

PRODUCT KNOWLEDGE · SECONDARY NUTRITION

V-Mag Essential

Mg 8.5% · B 1% · mineral powder

Magnesium is the atom at the centre of every chlorophyll molecule. A crop short of it is a crop that cannot use the light it is standing in.

5 kg

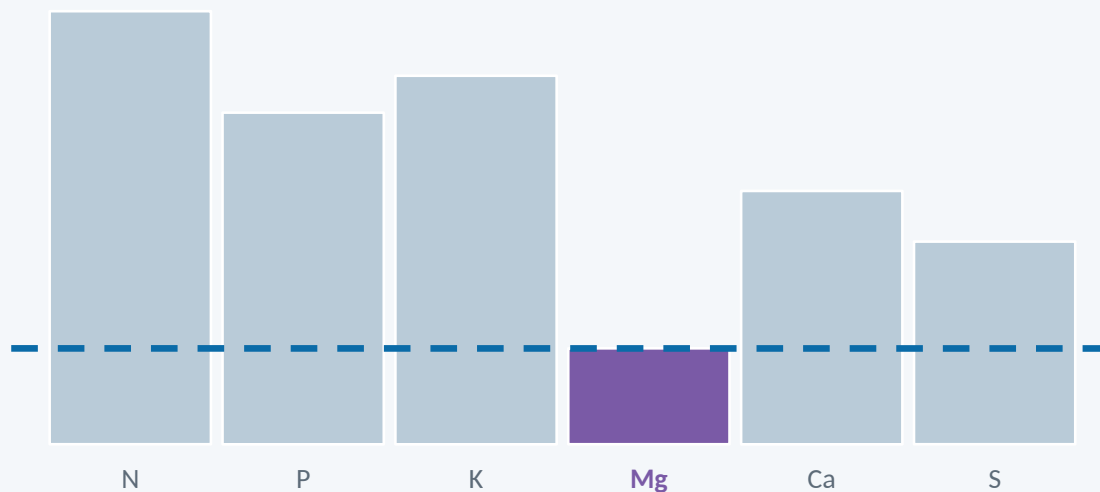
Powder

Fertigation & soil



Magnesium is the stave nobody checks.

Carl Sprengel set the law out in 1840; Justus von Liebig made it famous. Magnesium is rarely tested for in Pakistan, and a stave you never measure is a stave you never lengthen.



— the water line — what the crop actually yields

K pushes Mg down

Magnesium and potassium compete directly for uptake. A programme that pushes potash hard — which is exactly what a Pakistani crop needs — drives magnesium down as it does so. The better the potash programme, the more likely magnesium becomes the limiting stave.

The staves show the shape of the problem, not measured soil values. A soil or leaf test is what tells you your own — VAN Lab publishes its prices.

What is actually in the bag.

A mineral powder, sized for fertigation and for soil.



V-Mag Essential — 5 kg

MAGNESIUM

Mg 8.5%

BORON

B 1%

FORM

Mineral powder — dissolves for fertigation, spreads for soil

WHY BORON IS HERE

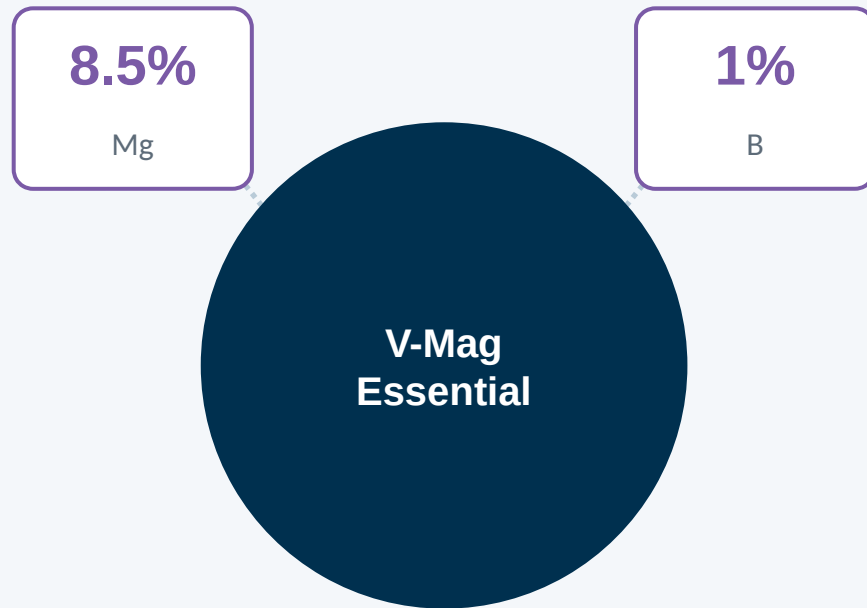
Boron and magnesium both travel with calcium chemistry; carrying them together is one operation instead of two

NO VAN LICENCE, AND THAT IS THE POINT

VAN does not manufacture this under its own registration. The capacity is the offer — a vendor can have it made here under their own PSQCA licence, not VAN's. VAN, 20 Aug 2026.

What the label declares.

As published on van.com.pk.



FORM

Mineral powder

commercial grade; dissolves for fertigation

PACK

5 kg

sized to a per-acre requirement

REGISTRATION

No VAN licence

made to a vendor's own PSQCA licence — the capacity is what VAN offers.
VAN, 20 Aug 2026

What magnesium is actually doing in there.

One atom, at the centre of the molecule the whole crop depends on.

1 Chlorophyll

The magnesium ion sits at the centre of every chlorophyll molecule. No magnesium, no photosynthesis

2 Enzyme activation

Activates the enzymes of carbohydrate metabolism and of energy transfer

3 ATP

Magnesium is required for ATP to function — the energy phosphorus stores is spent through magnesium

4 Sugar transport

Involved in moving photosynthate out of the leaf to where it is stored

5 Respiration

Vital to plant respiration and to the enzymes that run it

6 Nutrient efficiency

Improves the efficiency with which the plant uses both nutrients and water

What magnesium shortage looks like.

General agronomy, not a VAN measurement. Magnesium is mobile, so it shows at the bottom of the plant first.

1 Oldest leaves first

The plant strips magnesium out of old leaves to feed new growth

2 Interveinal yellowing

Yellow between the veins while the veins stay green — the classic magnesium pattern

3 From the margin inward

Starts at the leaf margin and works toward the midrib

4 Reddening

In some crops the interveinal tissue reddens or purples rather than yellowing

5 Stunted growth

Overall growth slows as photosynthesis and respiration both fall away

6 Confused with nitrogen

Easy to mistake for nitrogen shortage — but nitrogen yellows the whole leaf, magnesium yellows between the veins

Magnesium is the nutrient your potash programme is costing you.

Established interactions between soil nutrients — after Mulder. These describe how nutrients behave with one another, not how V-Mag Essential performs.



Works with

Balanced magnesium improves both nitrogen and phosphorus uptake

Balanced phosphorus improves magnesium uptake in return

Magnesium and boron both support the movement of assimilate and of calcium into new tissue

Correcting magnesium often raises the return on a nitrogen and phosphorus programme already being paid for



Competes with

Excess potassium suppresses magnesium — directly, and this is the commonest cause of magnesium shortage in a well-fertilised crop

Excess calcium suppresses magnesium as well — which is the standing condition of calcareous soil

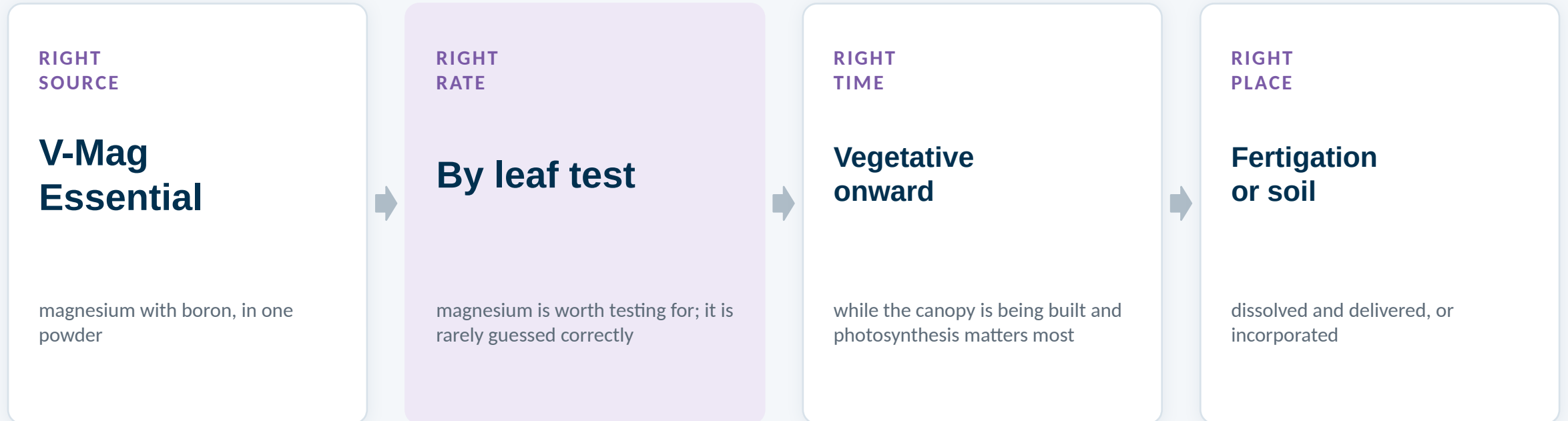
Excess magnesium in turn suppresses potassium and calcium; the three are in permanent competition

Excess boron reduces nitrogen, potassium and calcium uptake, so the boron figure here is small and exact

The Ca-Mg-K triangle is the most important antagonism in Pakistani horticulture. VAN makes Cala-Mag V for the calcium side of it and this product for the magnesium side.

Right source, right rate, right time, right place.

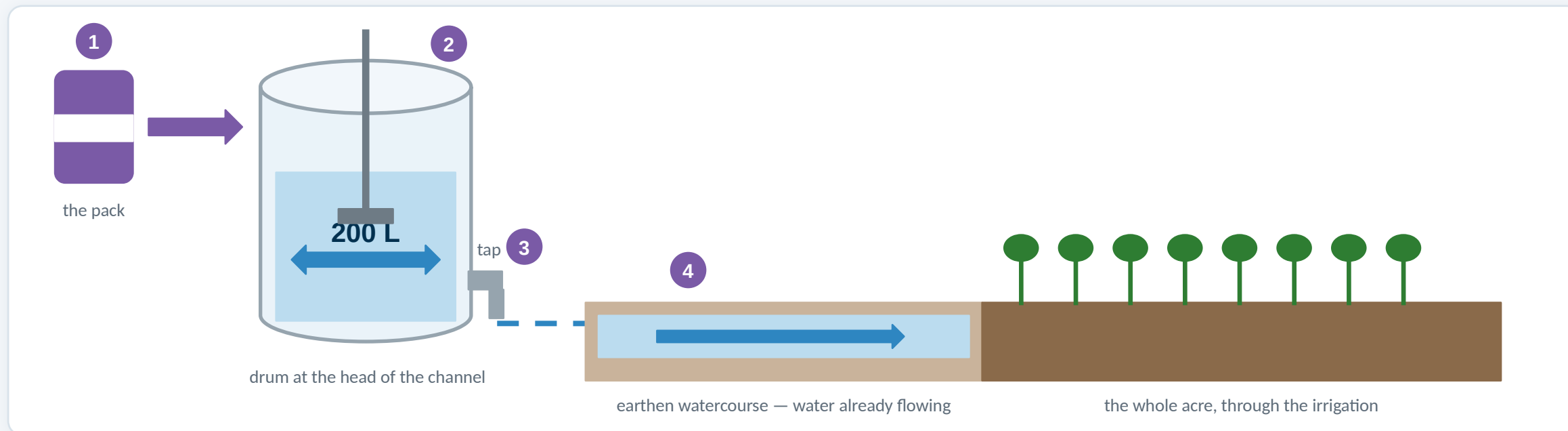
Magnesium is corrective as often as it is preventive — the trigger is usually a potash programme or a leaf test.



If you are running a heavy potash programme, assume magnesium needs watching rather than waiting for the interveinal yellowing to tell you.

It goes in at the drum, not at the bag.

Magnesium demand rises with the canopy, so the correction rises with it.



1 Measure it

By leaf test. Weigh it. A guessed dose is the commonest error in the field.

2 Dissolve and agitate

Into a 200 L drum of water at the head of the watercourse. Stir until it is fully in solution — undissolved product settles and blocks the tap.

3 Meter it in

Open the tap so the drum empties across the whole irrigation, not in one slug. The water should already be flowing.

4 At the right stage

From the vegetative stage onward. Into the wetted root zone, across the whole acre.

Doses are per acre, from VAN agronomy. The drum is drawn at 200 L because that is what is standing at the head of most Punjabi watercourses — scale the water, not the product.

SOURCES

Where every figure in this deck came from.

Analysis	van.com.pk — V-Mag Essential, Mg 8.5%, B 1%, mineral powder, 5 kg
Confirmed	Mg 8.5% + B 1% confirmed by VAN, 23 July 2026 — the analysis, title and index card were all updated to it
Magnesium physiology	Standard plant physiology — chlorophyll, ATP, enzyme activation. Not manufacturer-specific
Nutrient interactions	After Mulder's chart — established relationships
Law of the minimum	Carl Sprengel (1840), popularised by Justus von Liebig
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605 Al-Hafeez Heights, Gulberg, Lahore 54660 · van.com.pk · WhatsApp +92 300 5003041



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For information only. VAN may change a product's composition at any stage for agronomic, efficiency or upgrade reasons.