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New technology helps to increase harvest yields

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New technology from Agri Technovation assists citrus farmers

A new technology is set to give the local citrus industry a boost to cement its position as South Africa's largest and most important contributor to fruit export, based on value and volume. The citrus industry has grown considerably in the last few years, establishing South Africa as the world's second largest exporter of the fruit.

Global agricultural company, Agri Technovation, has introduced new technology, the ITEST Carbohydrates analysis programme, to assist citrus farmers in establishing greater equilibrium between crops, aimed at increasing harvest yields over time.

Carbohydrates are recognised as essential for plant growth and production throughout the season and perform numerous critical roles in fruit trees and lack of storage carbohydrates inhibit flower development and fruit set.

The company explains that a shortage of carbohydrates can result in poor flowering and fruit set, small fruit, poor colour and lack of root growth, and that there is an inverse relationship between the number of flowers produced (and resulting harvest's yields) and the size of the crop produced in the preceding year.

Alternate bearing, also referred to as biennial or uneven bearing, is the tendency of citrus trees to produce a heavy crop, or 'on-crop' one year, and a light crop or no crop, called 'off-crop', the following year. This is recognised as a common problem in the world citrus industry and it appears across varieties, including oranges, grapefruits and other citrus.

Too much fruit on the tree can restrict a tree's capacity to use carbohydrates for root and vegetative shoot growth, while excessive flowering in spring restricts carbohydrate allocation to roots.

The ITEST Carbohydrates analysis programme has been developed with the objective of commercialising the interpretation of the results of carbohydrate analysis and as an analytical technique to assist growers to reduce alternate bearing. Agri Technovation asserts that its analytical facility in Wellington, South Africa, is equipped to routinely measure sugars and starch concentrations in leaves and roots at certain physiological stages throughout the season. This can

lead to the timely development of management practices that will help producers to ensure optimal plant growth and annual produce.

Agri Technovation says that its analysis programme has been well received by farmers that see the value of the new technology in better managing 'on-off' crop cycles and that international markets, including the US, Australia, Spain, New Zealand, Peru and Argentina have also sent samples to Agri Technovation's Plant Physiology Research Centre and received good results.