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 m³
Plug cells, 85 cm³	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.

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

PROTOCOL 3

Landscape, amenity and orchard tree planting

> **THE QUESTION THIS TRIAL ANSWERS**
> How many establishment waterings can I drop, and what does my twelve-month failure rate do?

For contractors and estates planting standards, whips and orchard stock into pits. This is the application where the dose per plant is largest and the water bill is a line item somebody already argues about.

30 g of dry powder per planting pit

10 KG TREATS APPROXIMATELY 330 TREES

METHOD

1. Excavate the pit as normal.
2. Mix the dose thoroughly through the backfill soil, on a sheet or in a barrow, before it goes back in the hole. Not layered, not dumped in the base.
3. Plant, backfill, firm, and water in identically across treated and untreated.
4. Stake, mulch and guard both blocks the same way. Any difference in aftercare invalidates the comparison.

LAYOUT

Alternate groups of ten along a row, or alternate whole rows in an orchard, three treated groups and three untreated. Same species, same nursery batch, same delivery, same planting week.

WATERING DURING ESTABLISHMENT

This is where the result is. Water each group only when it needs it, judged the same way in both, and log every visit. If you water on a fixed schedule regardless, you will measure nothing except soil moisture, and you will have spent a season doing it.

WHAT TO RECORD

MEASURE	WHEN	WHY IT MATTERS
Watering visits and litres per group	Every visit	The primary result. Bowser hours and labour.
Survival	Month 3, 6, 12	Twelve months is when a defects liability period bites.
Failures replaced, and cost	At replacement	Tree, labour and revisit, per group.
Trunk calliper and extension growth	Month 12	Distinguishes survived from established.

DURATION

Twelve months, through one full summer.

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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