



***Rural Liquid  
Fertilisers***



# Demonstration + Evaluation Trial Protocols and Guidelines

***Trust. Grow. Yield.***



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## RLF TRIAL AND EVALUATION PROGRAM GUIDELINES

### PREFACE

Thank you for considering your participation in an RLF Product Trial and Evaluation program.

From years of experience RLF understands that Trials are often variable and unpredictable. In order to better manage Trials we have come up with this preface, which is based on our experience with Trials over the past 25 years. RLF has conducted hundreds of Demonstration and Evaluation Trials all over the world, and in a wide variety of crops and cropping environments. RLF has also sanctioned dozens of Independent Replicated Trials that are, by and large, conducted by scientists in the government institutions.

There are however many factors that can influence the outcome of the Trials even if we design and run a Trial accurately and with acceptable standards. It is to this end that the **GUIDELINES FOR DEMONSTRATION TRIALS** document is prepared.

### Role and Expectations

We want to work with you to assist in achieving the objectives of your particular Demonstration and Trial program. It is therefore important that you establish your expectations and what it is that you want to achieve before you design and conduct the Trial.

But what does this actually mean ?

It means that together, we need to evaluate the type of results that you will consider as reasonable and ultimately successful, under the conditions that currently exist in your local area or region. For instance, if you have an expectation of a 100% yield increase, then even before we start we know we will fail to meet that expectation. It is simply an unreasonable expectation. Or, another example. If you have an expectation that you can reduce normal farmer practice core inputs to zero, then we know too that we will fail to meet that expectation.

RLF products are very predictable and reliable and will on average return consistent results.

It is incumbent on you however to establish what you consider to be:

1. an expected outcome, or a goal to aim for
2. the optimum conditions required for this outcome to be achieved
3. the range of results that you will deem to be satisfactory
4. the different evaluation factors throughout the Trial process that you will also consider to be valuable and satisfactory, such as :
  - root strength and bulk
  - early emergence of seedlings
  - humus formation in rhizosphere
  - top growth
  - earliness of tiller development
  - yield
  - thickness of stem base
  - tolerance to climatic factors
  - quality of produce
  - correcting nutrient deficiency
  - preventing nutrient deficiency

All of these factors lead to an overall successful outcome for a Trial or Demonstration Evaluation program, because ultimately they provide incremental benefits not only for the trial crop, but for future cropping under similar conditions as well.

It is such a complete package of factors, outcomes and expectations that needs to be considered and managed according to your expectations.

## Every Result is Different

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It is important to understand and acknowledge from the outset that every Trial is different. That there are many variables that impact upon a Trial or Demonstration Evaluation program, but they all contribute in some way to the final outcome.

What are these variables?

### 1. Soil

- the soil type and soil analysis information - standard soil tests from 0-10cm for field crops and 0-25cm for vegetable and fruit crops is general practice in the industry that supplies most of the required information.
- subsoil structure and analysis - this may be required if other physical or chemical strains are suspected
- soil pH
- soil salinity level
- total nutrient reserves in soil (nitrogen, phosphorus and potassium)
- available level of all plant essential nutrients in soil
- crop rotation cycle and previous crop
- history of soil amending products used (e.g. lime, dolomite, gypsum, compost, animal manure)
- input and output of nutrients in past cropping cycles.

Soil is one of the most variable aspects of your Trial program.

The best way therefore, is to start a Trial by carrying out a full range of soil tests to help understand and gauge the responsiveness of the Products being evaluated.

Here is an example :

Normal farmer practice is to apply nutrient for a known deficiency, meaning (for example) if the soil is known to be zinc deficient, then zinc would be applied. But, if the soil already has plenty of zinc, then by adding more zinc it would have no, or little result, as the plant already has the ability to access an adequate supply of zinc.

Under these conditions it is expected that a Trial or Demonstration Evaluation to assess the role of a zinc fertiliser would not have a positive outcome, since the Product is made to perform but there is no zinc deficiency in the crop to be corrected.

### 2. Seed

Again, this variable is often overlooked.

Seeds are grown from different varieties and every year in different seasonal conditions therefore seed nutrients and reserves naturally vary. Whilst seed tests are not specifically recommended, the seed source and variability should be kept in mind when planning a Trial.

### 3. Conditions

In every Trial the outcome vary with the seasonal conditions. These include :

- |                    |                                 |
|--------------------|---------------------------------|
| • Rainfall         | • Fungal and bacterial diseases |
| • Sunshine         | • Insects                       |
| • Heat and sunburn | • Wind                          |
| • Drought          | • Frost                         |



Whilst these are inherent in every Trial, the final outcomes and Trial data will obviously be a reflection of these conditions. It is therefore often difficult, or fallacious, to match and consider every Trial as comparable. Variations in conditions must be noted, and if possible factored into your Trial expectations.

These factors however generally only 'come into play' when conditions are either very poor or extreme to the extent that they will differentiate from normal farmer expectations for the particular area or region. These conditions need to be :

- monitored
- recorded
- photographed
- compared with average conditions of the location
- taken into account when evaluating the outcome of a Trial or Demonstration Evaluation program

## Establishing Application Rates

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Application rates are established based on a number of requirements.

1. Farmer understanding of the situation
2. Plant yield
3. History of nutrient input-output of the Trial site
4. Extra cost of fertiliser is reasonable and acceptable by the grower
5. Extra costs can be absorbed by cutback in granular fertiliser when soil inputs are thought to be excessive for the particular situation
6. Application rates in view of the expected outcome and profit margins are acceptable

## Reason for Trials

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What is the real reason for the Trial or Demonstration Evaluation ?

Generally, we consider the following :

1. **Marketing**  
Trials are conducted to validate and provide support to the intended sales and marketing of the Products into the marketplace. Therefore, Trials need to capture these aspects.
2. **Understanding Practical Aspects**
  - (a) how to apply and use the Product in local farmer area based on local farmer practice
  - (b) suitable application rates and methods based on local market conditions
  - (c) acceptability of the cost for the expected outcome
  - (d) the product suitability in the area in relation to local conditions and farm practice
3. **Demonstration Trials**  
To observe and record results for analytical and evaluation criteria for management approval and commercialisation of RLF products.
4. **Trials for Registration of Products**  
Programs that require an expression of efficiency and efficacy to meet the regulatory framework before the Government will approve the Product for sale in a particular country or destination. If required these trials are carried out as replicated and in the form of Complete Randomized Design (CRD) or Randomized Complete Block Design (RCBD).

## RLF Products

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RLF product performance is generally very predictable and reliable. Given the years of Trials and research, RLF Products can be expected to respond if the conditions are known.

RLF Products are mostly Broad-spectrum (i.e. 12 nutrients in a single Product) and will therefore be able to 'generically' handle most soil conditions and nutrient profiles to achieve a result. However results will vary, depending on all the factors outlined previously in this Preface.

RLF products when used as outlined in this guideline will demonstrate :

1. an expected outcome, or a goal
2. the optimum conditions required for this outcome to be achieved
3. the range of results that you will deem to be satisfactory

RLF will work with you as you build your particular Trial or Demonstration Evaluation Program to suit the outcomes that you require.

We will assist you when you put the aims in the order of your preference such as :

1. Registration
2. Demonstration Trials for marketing
3. Modifications of rates to learn more about the management of the crop
4. Yield improvement
5. Quality improvement
6. Best economical fertiliser management
7. Application rates under limited budgetary conditions
8. Early plant establishment
9. Early harvest
10. Better economical return

In this way the most suitable Trial or Demonstration Evaluation Program can be designed to demonstrate the RLF Product dynamics that you want to achieve. These Programs will then in turn build and complement your particular business model and reputation within the local marketplace.

## FRAMEWORK FOR TRIALS ASIA REGION

### OVERVIEW

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RLF provides the following general **Guidelines** and **Checklist** to support you in the preparation and performance of RLF product evaluation trials.

### PURPOSE & OBJECTIVES

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- 1**     **Validation**  
To validate RLF product performance in the local agricultural context.
- 2**     **Evaluation**  
To evaluate RLF product using local area practice as the control measurement.
- 3**     **Economic**  
To work out a local market pricing model by using this data to establish the most appropriate balance of price to market, dilution/application rates for the local context and conditions.
- 4**     **Marketing**  
To generate data (results), picture and video images and documented observations and outcomes for use as marketing materials, presentation materials and the general marketing of the product to the local market.

### FORMAT

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The format is a **GUIDE ONLY**. RLF will consent to any other reasonable format that applies credible guidelines/protocols, which will results in a fair evaluation and assessment of an RLF product in the local agricultural environment using local area practice.

### GUIDELINES & GENERAL REQUIREMENTS

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#### 1. Crop Selection

Crops should be selected for trial that represent a cross-section of, or be a market relevant/dominant part of the local market.

- local cropping methods and techniques, (including sowing procedures) should be represented in this selection
- crops that represent the most relevant or economic advantage to the distributor partners markets should be represented in this selection

#### 2. Select RLF Products

#### 3. Choose a Location

A location should be selected (or multiple locations) that best represents the typical local area conditions and is considered as a representative site for the chosen crop type.

Some of the other items that should be done at this time are :

- soil tests should be conducted on the chosen site and the location recorded
- historic meteorological data of the site location should be recorded, particularly annual or seasonal rainfall and average temperatures
- the location should be plotted (using GPS coordinates if possible), or charted on a map of the region
- full location details recorded to include landholder name, field, district, state, county or province ID
- photographs should be taken recording the location
- any other relevant information that best describes the agricultural features of the location



#### 4. Local Area Practice

Local area practices should be maintained and include such things as :

- fertiliser rates considered typical to the local farmer practice
- agricultural chemical practices considered normal and routine (mixing of compatible chemicals can also be included as part of the Trial if this represents normal local area practice)

#### 5. Establish Trial Plots

Establish and facilitate individual trial plot parameters, insofar as they are suitable to bring about reliable and relevant data outcomes.

Trial plots should be :

- trials should be established on a uniform ground known to have low variability (low CV). Trials could be non-replicated. If replication is desired it can be in the form of a Complete Randomized Design (CRD) or Randomized Complete Block design (RCBD) having the same number of blocks as replicates;
- marked with in-ground markers so that the Control plot and the RLF product plot are clearly distinguished;
- markers (if possible) should be seen and visible in all photographic and video results.

#### 6. Sowing

- sowing rates should be the same as those usually practised in the local area;
- seeds from the same source and quality that are routinely used should be used.

#### 7. Methodology

Trial Protocol is required to include;

- A. Control** : Area Fertiliser Practice  
**B. Variable** : Area Fertiliser Practice + RLF Products Treatment

**EXAMPLE** Trial Protocol for (1.) Seed Priming Fertiliser (2.) Ultra Foliar Fertiliser (3.) BOTH Seed Priming Fertiliser + Ultra Foliar Fertiliser applying the methodology

A. CONTROL	SEED FERTILISER	FOLIAR FERTILISER	All Other Fertiliser
	None	None	Area Practice
B. VARIABLE	SEED FERTILISER	FOLIAR FERTILISER	All Other Fertiliser
	Seed Priming Fertiliser	None	Area Practice
	None	Ultra Foliar Fertiliser	Area Practice
	Seed Priming Fertiliser	Ultra Foliar Fertiliser	Area Practice
C. OPTIONAL	SEED FERTILISER	FOLIAR FERTILISER	All Other Fertiliser
	Seed Priming Fertiliser	None	Reduced Area Practice (less 20%)
	None	Ultra Foliar Fertiliser	Reduced Area Practice (less 20%)
	Seed Priming Fertiliser	Ultra Foliar Fertiliser	Reduced Area Practice (less 20%)
	None	None	Reduced Area Practice (less 20%)



## 8. Timing of Assessments

(Days after Planting, DAP)

- 05 DAP
- 10 DAP
- 20 DAP
- 30 DAP
- 40 DAP
- 50 DAP
- 60 DAP
- 70 DAP
- HARVEST/YIELD

## 9. Sampling & Measurement/Observation List

### SOIL

Samples of the soils in each evaluation trial plot should be tested/analysed and recorded.

#### Measure

- pH
- nutrient status

### SEED

Samples of seeds (30 grams) from control (untreated seed) and primed seed (e.g. treated with BSNSS or BSN Ultra) should be kept in a paper bag and labeled with date.

### SEEDLING STAGE

#### Measure

- plant height
- root length and root mass
- number of established seedlings per square metre
- photo of root rhizosphere

#### Observe

- notes of observations as to size and health at emergence
- photograph a sample selection of seedlings from each plot to show leaf, root and emergence results

### PLANT STAGE

#### Measure

- plant height
- root length and root mass
- tiller numbers (record weekly for up to 40 DAP)
- leaf numbers (record weekly for up to 40 DAP)

#### Observe

- root growth : size, length of main roots, general root mass structure, organic matter and microbial activity differences
- plant growth : comparative number and size and general leaf cover
- generic : colour and visual differences, or any other unrecorded differences

Note: Use photographs to show differences in these observations

### FRUITING STAGE

#### Measure

- in cereal and field crops, use known criteria to measure/estimate yield.
- in vegetable and fruit crop record fruit per plant, size, quality, and other desirable characteristics.

#### Observe

- general comparative differences

Note: Use photographs to show differences in these observations

### HARVEST

#### Measure

- yield results (number, weights and quality)

#### Observe

- any visual differences in quality

Note: Use photographs to show differences in these observations

## 10. Collecting Data

A chronological record of all activities should be kept in either an official log or in the Checklist. It will contain such things as :

Dates	Conditions	Observations
<ul style="list-style-type: none"> <li>• seeding date</li> <li>• any chemical spraying dates</li> <li>• product application date</li> </ul>	<ul style="list-style-type: none"> <li>• meteorological data and weather conditions</li> <li>• any stresses or disease issues that arise throughout the Trial (i.e. drought, frost, extreme heat, water-logging)</li> </ul>	<ul style="list-style-type: none"> <li>• in-field practices</li> <li>• additional observations</li> </ul>

## 11. Product Evaluation Report & Product Promotion

A formal **Product Evaluation Report** will be produced and published at the conclusion of the Demonstration and Evaluation Trial.

It may be published as a printed report or be website based. Parts of it may be utilised in allied or cross-promotional publications. It will be a professional and high-value presentation and publication. It can be used by the Distributor as part of their promotional and marketing activities when bringing RLF product to the market. Statistical analysis if performed should be included in the final report.

## 12. Methods of Recording

- written
- photographic evidence (digital or video) taken – and importantly, dated at regular intervals throughout the Trial

## 13. RLF Product Application Rates

**Standard, published RLF rates of dilution / application in accordance with current documentation and practices.**

The application rates of RLF products can be adjusted in each evaluation trial to balance the economics of the products used. This ensures a combination of both affordability and economic advantage and return for the farmer or landholder.

These adjustments can only be made:

- based on local market knowledge
- with a prior evaluation in order that the best application guidelines for the adjusted trial experiment can be established

Please find attached:

- SEED PRIMING - BSN Ultra / BSN Superstrike / BSN Hybrid / Interceptor-XS
- ULTRA FOLIAR - Broadacre Plus / Field Crop Plus / Interceptor-XF
- ULTRA FOLIAR - Fruits & Veggies Plus
- RAPID FOLIAR - Rapid Zinc / Rapid Copper / Rapid Manganese
- UNIVERSAL DIP (Unidip)
- FERTIGATION - Dynamo Fertigation / Plant Milk

Other :

Please refer to product dilution and application rates for other RLF products or request details from RLF Technical Services.





## EVALUATING RLF SEED PRIMING PRODUCTS PETRI DISH / FILTER PAPER TESTS ARE NOT POSSIBLE

RLF Seed Priming products such as BSN Superstrike and BSN Ultra cannot be evaluated in petri dish/filter paper tests.

Petri dish/filter paper testing fails because the acidity in the seed primer, albeit in a small amount, strongly influences the pH of this media type as it is wetted with deionized or distilled water which has zero buffering capacity.

The growth of radicles and roots during germination is very sensitive to Calcium ion which is offset strongly by acidity or Hydrogen ion. Thus the impact of the lack of Calcium ion in the water used in these types of test (filter paper tests) is intensified by the acidity of the primed seed and as a result any comparison with a control test is not only unfair but the result is fallacious.

The comparison of a BSN primed seed V control can only take place in soil. This is not only for the above-said pH and Calcium contrasts, but also for the subsequent interactions that occur between root and soil that does not happen in petri dish/filter paper tests.

These interactions play an important role in the seedling establishment and vigour and by and large all of which do not occur in petri dish/filter paper testing; these interactions are as follows:

1. The presence of Calcium and the balance of other ions that occur in soil tests allows for radicle emergence and seedling growth to occur normally in the soil and will therefore broadly resembles normal events that occur following farm-sown seeds. (normal farmer practices)
2. A key functions of BSN seed primer is the modification of the rhizosphere and the complex interactions occurring between the root system and the soil. To exclude such interactions in trial evaluations is deviating from the practical function and resulting benefit of seed priming.
3. A BSN primed seed will have higher levels of phosphate that reaches the radicle and is also exuded from the roots of treated seedlings. This will quickly instigate rapid multiplication of bacteria in the root rhizosphere however this event does not happen in petri dish/filter paper tests.
4. The increase in bacterial activity in the root rhizosphere stimulates passive exudation of organic molecules (bacteria food) and increases the momentum of organic matter/humus build up around the root system in soil.
5. Increased availability of nutrients resulting from seed priming and the better root ability to unlock and absorb minerals from the soil make a striking contrast between control and treated or primed seed only if germination occurs in soil.
6. Testing in a soil medium is an absolute requirement to ensure that the seed priming benefits occur and then compared and simulated to assess the on farm benefits.
7. Distinguishing vigour characteristics of primed seed versus untreated seed is easily manageable in soil testing and not comprehensively managed in petri dish/filter paper testing.
8. Under certain conditions that surface acidity of treated primed seed is neutralized, (eg. dusting of a treated primed seed with alkaline products like lime and 'fluency powder') petri dish/filter paper testing may provide a quick results for a percentage of germination (and perhaps limited vigour comparison) but this type of testing has no evaluation of the follow-up benefits of seed priming that occurs in the soil as described above.

For more information please contact RLF Technical Services.



### Seed Priming

#### PRODUCTS

BSN Superstrike  
BSN Ultra

BSN Hybrid  
BSN-10

Interceptor XS

#### MACHINE APPLICATION



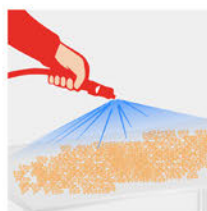
Inline Application



Auger Spray Application



Drum Priming Application



Spray and Mix



Bag or Packet

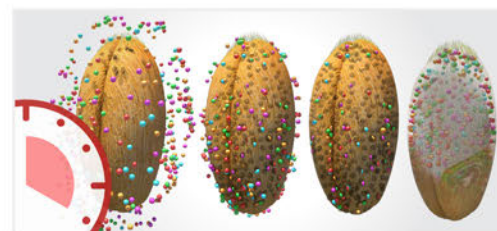


Container or Bucket

#### RATES

Seed Type	BSN SS, BSN-10, Interceptor XS ml/kg		ml Water + Chemicals ml/kg	Total Application ml/kg
Corn, cotton, sunflower, pumpkin	4	+	2	6
Zucchini, squash, melon, watermelon	4	+	5	9
Wheat, barley, triticale, oat	5-6	+	3-5	8-11
Rice (dry grain), safflower	5-6	+	3-5	8-11
Beet, cucumber, okra, coriander	6-7	+	8-9	14-16
Radish, turnip, Kohlrabi, parsnip, pepper	7-8	+	8-9	15-17
Onion, leek, chive, garlic, tomato, eggplant	8-9	+	9-10	17-19
Canola, carrot, lettuce, dill, chicory	10-12	+	14	24-26
Celery, non-fluffy grass pasture seeds	15-18	+	18-20	33-38
Fluffy grass pasture seeds	30	+	33	63

Seed Type	BSN Ultra + BSN Hybrid ml/kg		Water & Pesticide ml/kg	Total Application ml/kg
Corn	4	+	2	6
Rice (dry grain)	5-6	+	5-6	10-12
Lucerne (Alfalfa)	10	+	2	12



Absorbed in 20 minutes

**Do not sow seeds on day of application.**

BSN can be applied to seeds **anytime between harvest and seeding**. For best result, prime seeds well before sowing time preferably during dry season after harvest.

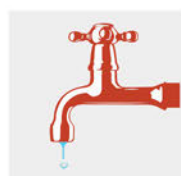
Always use clean seed as dusty seed causes stickiness and can tie-up BSN nutrient reducing uptake.

#### Priming at Seeding Time

Primed seeds should be sown at least one day after treatment. If you prime seeds at seeding time, you may notice that primed seed lot volume increase by 10%, this is reversed quickly when seeds lose their extra moisture. When you drill treated seeds soon after treatment, you may need to allow for increased volume if volume increase is not fully reversed.



Shake Vigorously



Mix with Water



Mix with other Chemicals



#### BSN Mixing

BSN "imbibed" nutrient inside the seed - caution must be taken when using chemicals. ALWAYS apply BSN first or mix water and BSN before adding chemical.

#### Product Compatibility + Jar Testing

Do not mix with Alkaline Copper fungicides or inoculants. If you are unsure, we recommend a simple jar test of products. Mix together and check if reaction occurs.

Check [www.rlfchemtest.com](http://www.rlfchemtest.com)





### Ultra Foliar

#### PRODUCTS

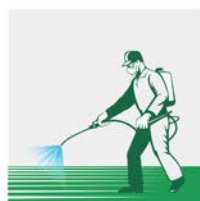
Broadacre Plus  
Field Crop Plus

Fruits & Veggies Plus  
Crop-Specific Ultra Foliar

Interceptor XF



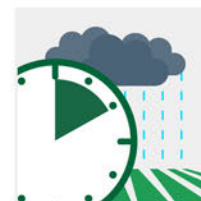
Leaf Application  
Spray on to the  
Crop Leaf



Manual Application



Machine Application



Rain Safe in 2 hours

#### RATES

Crop Type	Dilution in Water		Application Rate					Target Yield Greater than 6t/ha
	Minimum	Maximum						
Fruit Trees	250	- 800	3L	to	5L	per hectare		6L/ha
Vegetables	250	- 800	3L	to	5L	per hectare		6L/ha
Grapes	250	- 800	3L	to	5L	per hectare		6L/ha
Tubers	250	- 800	3L	to	5L	per hectare		6L/ha
Lettuce and Brassicas	250	- 800	3L	to	5L	per hectare		6L/ha
Rice	250	- 400	2L	to	4L	per hectare		5L/ha
Corn/Maize	250	- 400	2L	to	4L	per hectare		5L/ha
Wheat, Barley, and Oats	250	- 400	2L	to	4L	per hectare		5L/ha
Canola and Oil Crops	250	- 400	2L	to	4L	per hectare		5L/ha
Legumes	250	- 400	2L	to	4L	per hectare		5L/ha
Sorghum and Millets	250	- 400	2L	to	4L	per hectare		5L/ha

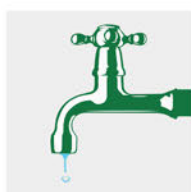
#### APPLICATION

Crop Type	Best Timing Applications		1 3 6 10 12 14 weeks							
	Minimum	Preferred	2-Leaf Stage	3-Leaf Stage	Tillering	Mid-Tillering/ Mid-Growth Stage	Root/Tuber Bulking	Flowering Stage	Early fruit set to mid fruit size/tuber half grown	Ripening Stage
Fruit Trees	3 times	to 4 times								
Vegetables	3 times	to 4 times								
Grapes	3 times	to 4 times								
Tubers	3 times	to 4 times								
Lettuce and Brassicas	3 times	to 4 times								
Rice	2 times	to 3 times								
Corn/Maize	2 times	to 3 times								
Wheat, Barley, and Oats	2 times	to 3 times								
Canola and Oil Crops	2 times	to 3 times								
Legumes	2 times	to 3 times								
Sorghum and Millets	2 times	to 3 times								

#### MIX



Shake  
Vigorously



Mix with  
Water



Mix with other  
Chemicals



#### Product Compatibility

Always check product compatibility at [www.rlfchemtest.com](http://www.rlfchemtest.com)  
Do not mix with Alkaline Copper fungicides or inoculants

#### Jar Testing

If you are unsure, we recommend a simple jar test of products.  
Mix together and check if reaction occurs.

Check [www.rlfchemtest.com](http://www.rlfchemtest.com)



## Rapid Foliar

### PRODUCTS

Rapid Zinc

Rapid Manganese

Rapid Copper



**Leaf Application**  
Spray on to the  
Crop Leaf



Manual Application



Machine Application



Rain Safe in 2 hours

### RATES

Crop Type	Dilution in Water		Application Rate 1t/ha
	Minimum	Maximum	
Trees	250	800	2L to 3L per hectare (2L/ha - 3L/ha)
Vegetables and Fruits	250	800	2L to 3L per hectare (2L/ha - 3L/ha)
Grapes	250	800	2L to 3L per hectare (2L/ha - 3L/ha)

### APPLICATION

Crop Type	Number of Applications			136101214 weeks							
	Minimum		Preferred	2-Leaf Stage	3-Leaf Stage (1)	Tillering	Mid-Tillering/ Mid-Growth Stage	Root/Tuber Bulking	Pre-flowering	Flowering Stage	Ripening Stage
Fruit Trees	1 times	to	2 times								
Vegetables	1 times	to	2 times								
Grapes	1 times	to	2 times								
Other											
Cereal, Cotton, Tea	1 times	to	3 times								
Canola	1 times	to	2 times								
Sunflower	1 times	to	2 times								
Root Crops	1 times	to	2 times								

(1) 3 leaf stage in annuals or 3 new leaves formed on shoot tip in perennials

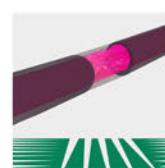
(1) 3 leaf stage in annuals or 3 new leaves formed on shoot tip in perennials



**Fertigation**  
via Irrigation or  
Sprinkler Systems



Manual Application



Irrigation Systems



Watering Systems

### APPLICATION

Crop Type	Minimum Dilution Rate	Application Growth Stage	Application Rates
Vegetables and Fruits	x100 in water	Early season growth	1st Application @ 50L/ha
Crops	x100 in water	Mid-season growth	2nd Application @ 50L/ha
Trees	x100 in water	Late-season growth	3rd Application @ 50L/ha



**Furrow Injection**  
at Seeding

### Crop Type

Vegetables and Fruits  
Crops  
Trees

### Dilution in Water

Minimum	Max
x40	x100
x40	x100
x40	x100

### Application Rates

1 - 2L/ha  
1 - 2L/ha  
1 - 2L/ha



Shake  
Vigorously



Mix with  
Water



Mix with other  
Chemicals



### Product Compatibility

Always check product compatibility at [www.rlfchemtest.com](http://www.rlfchemtest.com)  
Do not mix with Alkaline Copper fungicides or inoculants

### Jar Testing

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### Nutrient Charger

#### PRODUCTS

Unidip (Universal Dip)

Nutrient Charger



**Soaking (or dipping) of Plant Parts used in vegetative reproduction**



Plant Part



Unidip Mixture



Soak

#### APPLICATION

<b>Stem Cuttings</b> Sugarcane Grapevines Cassava Roses Other Ornamentals	<b>Root Cuttings</b> Blackberry Raspberry Guava Breadfruit	<b>Tubers</b> Whole Potatoes Cut Potatoes Sweet Potatoes Yam Taro	<b>Bulbs/Lorms</b> Garlic Onion Saffron Lilies Glandiolus Narcissus	<b>Rhizomes</b> Ginger Turmeric Irises Yam	<b>Runners and Stolons</b> Strawberry Sweet Potatoe Mint Tarragon Grasses	<b>Suckers</b> Bananas Pineapple Breadfruit Bamboo Taro Raspberry Blackberry
<b>Dilution in Water</b> x 20 in water	<b>Dilution in Water</b> x 20 in water	<b>Dilution in Water</b> x 20 in water	<b>Dilution in Water</b> x 20 in water	<b>Dilution in Water</b> x 20 in water	<b>Dilution in Water</b> x 20 in water	<b>Dilution in Water</b> x 20 in water
<b>Application Time</b> 2 hours +	<b>Application Time</b> 2 hours +	<b>Application Time</b> 2 hours +	<b>Application Time</b> 2 hours +	<b>Application Time</b> 2 hours +	<b>Application Time</b> 2 hours +	<b>Application Time</b> 2 hours +



**Dipping of Seedling Roots before Transplanting**



Seedling Roots



Unidip Mixture



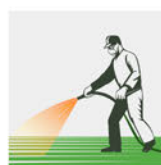
on Seedling Roots

#### APPLICATION

<b>Vegetable</b> Tomato Celery Lettuce Eggplant	<b>Brassicas</b> Cabbage Bok Choy Cauliflower Broccoli Broccolini	<b>Fruits</b> Melon	<b>Other</b>			
<b>Dilution</b> x 40 in water	<b>Dilution</b> x 40 in water	<b>Dilution</b> x 40 in water	<b>Dilution</b> x 40 in water			
<b>Application Time</b> 3 hours +	<b>Application Time</b> 3 hours +	<b>Application Time</b> 3 hours +	<b>Application Time</b> 3 hours +			



**Fertigation after Transplanting**



Manual Application



Irrigation Systems



Watering Systems

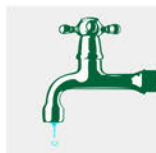
#### APPLICATION

Crop Type	Dilution Rate	Application	Notes
Vegetables Flowers Fruit Trees Vines Berries Other Nursery Stock	x100 in water x100 in water x100 in water x100 in water x100 in water x100 in water	Apply nutrient feed as irrigation or fertigation to plant or seedling after transplant.	Treated plants before or after transplant; applications of granular or water soluble fertiliser to the soil should be withheld for 2-3 weeks.

#### MIX



Shake Vigorously



Mix with Water



**DO NOT**  
Mix with other Chemicals

**Non-toxic Product.** Avoid unneeded contact. Keep out of reach of children. If contact with eyes immediately rinse with plenty of water. If swallowed seek medical attention.

#### Storage

This product requires storage in a cold dry place. Valid for 3 years from date of production.



## Fertigation

### PRODUCTS

Dynamo

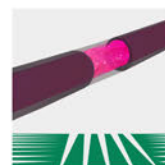
Plant Milk



Apply as  
Irrigation  
or Fertigation



Manual Application



Irrigation Systems



Watering Systems

### RATES

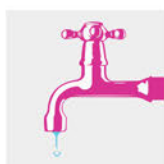
Crop Type	Dilution in Water	Application Rates	Application Growth Stage
<b>Leafy vegetables</b> (e.g. Broccoli, Cabbage, Cauliflower, Celery, Herbs, Lettuce, Kohlrabi, Rhubarb, Spinach, Spring Onion)	x 100	1st application at <b>20L/ha</b> 2nd application at <b>20L/ha</b> 3rd application at <b>5L/ha</b>	Early Growth Mid-season Onset of Maturity
<b>Fruiting vegetables</b> (e.g. Bean, Capsicum, Corn, Cucumber, Eggplant, Melons, Pumpkin, Sweet pea, Squash, Tomato, Zucchini)	x 100	1st application at <b>20L/ha</b> 2nd application at <b>20L/ha</b> 3rd application at <b>5L/ha</b>	Early vegetative growth Mid vegetative growth During fruit growth
<b>Bulbs and root crops</b> (e.g. Beet, Carrot, Garlic, Onion, Parsnip, Potato, Radish, Turnip and Sweet potato).	x 100	1st application at <b>20L/ha</b> 2nd application at <b>20L/ha</b> 3rd application at <b>5L/ha</b>	Early vegetative growth Mid vegetative growth Early Bulking
<b>Fruit trees</b> (e.g. Apple, Apricot, Cherry, Citrus, Fig, Nectarines, Olives, Peaches, Pear, Persimmon, Plums)	x 100	1st application at <b>20L/ha</b> 2nd application at <b>20L/ha</b> 3rd application at <b>5L/ha</b>	Soon after harvest 2-4 weeks before budburst During fruit growth
<b>Grapes, Soft fruits</b> (Strawberries & Berries)	x 100	1st application at <b>20L/ha</b> 2nd application at <b>20L/ha</b> 3rd application at <b>5L/ha</b> 4th application at <b>20L/ha</b>	2-4 weeks before budburst Pre-flowering During berry growth Soon after harvest
<b>Young trees or Non-bearing fruit tree trees, grape vines and soft fruits</b>	x 100	1st application at <b>20L/ha</b> 2nd application at <b>20L/ha</b> 3rd application at <b>20L/ha</b>	2-4 weeks before budburst Mid season Late season

### Application Guide:

Fertigation products should be applied at the end of the irrigation cycle to prevent fertiliser front going below the root zone. After injection, the system should run long enough to clear the fertiliser out of the lines.



Shake  
Vigorously



Mix with  
Water



Mix with other  
Chemicals



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## RLF Products



### Seed Priming

#### PRODUCTS

BSN Superstrike  
BSN Ultra

BSN Hybrid  
BSN-10

Interceptor XS



### Ultra Foliar

#### PRODUCTS

Broadacre Plus  
Field Crop Plus

Fruits & Veggies Plus  
Crop-Specific Ultra Foliar

Interceptor XF



### Rapid Foliar

#### PRODUCTS

Rapid Zinc

Rapid Manganese

Rapid Copper



### Nutrient Charger

#### PRODUCTS

Unidip (Universal Dip)

Nutrient Charger



### Fertigation

#### PRODUCTS

Dynamo

Plant Milk

## Contacts

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