Plant management for generative or vegetative steering

The term plant balance describes where plants put their energy in. It can be described in various ways: as the balance between leaves and fruit, or between vegetative and generative, or between ‘source’ and ‘sink’. It all has to do with energy, leaves and fruit per square meter.

‘Source’ refers to the amount of assimilates (sugars) that are produced by the plants due to photosynthesis. ‘Sink’ refers to the absorption of those assimilates in growing organs, such as fruit, plant head, young leaves and roots.

The terms ‘vegetative’ and ‘generative’ can only be used for crops that produce flowers and/or fruit. If in a certain period, a plant puts most of its energy into leaves, and not much into fruit, we call this plant vegetative. At another point in time, the same plant can be heavily loaded with fruit, while leaf growth is limited.

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A seminar series focused on technologies widely uses these tests as core to ensuring client-optimised better estimating the needs of the crop. Serve-Ag in Australia both nutrient amendment and timing of applied nutrition by while these tests are not new, they are new to New Zealand in the past.

Serve-Ag technical authority Doris considered that tools for monitoring crops as opposed to or look out for further seminars in 2007. 

Serve-Ag technical “guru” Blaesing recently visited New Zealand for a seminar series focused on technologies for crop monitoring. 

DHM Labs (NZ) Ltd of Pukekohe, 45 Kitchener Rd, Pukekohe Phone/Fax 09 238 8214, via the website www.dhmlab.com learn how to drive the new tests, help is available through DHM laboratories on (09) 238 8214, via the website www.dhmlab.com.

While these tests are not new, they are new to New Zealand in the past.

The advanced nitrogen probe, ‘N-Check’ is widely used in EU countries. It is inevitable that change will come to New Zealand in this regard. Currently, Environment Waikato are looking to the environmental anti-leaching legislation in place in most EU countries. It is inevitable that change will come to New Zealand in this regard. Currently, Environment Waikato are looking to the environmental anti-leaching legislation in place in most EU countries.

Efficient nitrogen use helps you minimise nitrate leaching losses so you are ‘doing right’ by the environment too.

Early detection aids prevention of unbalance later in autumn, and keeps the plant in good shape until the end of the season.

Some tomato growers apply truss pruning in order to increase the size of individual fruit. If a larger grade is paid better than a smaller grade, they choose to sacrifice some fruit. If this is in summer, it is important to keep an eye on the sink-to-source ratio. Removing fruit may increase the surplus of assimilates, and aggravate the unbalance in the plants. The same holds for fruit with blossom-end rot. If plants are out of balance due to insufficient sink, it is better not to remove any fruit prematurely.

Speeding up fruit ripening and harvest green fruit

The last action to mention in this article is plant control by ‘unloading’ the plants, i.e. to shed some fruit. If there are too many fruit on the plant for the average light conditions, the plants will suffer. In capsicum it is ‘normal’ that plant growth comes to a complete halt when fruit are growing out. If this lasts too long, it can be a worry. After all, capsicum plants need to grow further and produce new flowers to continue the production. An effective method of stimulating growth is by off-loading some fruit. Firstly, fruit ripening can be sped up by increasing the temperature. Secondly, some fruit can be harvested before they are completely ripe: harvesting green capsicums or partly-green tomatoes. The same principle applies to other crops too. Unloading will make more assimilates available for the plant. This will restore plant balance and benefit the production in the long-term.

This article is part of the project ‘Improving Sustainable Greenhouse Vegetable Crop Production’ funded by Horticulture NZ and MAF Sustainable Farming Fund.