

APPLES AND POME FRUIT

Quality and Yield issues for Optimum Production

IMPORTANCE OF BALANCED NUTRITION

Balanced nutrition plays a major role, if not the biggest role in the production of quality produce and the regulation of tree growth. The aim of the grower should always be to optimise fertiliser practices and never cut costs by cutting out on fertilisers. All tree crops have nutrient demands and these demands vary among the many crops. Over the years, growers have had the tendency to use larger amounts of Nitrogen which can lead to nutrient imbalances and even promote the onset of pests and diseases.

Today's grower has to work under professional guidance. A lot has been said recently about balanced nutrition, but little is done to achieve it. Balanced nutrition can only be achieved when all nutrients are looked at simultaneously. The old methods of interpreting analytical data regard one mineral at a time and this is unable to take interactions and lock-ups into account. Zadco can offer the right tools to improve production and management of apples and pome fruit.

TISSUE TESTING

Nutrient concentrations in plant tissues are the most accurate indicator of the nutritional health of fruit crops.

The presence of nutrient deficiency symptoms indicates an acute shortage in the plant that may have reduced yields or fruit quality. Avoid these losses by using tissue analysis to identify nutrients approaching deficiency levels before yields decline or symptoms appear. The technical staff at Zadco can provide you with all the right analyses and recommendations you require to achieve the best crop possible.

A BUMPER CROP EVERY YEAR

For the last 2-3 seasons, Mr. Joe Saliba has been achieving outstanding results from his apples and peaches using Zadco products and programs. Mr. Saliba has noticed several changes in his crop,

primarily being changes in colour (crops harvested up to 2 weeks earlier) as well as increased fruit size, of more equal/ uniform size (Pictures below). More-over, Mr. Saliba has noticed changes in fruit firmness, and post harvest manageability and storability.

These are all important features of fruit quality and at the end of the day, they bring back the dollars. The effects of fertiliser management can be tough to gauge, even when you suspect the program is working. The changes are very subtle and very slow. As the commercial sates, "It won't happen overnight, but it will happen."

Regular leaf analysis, and the use of the right fertilisers, including those supplied by Zadco, at critical stages of production ensured that the trees were receiving all the necessary elements required for optimum production.



Pictured above: Mr. Joe Saliba with his Red delicious apples and to the right is a picture of his gala apples 1 month before the estimated harvest date.

"Many growers, just like myself, find it hard to figure out on a balance sheet exactly how much an investment in fertilisers returns to the growers bottom line, but I have seen the differences the Zadco products, such as K-Forte, Bio-Size, Tri-D25 and Mobilizer have made on my orchard. I would recommend these products to any grower who feels there is something to improve on, or for those who want the best!"

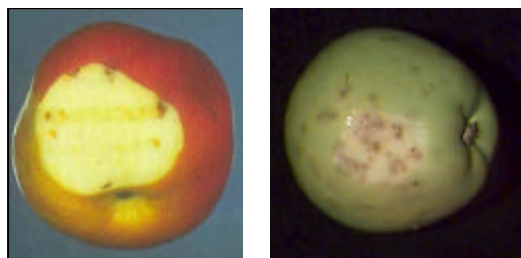
CALCIUM- HOW CRITICAL IS IT?

Calcium is one of the most critical elements in the structure of the tree and fruit.

Deficiency: Calcium deficiency occurs at the shoot tip, with either loss of the growing tip, or the formation of stunted, pale yellow leaves.

- ... Is associated with die back of shoots and roots.
- ... Delays and may even inhibit bud burst in the following season.
- ... Irregular cropping is also caused by Calcium deficiency.
- ... Affects the post harvest quality (keeping quality) of fruit, primarily the fruit skin quality.
- ... Induces fruit splitting and cracking.
- ... Trees become susceptible to pests and diseases due to weaker cells from a lack of Calcium.
- ... It is important to apply Calcium after fruit set because it will assist in the cell division process and reinforce the fruit cell membrane. Continuously re-apply Calcium throughout the season to ensure levels remain adequate.

Deficiencies are rare if the right form of Calcium is used. Inadequate Calcium levels in apple fruit may result in disorders such as bitter pit (pictured below) or internal breakdown, or premature softening.



Not all forms of Calcium sprays (e.g Calcium chloride) are readily available to the plant, as Calcium is not very mobile. The application of Calcium Chloride will cause phytotoxicity over a long period of time due to Chloride accumulating on leaves, as well as interfering with the uptake of Potassium.

The remedial product **BIOMIN CALCIUM** offers an immediate FOLIAR solution to any Calcium deficiency present as it is chelated mainly by Glycine and other natural organic acids and is taken readily into the plants' system.

WE HOPE YOU HAVEN'T FORGOTTEN TO PUT ON YOUR TRACE ELEMENT APPLICATIONS BEFORE DORMANCY.



For next season, keep the BIOMIN range in mind. Magnesium (12%), Boron (15%), Zinc (20%), Iron (18%), Manganese (18%), and Copper (17%) as individual products, Booster V which contains all the trace elements combined.

TRI-D25 - A MUST FOR YOUR SOIL!

Recently there has been a lot of hype around the use of *Trichoderma* as an alternative to chemical control on many detrimental fungi. **TRI-D25** has shown promising results in all major industries. Using **TRI-D25** has shown many rewards; abundant root proliferation, improved growth and vigour, healthier trees, and accordingly, better quality fruit. (Tri-D25 can aid in suppressing soil borne pathogens.)

Make sure you get Tri-D25 into your soil and detrimental pathogens out!

LATEST IN SOIL ADDITIVES:- **MOBILIZER!**

SOMETIMES WHAT LOOKS LIKE UNDER-FERTILISATION IS REALLY UNDER-UTILISATION.

Mobilizer reduces the precipitation of Phosphorus, mobilises Calcium, Potassium, Magnesium and trace elements.

It increases the availability of Macro and Micro nutrients by increasing the permeability of the cell membrane.

It increases the Chlorophyll content of the leaves, hence better leaf colour.

It is a buffer and **can be used on all soil types**, regardless of the pH. It is known to aid in leaching Sodium out of the soil. It can be used as a foliar spray and makes the mixing of chemicals easier.

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