

SECTION 0 · READ FIRST

What you have, and the two rules

The sack contains 10 kg of BountiGel P. It is a fine white powder, a potassium polyacrylate, and it absorbs many times its own weight in water and releases it back to roots as the medium dries. It is not a fertiliser and it is not a wetting agent.

HANDLING

- Fine powder. Airborne dust can form an explosive dust-air mixture. Work in a ventilated space, not in front of a fan or a blower.
- Dust mask and eye protection when weighing and when charging a mixer.
- Wetted powder on a hard floor is extremely slippery. Sweep spills dry, do not hose them.
- Store dry, in the original sack, closed. It takes up moisture from humid air and cakes.

WATER CHECK, THIRTY MINUTES, BEFORE ANYTHING ELSE

Capacity depends on your water, and nobody can tell you your number from another country. Do this first.

1. Weigh 1.0 g of powder into each of two jars.
2. Jar A: 500 ml demineralised water, sold as battery water or iron water. Jar B: 500 ml of the water you actually irrigate with, made up to your normal feed strength if you fertigate.
3. Stir once. Leave one hour.
4. Pour each through a strainer you have weighed empty. Drain exactly ten minutes. Weigh the gel.

Grams of gel per gram of powder is your capacity. Jar A is the figure suppliers quote. Jar B is the figure you will get. Expect B to be substantially lower than A, commonly by around fivefold in hard water or at normal feed strength, because dissolved calcium and magnesium collapse the polymer network. This is chemistry, not a defect, and it is why the rate below is expressed per litre of medium rather than per plant.

IF JAR B COMES OUT BELOW ABOUT 40 G PER GRAM

Your water is hard enough that a fertigated trial will be difficult to read. Tell us the number before you start. On some sites the honest answer is that this product is a poor fit, and we would rather you heard that from us than found it out across a season.

THE RATE

0.6 g per litre of finished medium
0.6 KG PER M³ · DRY POWDER WEIGHT · ALL MEDIA TYPES

Applies to peat, coir, composted bark, rice husk, sand blends and field soil alike. The rate is per litre of medium, not per pot, and it does not change with container size. It is the lowest rate on the manufacturer's label, which is deliberate: a trial should establish whether the lowest useful dose works, not whether the highest one does.

WHAT 10 KG TREATS	AT 0.6 G PER LITRE
Finished substrate	16.6 m ³
Plug cells, 85 cm ³	approx. 195,000
Pots, 3 litre	approx. 5,500
Planting pits at 30 g each	approx. 330 trees
Field transplant slurry	approx. 0.9 ha

RULE ONE: NUTRITION MUST BE IDENTICAL IN BOTH BLOCKS

This is the rule that ruins trials. Treated medium holds water longer, so the treated block gets watered less often. If your fertiliser arrives through the irrigation, the treated block is also fed less often, and by the end of the cycle it has received a third less nutrient than the control. Your treated plants finish smaller and the trial appears to show that the product stunts crops.

Incorporate a controlled-release fertiliser at your standard rate into both batches, and irrigate the trial with plain water. Nutrition is then identical by construction and the only variable left is water, which is the thing you are

testing.

If your site cannot run without fertigation, the second-best option is to raise the concentration in the treated block so the total grams of fertiliser delivered over the whole cycle match the control. Keep a log. It is more work and it is less clean, but it is honest. What you must not do is run both blocks off the same tank at the same concentration on different watering frequencies.

RULE TWO: THE TWO BLOCKS MUST BE IRRIGATED INDEPENDENTLY

Treated and untreated under the same boom receive the same water whether they need it or not. That tells you how wet the medium stays. It does not tell you how many waterings you saved, which is the number worth money.

Water each block only when that block needs it, and trigger on weight rather than judgement. Mark three trays or pots per block. Weigh them at container capacity, immediately after a full watering has drained, and write that weight down. Water again when they reach 70 per cent of it. Same threshold in both blocks, every time.

RANDOMISATION

Three treated units and three untreated units, alternating, never one big treated block at one end of the house. Benches, beds and field blocks all vary, and a single pair cannot separate the treatment from the position.

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Mark them physically and on a plan. A trial outlives the memory of whoever laid it out.

Tree and shrub seedlings, nursery through to planting out

THE QUESTION THIS TRIAL ANSWERS

What percentage of my planted seedlings survive the first dry season, and how many do I go back and plant twice?

Two stages, and you can run either one alone. Species is immaterial. Conifer, broadleaf, eucalypt, fruit rootstock or native shrub, the mechanism is the same.

STAGE A, IN THE NURSERY

Follow Protocol 1 exactly. Same rate, same mixing, same controls. Record irrigation events and root ball integrity at lifting, which for this crop is the measure that predicts what happens after the seedling leaves you.

STAGE B, AT PLANTING OUT

30 g of dry powder per planting position

10 KG TREATS APPROXIMATELY 330 SEEDLINGS

1. Open the notch or pit as normal.
2. Place half the dose in the bottom of the hole, set the plant, backfill, and mix the remaining half through the backfill as it goes in.
3. Do not lay it as a continuous layer directly beneath the root ball. It must be mixed through the soil that roots will grow into, not form a mat they sit on.
4. Water in exactly as you normally would, both treated and untreated.

LAYOUT

Three treated plots of 100 seedlings and three untreated plots of 100, paired and alternating, on the same aspect and the same soil type. That is 300 treated seedlings and 9 kg of the sack, which leaves a kilo for the water check and for spillage.

Site it on your worst ground. The driest, the most free-draining, the block you expect to lose. A treatment that only performs on good ground has told you nothing you can act on.

Flag every plot, photograph the flags, and mark the plots on the block map. Twelve months is long enough for the person who laid the trial out to have moved on.

WHAT TO RECORD

MEASURE	WHEN	WHY IT MATTERS
Survival per plot	End of first dry season	The primary result. Count, do not estimate.
Replant or beating-up count	At the replant round	Record separately from survival. This is the invoice.
Replant cost	At the replant round	Labour hours plus plant cost, per plot. Converts the trial into money.
Height increment	End of first season	Sample 20 plants per plot, not all 100.
Rainfall or irrigation	Monthly	A wet season produces no difference, and that is not a failure, it is a season you cannot read.

DURATION

One nursery cycle plus one dry season in the field.

REPORTING

One page at the end. That is all we ask.

The result is yours whatever it says, and you are under no obligation to send it to us. If you do, we will publish it as you wrote it, including the trials where nothing happened, because a protocol library with no negative results in it is advertising.

TRIAL RECORD
Operation
Location
Protocol run
Crop and cultivar
Medium or soil type
Start date
End date
Water check, jar A result
Water check, jar B result
Rate used
RESULT, TREATED AGAINST UNTREATED
Primary measure, control
Primary measure, treated
Difference
WHAT HAPPENED THAT THE PROTOCOL DID NOT ANTICIPATE

PHOTOGRAPHS

Fixed positions, marked, same height and angle every time. One frame that includes a treated and an untreated plot together is worth more than twenty of either alone. Put a dated board in the frame.

Claim a free 10 kg trial pack at splitplot.com

The pack costs nothing. You cover the FedEx from Georgia, USA, and we book the collection. Email henrik@splitplot.com with a delivery address.

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