MASTERING THE ART OF FERTILISER SCIENCE MANAGEMENT

An Example of RLF Crop Nutrition that Grows Better Sugar Oranges

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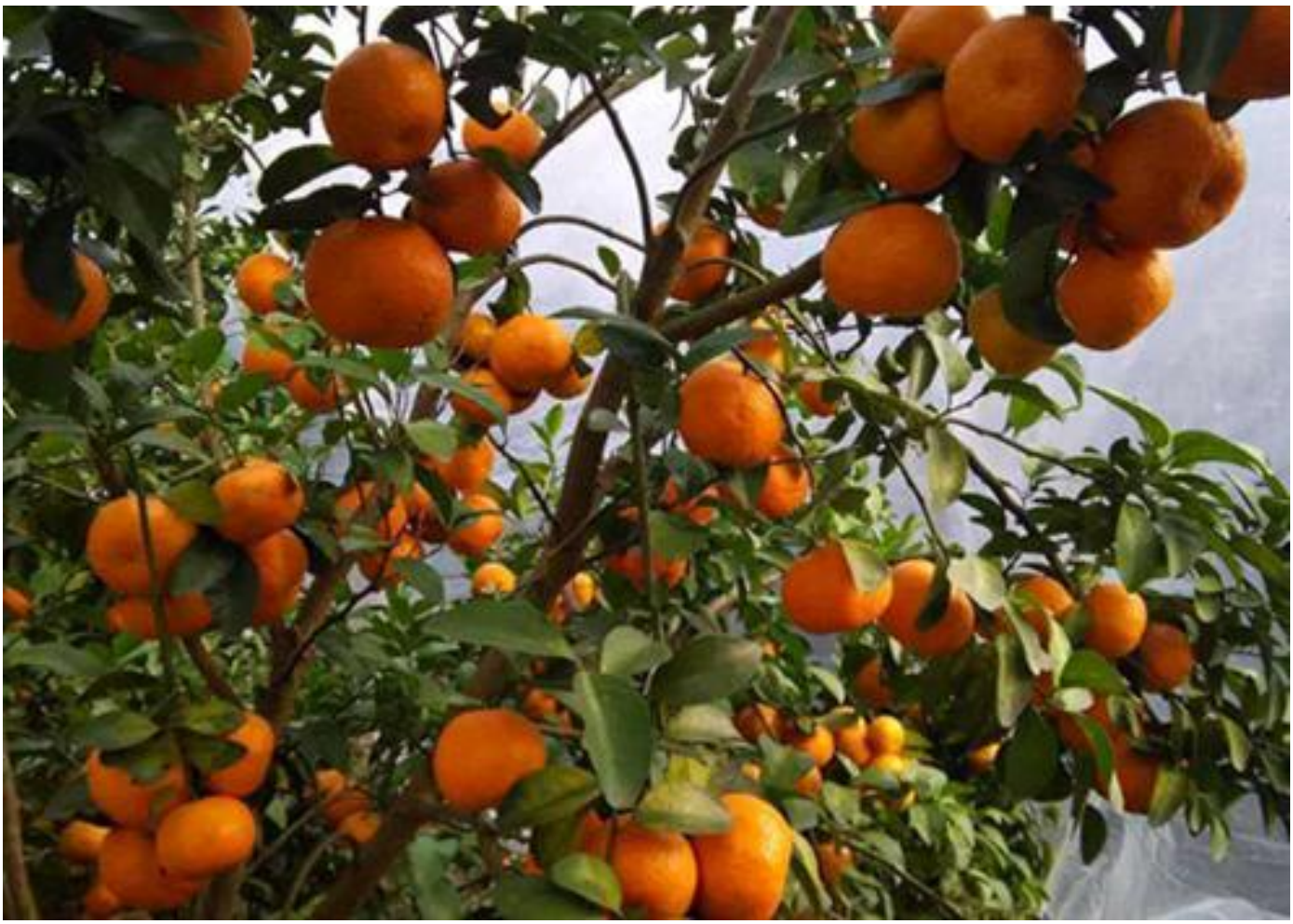
Harnessing Crop Nutrition Science for the Sugar Orange



Farmers who grow sugar oranges need to have the courage to look to modern fertiliser practices that are scientifically based on the needs of this particular fruit crop. This is the advice growers in Guangdong Province, China were given recently.

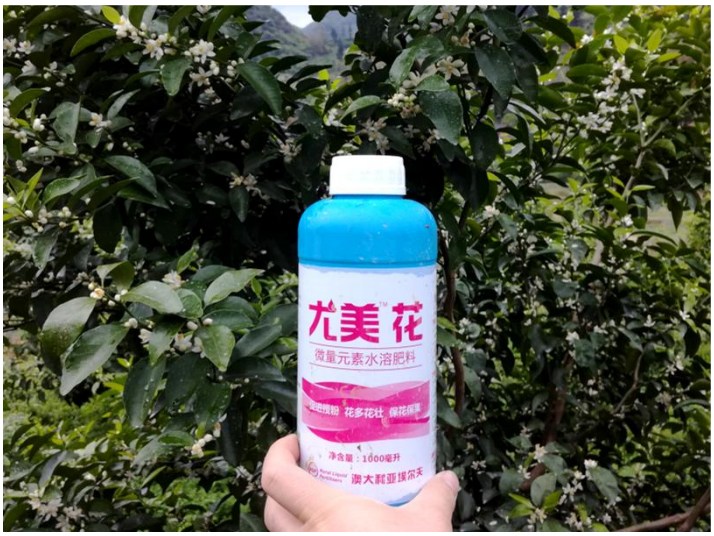
March is bud growth stage for the sugar oranges, and on 10th March 2018 the RLF technical team visited Taoyuan Town, (Qingxin District, Qingyuan City), Guangdong Province to guide the growers in applying a specialised flower promotion fertiliser for the very first time.

The sugar orange has a large number of flowers, and the fruit setting rate is naturally low, with sometimes only 1% - 2% setting. Its physiological fruit drop is particularly serious, therefore it is very necessary for farmers to take flower and fruit retention measures. Systematic management is needed for flower and fruit retention, closely linked with the management of flower bud differentiation, flowering period, physiological fruit drop period, and so on. Whether this work is done well or not, directly relates to the production and quality of the sugar orange, and is the most important part of growing this orchard crop.

RLF's Specialty Crop Nutrition Program

Flower promotion period

Foliar spray with RLF **Plasma Power** at 1,000 times dilution plus algaes fertiliser at 2,000 times dilution. The **Plasma Power** is rich in phosphorus, manganese, zinc and other trace elements, which are easily absorbed by the trees. The spraying of it in flower bud differentiation and flower bud stage can help to regulate the growth of the sugar orange plants, promote the growth and development of flower buds, reach the effects of strong shoots and strong flowers, and reduce the risk of falling buds.



RLF products in flower promotion period are beneficial

Flowering period and first-fruit drop

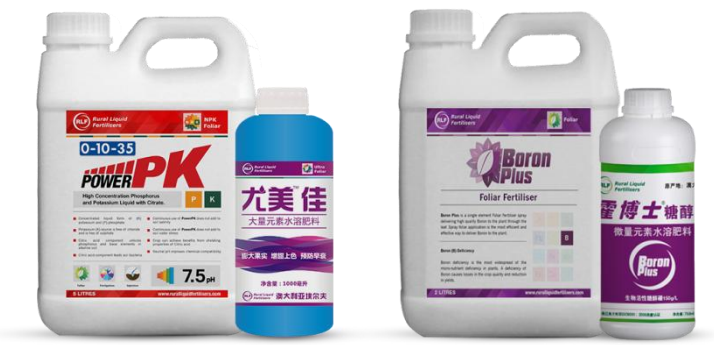
About 10 days later, the sugar orange trees are at flowering stage. During this period, the temperature is low and occasionally there is rain. If the quality of the flower is poor, the accumulation of nutrients in the tree is not enough which will affect the pollen viability and the receptivity of the stigma.

Obstacles to pollination and fertilisation, resulting in serious flower falling and severe first-fruit drop are easy to cause.

The flowering period of sugar orange trees

Foliar spray with RLF **PowerPK** at 1,000 times dilution together with **Boron Plus** at 1,000 times dilution. The high phosphorus and potassium content contained in RLF **PowerPK** can meet the demand of the sugar oranges with high efficiency supplementary nutrition. And boron is one of the indispensable elements of flowering and fruit setting.

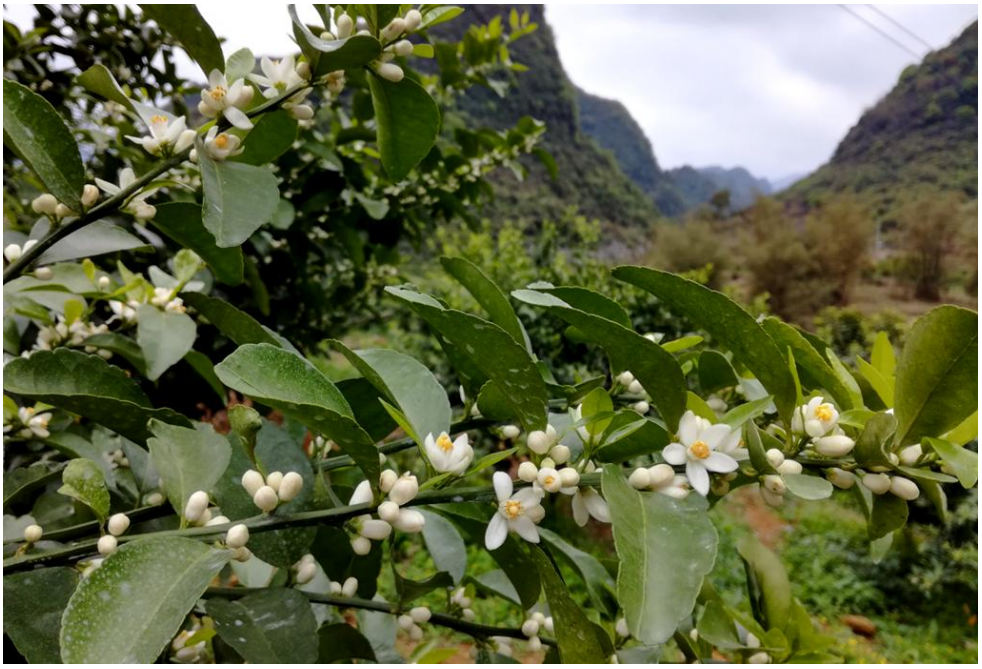
Boron deficiency during flowering stage can lead to malformed and weak flowers, poor pollination and fertilisation and low fruit setting rate. RLF **Boron Plus** can prevent flower failure, flower bud loss, fruit malformation and other physiological diseases caused by boron deficiency. It also has the good effect of protecting flowers and fruits.



The Next Step in the Crop Nutrition Program

After two phases of spraying, the RLF technical team revisited the sugar orange orchards to check on the application effects of the RLF products. This visit was on 26th March 2018.

Those sugar orange trees treated with the RLF crop nutrition program had stout branches, bright green leaves, and a profusion of flowers with large and uniform buds.



The RLF-treated sugar orange trees are full of flowers

The subsequent fruit setting result was also very good.

There were fewer malformed fruits, even young fruit size had shiny peel, which echoed with the colour of the leaves. The sugar orange trees were robust and lifelike.

The healthy sugar orange tree growth

Seeing the vigorous growth of the sugar orange trees, the local growers were very appreciative of the effects delivered by RLF products and asked for advice about the follow-up processes.

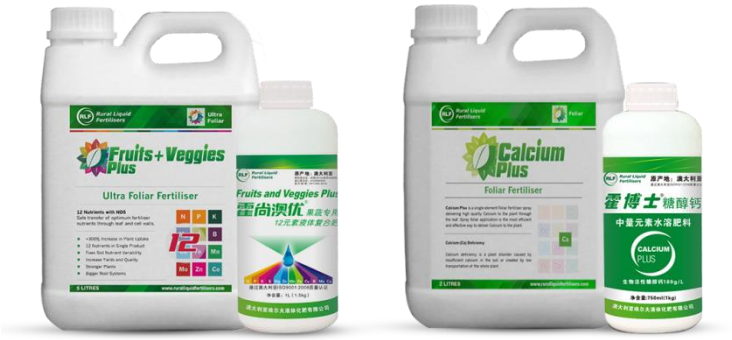
The second fruit drop period

In May, the weather began to turn into the hot summer with higher temperatures and more sunshine. The young fruit expand rapidly during this period and enter the second physiological fruit drop period. This period is a time when sugar oranges grow more vigorously and need more nutrients. Not only does fruit growth need nutrients, but branches and leaves also need them. Most nutrients stored in the individual fruit trees from last winter have been depleted after flowering and germinating. And the leaf organs of the tree itself have not yet fully grown, which easily causes a short supply of nutrients and is the reason for fruit drop.

Fruit drop of the sugar orange trees

The Next Step in the Crop Nutrition Program

Foliar spraying with fertiliser is the fastest and most effective way to supplement the nutrients of the fruit trees. Foliar spray RLF **Calcium Plus** at 1,000 times dilution at 7-10 day intervals. Also, a foliar spray with RLF **Fruits & Veggies Plus** at 800-1,000 times dilution at intervals of 10-15 days. RLF **Fruits & Veggies Plus** contains 12 essential nutrients necessary for plant growth. It can fully supplement crop nutrition, effectively reducing fruit drop. This ensures high yield.



Fruit expanding period

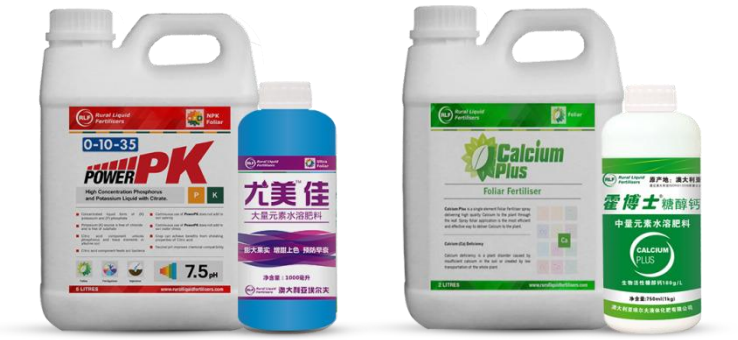
The problem most likely to occur during fruit enlargement period is the cracking of fruit. The main cause of cracking may be the imbalance of the hormones in the tree, or the lack of certain trace elements such as potassium, calcium and boron for example.

These factors will cause poor skin elastic and cushioning, low strength of peel and poor strain. The peel will be broken when the fruit flesh is squeezed gently.

Showing the effects of fruit cracking on the sugar orange

The Next Step in the Crop Nutrition Program

Foliar spray with RLF **PowerPK** at 1,500-2,000 times dilution together with **Calcium Plus** at 1,000-1,500 times dilution at intervals of 7-10 days. It not only supplements trace elements such as potassium and calcium, but also enhances the ability of the trees to resist the adverse effects of the environmental and climate stresses. This reduces the fruit cracking.

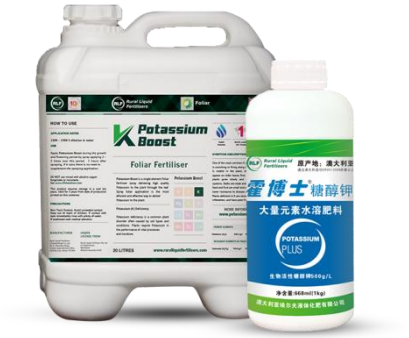


The colouring, sweetening and enlargement period of sugar orange

In the later period, the sugar orange begins to enter the critical period of colouring and sweetening. In fact, the degree of colouring and sweetening is directly related to the amount of sugar accumulated in the fruit. The more sugar content, the brighter the fruit's colour will be. And, the sweeter the taste, the higher the fruit price will be. Therefore, during this period, in order to obtain a good price from the purchaser, the key nutrients such as phosphorus, potassium and calcium must be supplemented in time, which is conducive to the sweetening and weight gain of the fruit.

The Next Step in the Crop Nutrition Program

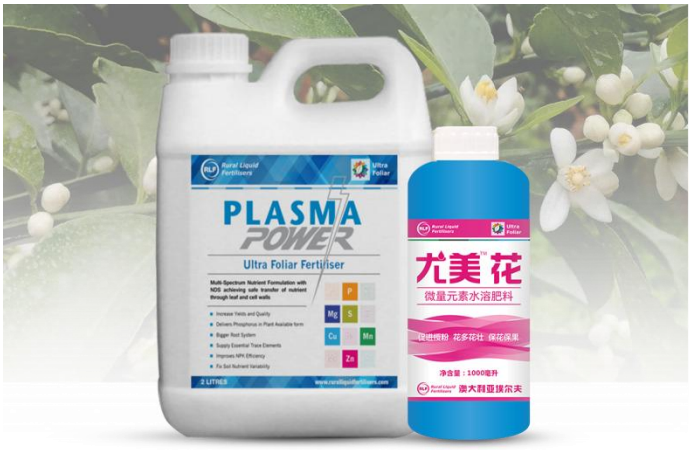
Foliar spray with RLF **Potassium Boost** at 800-1,000 times dilution at intervals of 7-10 days. RLF **Potassium Boost** is rich in trace elements such as phosphorus and potassium, and this helps the sugar orange to mature as beautiful fruit, with sweeter taste and improved quality.



Mature sugar orange trees have more fruit because of their relatively higher nutrient consumption. If they are not managed with a timely supply of water and crop nutrition fertiliser the sugar orange trees' growth will decline and show symptoms of a low fruit setting rate, poor quality and low yield. Only by implementing a well-managed program of water and nutrition can the growers maintain the balance between supply and demand of the sugar oranges to achieve the goal of high yield, stable production and high quality fruit outcomes. These crop outcomes are what drives price at market and good financial returns to the grower.

Beautiful, healthy, high-quality mature sugar oranges

The RLF Products Used



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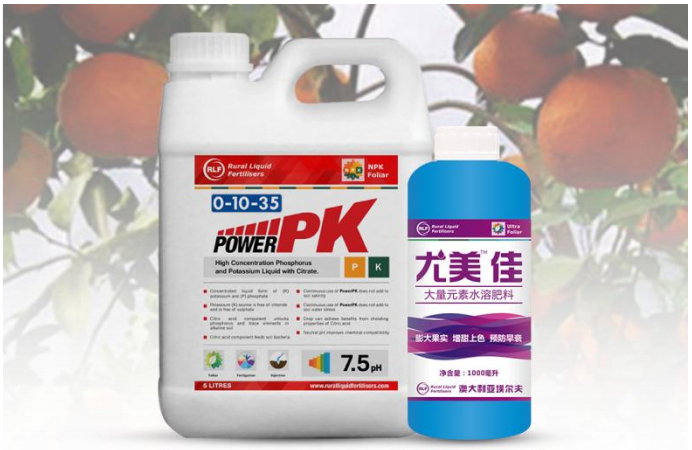

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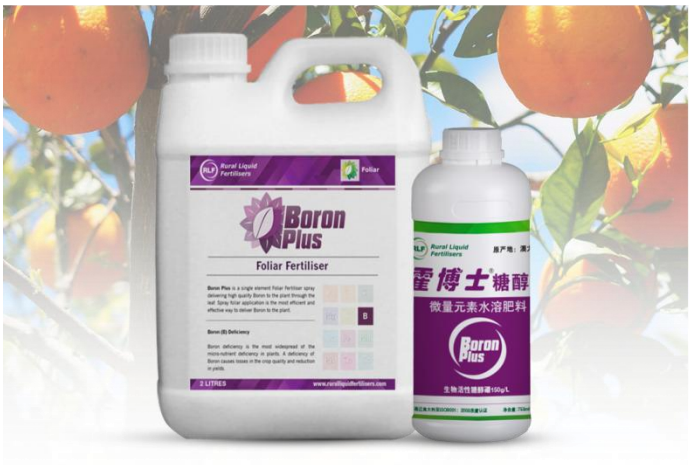

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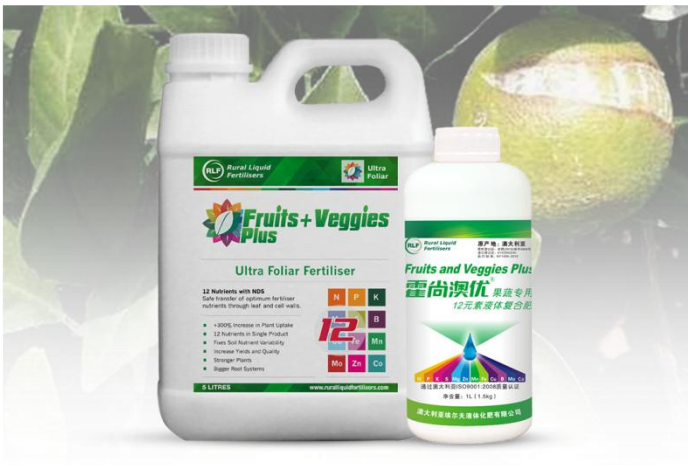

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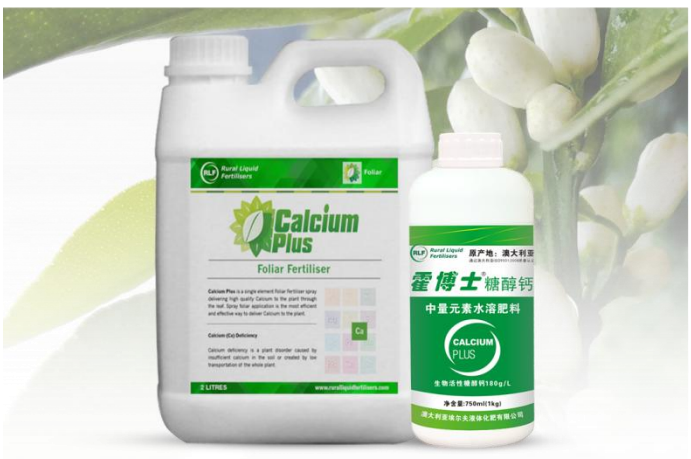

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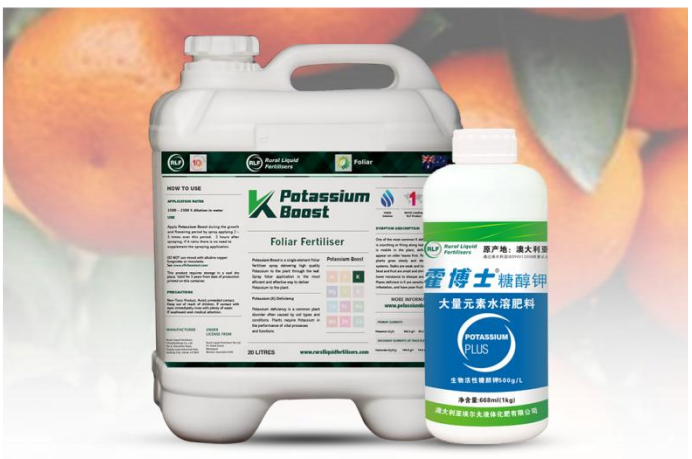

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