern area received close to 2 inches of rain, we also experienced a significant frost Monday night. Weather stations in the area recorded lows in the -2 C range. Fields and alfalfa were frost covered and any laying water had ice cover up until 9 AM. Best guess is that ground temperatures were lower than -2.

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What I am Seeing

This was what I saw Tuesday AM as I started to sample fields in the SE. Alfalfa plants were coated in ice crystals. As the morning progressed the frost did burn off but the alfalfa plants remained shepherd hooked until after 11 AM but were starting to straighten. At this point it is too early to tell what the extent of damage is. The worst case scenario would be that the growing points are frozen; the plants will then have to initiate re-growth from new crown or axillary buds. This will delay the growth and developments of the crop as well as use up more of the remaining root reserves. Healthy stands will recover more quickly. Depending on weather conditions, some first-cut yield reduction and a delay in maturity can be anticipated. Where damage is uneven across a field, there can be some unevenness in maturity. If possible, delay cutting of severely affected fields to allow rebuilding of root reserves and full recovery.



In the May 11 report I mentioned that we had -3.5 temperatures from May 8th to 10th. This morning I started seeing some of the effects of that frost in a couple of fields. As mentioned in more severe cases, alfalfa stems freeze to various degrees and growing points are destroyed. Growth of alfalfa is from the tip of the stem where the growing point is located within a dense cluster of unfolded leaves. Temperatures below -4°C for 4 hours or more will damage growing points and stems will die. However, it would take a lot of hard frost to kill an entire alfalfa crown and this very rarely occurs. As you can see in the photo the tips of the plant are

wilted and dying, you can also see in the stem behind that it is healthy. In this field there was damage but it was very minimal and likely won't affect overall yield.

New Alfalfa Stands

With the early spring there may have been some new alfalfa fields established. Although conditions since the first week of May have been less than ideal if you have established a new field generally damage to new seeding of alfalfa is usually minimal. Companion crops can protect new alfalfa seedlings somewhat against frost damage. Alfalfa generally has excellent frost tolerance up to the cotyledon and unifoliate stage. Some frost damage can occur starting in the first-trifoliate stage. Only a few hours of temperatures below -4°C can kill alfalfa seedlings at the beginning of the second-trifoliate stage. After contractile growth, where the cotyledons are pulled below the soil surface to form a crown, alfalfa becomes more tolerant again. Observe new seedlings for 3-5 days after frost. Plants will initially wilt back. If the entire plant dies back to the ground, it is dead. To survive and recover, one set of leaves must survive. Reseeding may be required if less than 15 – 20 viable plants per square foot survive.