



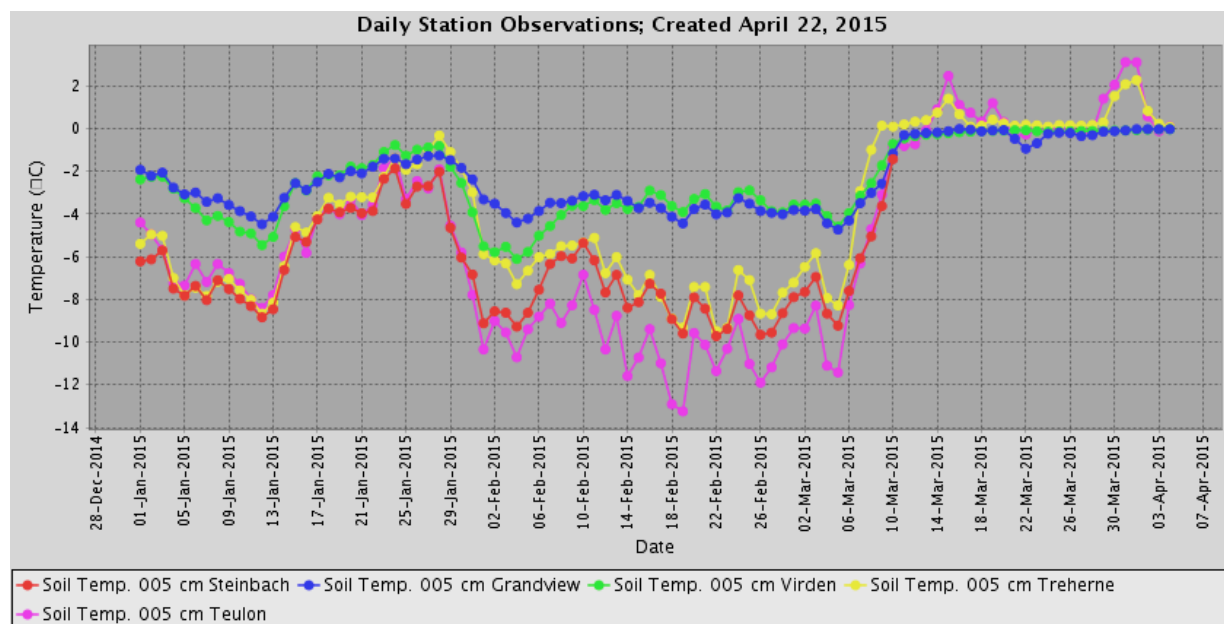
Spring Assessment of Alfalfa Stands

By John McGregor, MFGA Extension Support

When accessing alfalfa stands it is important to remember some of the factors that can contribute to winter damage. The following elements may have played a role in winter survivability this year:

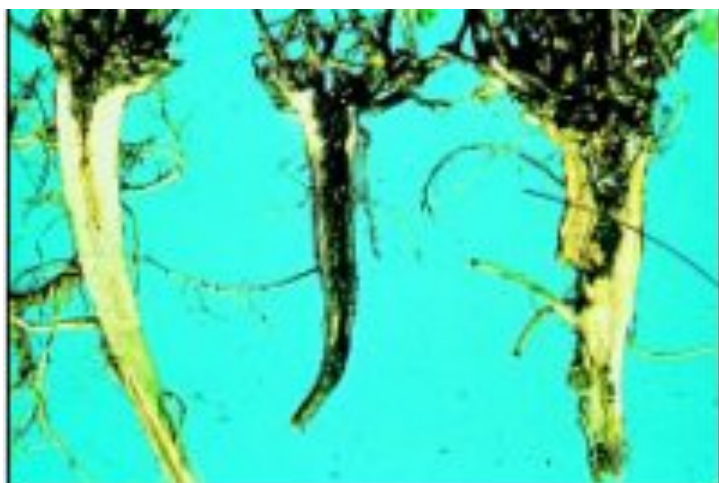
Previous management: Genetics can affect winter hardiness, fertility can affect a stands ability to store carbohydrates and dry conditions can reduce root reserves. Additionally the timing of the fall harvest can either maintain or delete root reserves that are critical for winter survival.

Soil temperatures at the crown depth: Snow cover of a minimum of 4-6 inches is required to insulate the soil and prevent freezing damage to alfalfa. With minimum snow cover this past winter in some areas soil temperatures came close to or exceeded the minimum soil temperature of -12C capable of causing winter injury. Depending on regional snow cover and minimum air temperatures, as well as degree of fall hardening, plant health, nutritive status, and soil moisture, stressed or vulnerable alfalfa stands may have suffered this form of winter injury this year.



Assessing winter injury: Regardless of winter conditions, it is always recommended to make a close assessment of stand health each spring. Winter injury may not be immediately apparent. It may be indicated by slow or uneven spring growth, or could go undetected until after the first cut.

The most direct assessment of spring plant health is root color and turgidity. Dig a few plants from representative areas of the field, and split the taproot down the center as in the picture below. Healthy roots should be off-white in color and turgid (firm and hydrated as shown on the left). Damaged or winterkilled roots will be dark, dehydrated, and “ropey” (as shown on the right and center).



If winter injury is a concern, it is also important to watch for slow or uneven re-growth, and monitor re-growth closely following the first cut. Reduced stem count or plant vigor may occur as a result of mild winter injury. For overall stand assessment, the measurement of stand density in terms of number of stems per square foot is the usual recommended measure of stand productivity. Check plants that are putting out small shoots. Sometimes the dying plants will produce shoots one to two inches tall and then die. In a pure alfalfa stand more than 55 stems per square foot is considered as no limitation to yield, between 40 and 55 will have some yield reduction expected, and stands less than 39 stems per square foot should raise questions about whether the stand should be replaced.

Depending on plant health and severity of the damage, production may decrease throughout the year, or recover. Recognize that every stand and every field is different and could require specific assessment and management planning.

Management Options: As management options are considered, remember that injured alfalfa stands can exhibit delayed re-growth, but may be capable of recovering. Be careful not to rush into alternative options if the stand can be maintained for acceptable production. If action is required, carefully consider the cost and expected benefit of alternatives with regard to the situation. Supplemental forages such as annual

ryegrass, and small grains can be inter-seeded into a thin stand or used to cover the “bad spots” if present. If a large percentage of the stand has been damaged, termination and planting of annual forages may be more appropriate. For more information go to Extending Livestock Supplies

(<http://www.gov.mb.ca/agriculture/livestock/production/beef/extending-livestock-feed-supplies-section-one.html>)