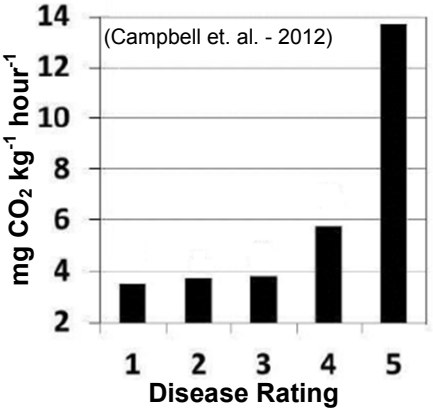
Rhizoctonia Management for 2013…

Many of you have heard the TV and radio commercials accusing different banks of having hidden fees when it comes to their free checking accounts. While this may or may not be true, "hidden fees" are very real when it comes to beets infected with Rhizoctonia – except instead of costing a couple of bucks for each transaction, these hidden fees cost our cooperative millions of dollars each and every year.

Disease Rating

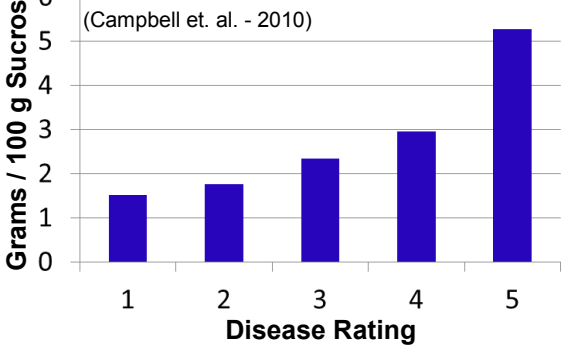
Sugarbeets are still living while in long-term storage and as such, they are burning energy (sugar) to maintain their shape, fight off infection and basically, remain alive. The rate at which they burn through their sugar is called "respiration". The picture on the right indicates a visual range of Rhizoctonia disease severity on a 0-5 scale - the higher the number, the worse the infection. Healthy beets (rating of 0-1) put into storage burn roughly 0.5 lbs of sugar per ton per day. This means that a 100,000 ton storage pile with little to no Rhizoctonia infected beets uses approximately 25 tons of sugar each day. The graph on the left represents the level of respiration 30 days after harvest of beets infected with varying levels of Rhizoctonia. You can see that as the level of Rhizoctonia infection increases, so does the level of respiration. During 2012, beets with a disease rating of 5 had a rate of respiration **that was nearly 4x** that of the beets with a rating of 0-1. Even if only 30% of the beets in the storage pile mentioned above had this level of infection, it would mean that the pile would be burning 47.5 tons of sugar per day – **almost twice as much as before!!!**

Respiration Levels 30 Days Post-Harvest



Invert sugars are another hidden fee that is often overlooked. Without going into too much of a chemistry lesson, invert sugars are the result of the complex sugar (sucrose – what we want) breaking down into two simple sugars (fructose and glucose – what we don't want). Invert sugars have a direct correlation with sugarbeet purity because once formed, these molecules have to be removed during processing just like any other impurity. In the same fashion as above, the chart below indicates the level of invert sugars associated with Rhizoctonia infection – the more the severe the infection, the higher the levels of invert sugars. Take note that beets **with a Rhizoctonia rating of 4 have twice the amount of invert sugars versus a healthy root and a disease rating of 5 has an increase over 3.5 times that of a 0-1 rating.** Now here is where the hidden fees come into play. When a sugarbeet drops from a 90% purity to an 86% purity, the 4% difference doesn't really sound like much. Just like its name, think of this on the invert. Since the average beet crop has a purity of around 90%, this means the average impurities from year to year equal roughly 10% - as such, the factory is engineered and designed to handle and remove this level of impurities during any given campaign. Using the example above, when the purity of the beets drops by 4 points, this increases the impurities from 10% to 14% - which, since we are talking about the invert, is **a 40% increase in the amount of impurities the factory has to remove.** In order to handle increases of this magnitude, factory slice is slowed down and sugar recovery drops - both of which have a dramatic impact on the beet payment.

Invert Sugar Concentration



Keep in mind that your in-field losses are only the tip of the iceberg when it comes to Rhizoctonia - Do all you can to protect your crop in-field and beyond.

2013 Post-Emergence Options for Rhizoctonia Control

PROLINE

Manufacturer:
Bayer CropScience
Formulation:
Soluable Concentrate
Active Ingredient:
Prothioconazole
Fungicide Class:
Triazole

Product Rate: 5.7 fl oz/A
Water Volume: 10 GPA
Application Method: Band, Broadcast or Aerial
Compatible with Glyphosate: Yes
Surfactant Required: Yes (NIS @ 0.125% v/v)
Maximum Application Per Season: 17.1 fl. oz./A
Rainfast: 1 Hour
Reentry Interval: 12 Hours

VERTISAN
DUPONT

Manufacturer:
DuPont Crop Protection
Formulation:
Emulsifiable Concentrate
Active Ingredient:
Penthiopyrad
Fungicide Class:
SDHI

Product Rate: 22" Rows = 30 fl oz/A and 30" Rows = 28 fl oz/A
Water Volume: 15 GPA
Application Method: Band, Broadcast or Aerial
Compatible with Glyphosate: Yes
Surfactant Required: No
Maximum Application Per Season: 61 fl. oz./A
Rainfast: 1Hour
Reentry Interval: 12 Hours

priaxor® WITH XEMIUM

Manufacturer:
BASF
Formulation:
Soluble Concentrate
Active Ingredients:
Fluxapyroxad + Pyraclostrobin
Fungicide Classes:
SDHI / Strobulirin

Product Rate: 8.0 fl oz/A
Water Volume: 15 GPA
Application Method: Band, Broadcast or Aerial
Compatible with Glyphosate: Yes
Surfactant Required: Yes (NIS @ 1 qt. per 100 gal)
Maximum Application Per Season: 24 fl. oz./A
Rainfast: 1 Hour
Reentry Interval: 12 Hours

Syngenta Quadris®

Manufacturer:
Syngenta
Formulation:
Soluble Concentrate
Active Ingredient:
Azoxystrobin
Fungicide Class:
Strobulirin

Product Rate: 22" Rows = 14.3 fl oz/A and 30" Rows = 10.5 fl oz/A
Water Volume: 10 - 20 GPA
Application Method: Band, Broadcast or Aerial
Compatible with Glyphosate: Yes (Do Not Use Deposition Aids)
Surfactant Required: No
Maximum Application Per Season: 123 fl. oz./A
Rainfast: 4 Hours
Reentry Interval: 4 Hours

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