

**Workshop Title: Albrecht Method**

**Speaker(s) & their titles:** Eltjo van Cingel, Soil, Crop and Water Solutions Ltd. (NB)

**Executive Summary**

Eltjo introduces the Albrecht method as well as its origins and variety of benefits. He also discusses a variety of nutrients and experiments he has conducted involving the Albrecht method.

**Detailed Notes**

Introduction

Eltjo starts his presentation with information on the state of soil in Hungary where there is no interest in improving the yield as they produce just enough to get by. They have rock hard soil due to compaction. But on one farm that used the Albrecht method they had 30% more pods on soybeans in just one year.

The Albrecht System

The Albrecht system looks at how heavy is the soil. Dr Albrecht was interested in the overall health of the people and turned to soil as a place to start examining health. Refer to slide 9 for a diagram of Andre Voisin's Law of the Maximum, which is that all nutrients affect levels of other nutrients. The looser soil is the more surface area on the particles for nutrients to attach; however there is a saturation point.

Agricultural Limestone

Most limestone has similar quality; it varies for you based on what type of lime you might need. Poor soil structure is connected to many other problems such as poor drainage, weeds, and disease.

Nutrients

Calcium is the "king of all nutrients" as it improves soil structure. An ideal for magnesium is generally around 12% and excessive magnesium leads to soil compaction. However, soil compaction is favourable to weed growth. Potassium works to strengthen plant stalks. Sulphur is "one of the most under-rated nutrients in farming"; however phosphate competes with sulphur for sulphates.

Fertilizer

Ideal fertilizer is slow release nitrogen and small plants need nutrients slowly. If there is excess nitrates in a plant it can suffer from increased disease pressure and higher insect pressures.

Phosphorus

Phosphorus is related to creating sugars for photosynthesis and plants with a deficiency will have purple edges on their leaves. (photo on slide 28)

Micro-nutrients: "Small but mighty"

Micro-nutrients are essential but needed in small quantities. For example, boron is needed continuously in the growing season. Copper is essential for chlorophyll production.

An example is the soil in Ontario, which has high pH. Eltjo explains that the heavier your soil is it will be healthier soil and lead to a higher yield when copper sulphate is applied.

#### Albrecht Experiment

There was an experiment conducted to prove the value of micro-nutrients. Increasing yield also increases dilution of nutrients per plant. Using the Albrecht method the experiment farm saw a 12% increase in potato yield. To keep nutrient levels at good levels not everything will need to be added each year once they have reached a certain level. For example, zinc would not need to be added every year while boron would.

In 2013 an experiment compared two separate crops of the same conventional soybean variety and the crop using the Albrecht method had significantly more leaves and rootstocks. There are many further visual examples in the slides which demonstrate that overall in the experiments corn grown with Albrecht methods grew larger, with more root stock and higher yield.

#### Growing Media Project (photos on slides 53-59)

The goal of this project was to determine the differences between crops grown in a growing medium that was balanced using Albrecht principles versus a conventional growing medium. The conclusion was, as illustrated in the photos in the slides, that overall the minitubers growing in the Albrecht media had more foliage and produced more tubers than the control.

Eltjo recommends books by Neil Kinsey as well as the website for Acres USA. He also suggests a subsoiler which ensures roots have somewhere to go and water can drain away to prevent root rot. Further suggestions are compost tea, which leads to a jump in nutrient levels, and good crop rotations also put organic matter into the soil.