

Soilsmart

Soil and Plant Management



Sap Extraction in Turfgrass.

Essentially a sap analysis measures the levels of carbohydrates (complex sugars) in the plant sap, it is measured in units called 'Brix' using a Refractometer.

Why Carbohydrates? Plants essentially run on carbohydrates they are designed to use the sun's energy (through the process of Photosynthesis) and produce them and in turn use them to fuel nearly all their metabolic processes.

We may think we provide plant food via fertilisers, but we are just providing minerals which can support the basic process of carbohydrate production. Brix levels provide an indication of nutritional balance and guidance about the status of several key minerals.

Brix has been used as a guide in many food crops for many years and it is commonly accepted that fruit and vegetable crops grown at high Brix levels will be sweeter, tastier, will keep in storage longer and the crops themselves will be more resistant to pests and disease.

One of the big beneficiaries of good carbohydrate production (and effective carbohydrate mobilisation) are the roots of plants, because more than half of the carbohydrates produced in the leaf is directed to the roots to grow and activate them. Some of the carbohydrates are also expelled from the roots into the soil to encourage beneficial microbial activity.

The need to monitor the efficiency of the Photosynthetic process is potentially more important in turf management than any other field of plant management. Why, because we are constantly removing leaf material (the factory for carbohydrate production) via regular mowing.

