PROOF OF HIGH YIELD FERTILISER PROGRAM FOR PEANUT

Combining BSN Seed Priming and Broadacre Plus Ultra Foliar for better results

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The Observation Tour Begins

China is the No.1 peanut producer in the world, and the Henan Province is a famous peanut producing region in China – especially on the eastern plain and in the farmland areas on both sides of the Yellow River. This region has gained a great reputation for peanut production all over the country.

But, peanut has unique fertiliser requirements.

As a crop, it needs more nutrients, and has more diseases and insect pests to contend with. Therefore, it is necessary to scientifically understand the peanut plant's physiological needs so that growth cycles and the management of likely disease and insect attack can be adequately catered for.

Spring is the key time for peanut pegging and for work to commence for summer peanut field management.

In June 2017, the Managing Director of Rural Liquid Fertilisers (RLF) Ken Hancock accompanied General Manager RLF China Dr Mike Lu, and Sales Director of Northern China Regions Xi Juqun, on a field visit to Mengzhou, Henan Province to review the in-field research being carried out by team members. A high yield technical program involving a combination of seed priming with **BSN**, followed by a foliar spray with **Broadacre Plus** Ultra Foliar together with necessary crop protection chemicals to counter pest attack had been implemented.

The group photo of research members, with Mike Lu second from left and Ken Hancock third from left.

The RLF research members personally experienced the results of the commonly called the 'two mixed three spray' program through observation and comparison.

What the Team Observed

- The peanut planting time in Control field was 27th April 2017.
- The peanut planting time in the RLF Experimental field was 1st May 2017 (three days later).
- The technicians randomly selected two sets of peanuts with similar growth from both the experimental and control fields upon which to make comparisons between flowering number, root development and effective leaves.

Listening to technicians explain the application effects of the peanut 'two mixed three spray' program

Comparison of Flowering Growth

- The flowering number of the two peanut plants pulled from the RLF experimental field is 31 and 27, adding up to a total of 58.
- The flowering number of the two peanut plant from the control field is 28 and 19, adding up to a total of 47.

The experimental field shows a greater number of flowers, more even and stronger flowers.

Comparison of Root Development

- The peanut plant from RLF experimental field has highly developed roots with numerous, strong hair and axillary roots.
- The peanut plant from the control field has less hair roots with a weaker root system.

Comparison of Effective Leaves

- Although the peanut plants in the RLF experimental field have less leaves, they are plump and roomy, and the plants are robust. There are more 5-leaf branches.

- In contrast, the peanut plants in the control field have small, thin leaves and the plants are smaller.

Summary of Comparisons

The peanut plants taken for comparison have great differences in flowering number, root development and effective leaves. The different style of crop fertiliser practice can be clearly seen between the two fields.

Managing Director Ken Hancock, together with the RLF China Team recognised the scientific and practical value of promoting the integrated management program for high yield peanut cultivation. Firstly, by giving the crop the best possible start with seed priming, followed by foliar application of all essential nutrients for continued root growth and development, vigorous, strong and healthy plant top growth that delivers high yielding peanut crops with excellent value peanut.

According to the trial farmer, Li Sanhu, when compared with other management practices, the average yield of RLF's fertiliser practice for summer peanut in 2016 showed an increase of 200 jin (100 kg) per mu under the 'two mixed three spray' managed program. He went on to say "and full of good plump peanut and good price".

According to the results of the in-field research and observation tour, this year will be another bumper year. Let's sit back and wait for the results!

Result of last year's peanut crop treated with the RLF program and products

What is the 'two mixed three spray' program?

Firstly – Two Mixed

Use RLF seed priming product **BSN** in accordance with directions for peanut crops before sowing.

The seed dressing is combined with pesticides and biocides so that it can:

- prevent the peanuts from the damage caused by underground grubs and overground aphids
- alleviate seedling death caused by root rot and basal stem rot
- make neat and strong peanut seedlings with healthy roots

BSN Seed Priming

(It is suggested that each bag of seed priming can be used for 25-30 jin (13-15 kg) peanut seeds, although advice should be taken because different areas may have different soil conditions that may require a different dose).

50ml of **BSN** is suitable for 50-60 jin (25-30 kg) peanut seeds. It can be separately primed, or be mixed with a formal seed coating agent. This will ensure that the:

- biochemical chelating phosphorus, sulphur, molybdenum, manganese, zinc, copper, cobalt and other functional elements can fully enter the seed and provide sufficient balanced nutrition for seed germination
- SDS (seed delivery system) can enhance seed germination dynamics and bud potential, and stimulate seed energy
- stimulation and regulation of plant growth, to strengthen the root system and improve root soil absorption efficiency
- root microecology will be improved and give enhanced plant stress, disease, drought, and cold resistance ability and to reduce soil borne diseases

How to Use

Use 5ml **BSN** with 15-20ml water for every kilogram of seed. Mix well. After 30 minutes the nutrition is fully absorbed. Sow seeds after airing.

Secondly – Three Spray

According to the growth characteristics of peanut, farmers can realise fruitfulness, good maturity and high yield by adopting all aspects of the scientifically research program.

RLF **Broadacre Plus** is an Ultra Foliar product rich in the needed nutritional elements such as nitrogen, phosphorus, potassium, sulphur, magnesium and a further seven important trace elements. It ensures highly developed root systems, robust crops, increased soil-based fertiliser/nutrient utilisation, improved soil and crop deficiency resistance, and enhanced quality and yield.

Broadacre Plus Ultra Foliar

How to Use

It can be used during the whole growth period of the crops. (Note : if caught by rain, it does not need additional spraying if the rain event occurs after two hours from the foliar spraying).

- In early, establishment growth phase use **Broadacre Plus** at 800-1000 times dilution sprayed directly onto the leaves.
- In middle and late growth phase, use **Broadacre Plus** at 500-800 times dilution.

After application, significant yield increases have been noted with grain crops increasing by 10%-30%, and other cash and/or horticultural crops increasing yield by as much as 80%.

Broadacre Plus Ultra Foliar is compatible for mixing with a wide range of crop protection products and information exists to help with these decisions.

The benefits expected from each foliar application are as follows:

First Foliar

In the peanut flowering period the main role is to make peanuts flower more and have greater fruit set. This establishes greater or improved peanut yield.

Second Foliar

At the peanut pod setting stage, when the seedlings are about 30 centimeters height, attention should be paid to maintaining soil moisture both before and after spraying. The main role is to control growth, promote nutrient transfer to the roots, establish fruitfulness and good maturity with improved fruit set.

Third Foliar

During peanut mature phase (usually 15-20 days before harvest), it prevents leaf spot disease and protects both stem and leaf so that the peanuts do not wither or die early due to culm (hollow, weak stems). Additionally, it can increase the plumpness of the peanut and yield outcome.

Observation trials show that as long as the 'two mixed three spray' program is maintained peanuts can increase production by 30%. Further, each Mu can have increased income of about 500 yuan (AU$97).