



PRODUCT KNOWLEDGE · POTASH

Fusion Potash

2-0-50 · S 5% · B 1%

Boron-coated basal potash. Two forms of boron on every granule, so the potash and the boron land in the same place — and stay in the same ratio across the field.

PS 933-2026

Licence CM/L-2674/2028

25 kg

Powder & granular



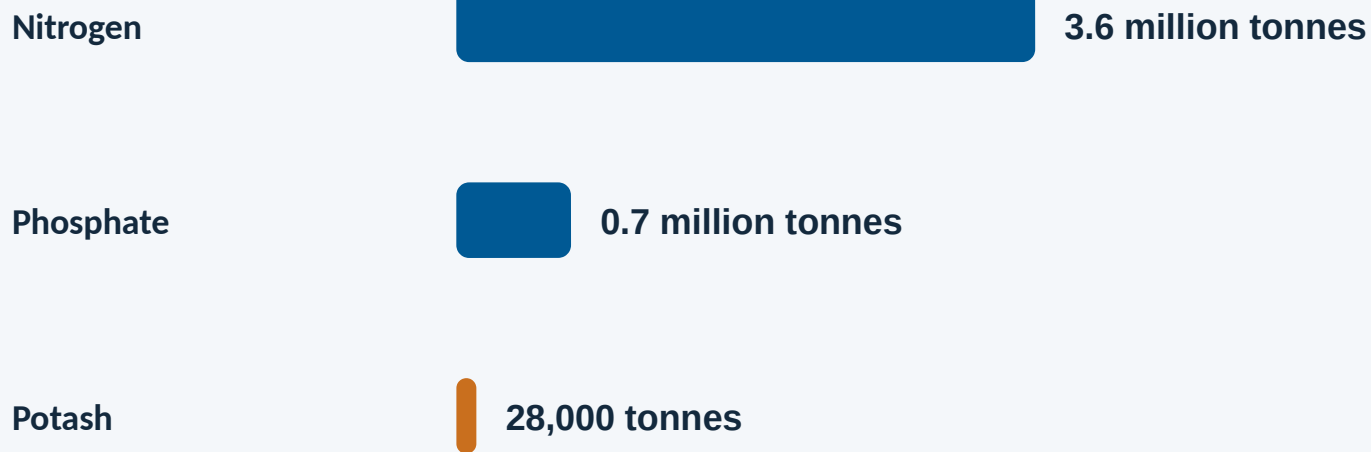
Vital Agri Nutrients (Pvt) Ltd · van.com.pk

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

THE PROBLEM

Pakistan buys nitrogen. It barely buys potash.

Fertilizer offtake, 2022-23 — the three macronutrients at the same scale.



2

kg / ha

the average potassium applied in Pakistan — the lowest rate in the world

40% of soils are now potassium-deficient, despite mica-rich parent material, from continuous cropping without replenishment.

Bar length is to scale. The potash bar is not a rounding error.

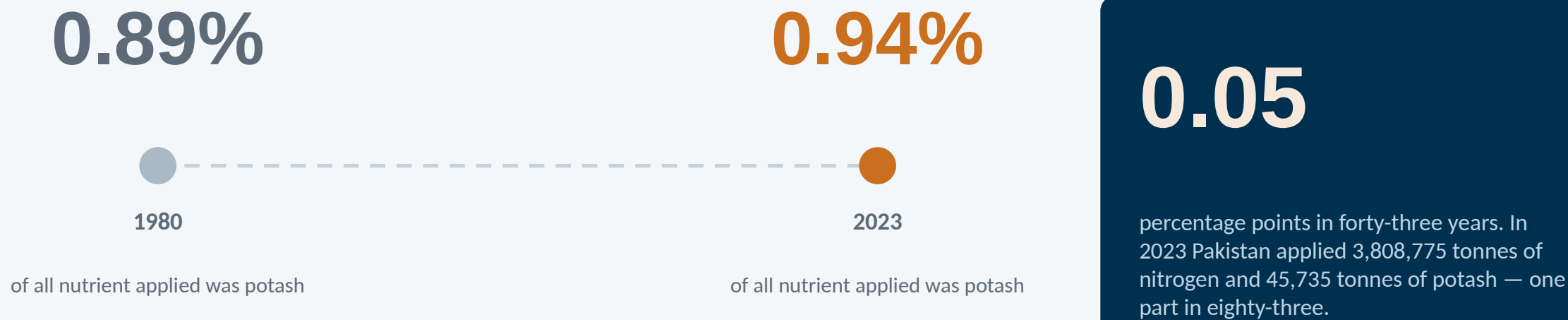


And it goes on late. Potash is usually applied at mid-life, but the crop needs it from day one — for water and nutrient movement, sugar and starch formation, and resistance to disease and stress.

THE TREND

Forty-three years, and the share has barely moved.

Potash as a percentage of all fertilizer nutrient applied in Pakistan.



This is not a price effect and it is not a preference. It is the largest single nutritional deficit in Pakistani agriculture.

Potash is applied at mid-life. The crop asks for it at sowing.

The gap between the two is where the yield goes.

How it is usually applied

A top-dress at mid-life, once the crop is visibly growing and the nitrogen has gone on.

- Arrives after early root and tiller development
- Misses the window when water relations are being set
- Much of the season-long demand has already passed

What Fusion Potash does

A basal product, applied at land preparation or sowing, before the demand curve starts.

- In the root zone before the root gets there
- Sulfur and boron arrive at the same time, in the same place
- One operation, at a point in the season the grower is already in the field

VAN publishes no yield figure for early versus late potash. The uptake curve on the next slide is the argument.

Sugarcane takes up more potassium than nitrogen.

Highest recorded uptake across the genotypes tested — VAN field measurement.

Potassium (K)



265 kg/ha

Nitrogen (N)



220 kg/ha

Phosphorus (P)



63 kg/ha

265

kilograms of potassium per hectare

against 220 kg of nitrogen — for the same crop, in the same season

And 66–122% of that potassium uptake is complete by flowering, against 65–70% for nitrogen and 46–50% for phosphorus. A mid-season application arrives after the fact.



Fusion Potash is a basal product for exactly this reason.

What potassium is actually doing in there.

Six functions, none of which the plant can perform without it.

1 Water & nutrients

Moves both through the plant — potassium runs the transport system

2 Sugar & starch

Essential to their formation, which is where yield and quality come from

3 Root system

Promotes a healthy, deeper root architecture

4 Plant vigour

Increases overall vigour and standing ability

5 Disease & cold

Raises resistance to disease and to low temperature

6 Produce quality

Improves the quality of what comes off the field

What a potassium-short crop looks like.

General agronomy, not a VAN measurement — but it is what the grower sees first.

1 Older leaves first

Potassium is mobile, so the plant moves it to new growth and the old leaves pay

2 Marginal scorch

Yellowing then browning along leaf margins and tips, working inward

3 Weak stalks

Poor standing ability and lodging before harvest

4 Poor filling

Small or unevenly filled grain, tubers and fruit

5 Stress intolerance

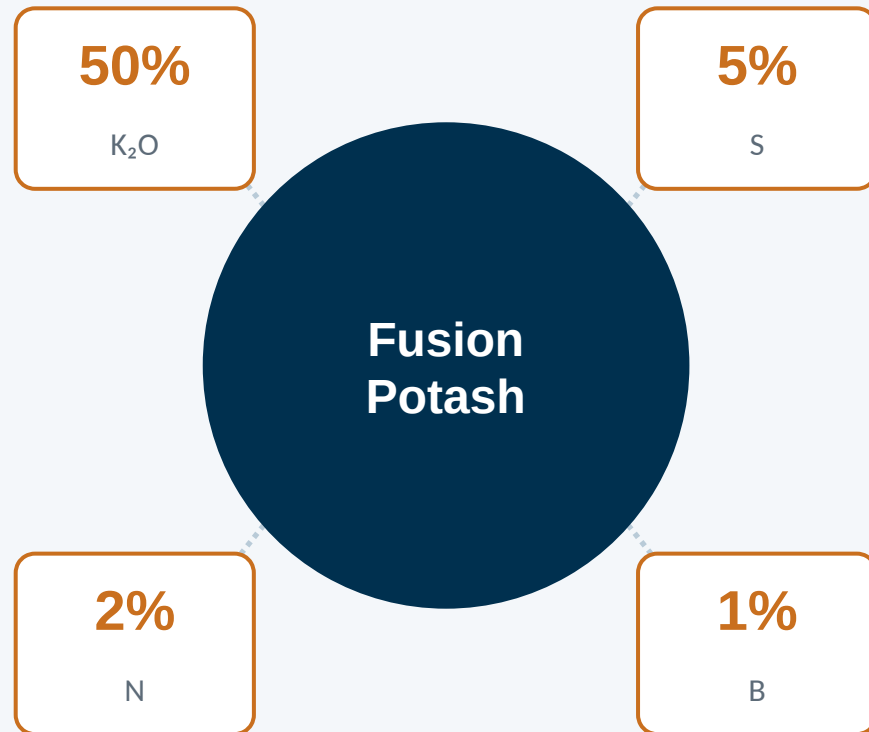
Less tolerance of drought, heat and cold than the same crop well fed

6 More disease

Higher incidence of the diseases the crop was already exposed to

What the label declares.

As registered under PS 933-2026 and as published on van.com.pk.



NEUTRAL PH

6.5 – 7.5

usable on alkaline ground without pushing pH further up

SOLUBILITY

300 g / L

at 25°C — fully soluble, so it runs in fertigation

COLOUR & FORM

Light yellow

crystalline powder and a granular (danaydar) grade

The label is the minimum. The formulation does more.

What is engineered into the granule, beyond the four declared nutrients.

1 Boron, coated on

Boron is applied as a coating on the potash granule rather than blended in beside it, so the two cannot separate in the bag, in the spreader or on the ground.

2 Two boron chemistries

Sodium borate and calcium borate are both present on every granule — one immediately available, one holding on for later in the season.

3 Magnesium built in

Magnesium is part of the formulation, supporting chlorophyll formation and photosynthesis alongside the nitrogen.

4 Potassium and sulfur together

The two work synergistically, and delivering them from one granule means one application instead of two.

Not every ingredient in a fertilizer may be declared on its label. Where an ingredient is in the product but not label-declarable, VAN names it and does not quote a figure.

One boron releases now. The other releases later.

Boron has the narrowest window of any nutrient the crop needs — short of it, yield falls; over it, the crop is damaged. Two chemistries widen the safe window.

Sodium borate

The more soluble of the two. Goes into solution quickly once moisture reaches the granule.

- Available to the early crop, when flowering structures are being set
- Moves with soil water to the root
- Matches demand at the front of the season

Calcium borate

The less soluble of the two. Stays put and releases across the season rather than all at once.

- Extends boron supply past the first irrigation
- Less prone to leaching out of the root zone
- Keeps the crop supplied into fruit and grain set

Both are on every granule. The grower makes no decision between them — the formulation already has.

A blend separates. A coated granule cannot.

Boron is needed in grams per acre and is damaging in tens of grams. How it is carried decides whether the field gets it evenly.

Blended

A separate boron granule mixed in beside the potash. Bigger, fewer and heavier than the potash prills.

- Segregates in the bag, in transport and in the spreader
- Boron lands only where its own granules land
- Some ground gets none; some gets a concentrated dose

Coated — Fusion Potash

Two forms of boron coated onto every potash granule at manufacture.

- Cannot separate — there is nothing to separate from
- Boron lands wherever the potash lands
- The same ratio in every part of the field, all season

VAN publishes no distribution-uniformity percentage for either. The mechanism is the claim.

What the International Potash Institute credits to potassium.

These are IPI's figures for potassium as a nutrient. They are not VAN trial results and they are not claims for this product.

30–100%

higher tolerance to pests and diseases

20%

better nitrogen use efficiency

20%

higher crop yield and quality

20%

contribution to food security



Attribution matters. VAN has run no trial that produces these numbers. They are reproduced from the IPI because they describe the nutrient, and a grower deciding whether potassium is worth buying is entitled to see them — with the name of whoever measured them attached.

Why pH and solubility decide where it can go.

1

Neutral pH 6.5–7.5

Most Pakistani soils are already alkaline. A potash source that is itself alkaline pushes the soil further in the wrong direction; a neutral one does not.

2

300 g/L at 25°C

Fully soluble, so the same product that broadcasts on the ground also runs through drip, sprinkler and pivot without residue in the line.

3

Light yellow, uniform

Consistent particle appearance means a dealer and a grower can see at a glance that the bag has not been cut or substituted.

4

Powder and granular

A crystalline powder for fertigation and blending, and a granular (danaydar) grade for spreading — the same analysis in both.

Same analysis. Two physical specifications.

The grade is chosen by how the fertilizer is going to reach the crop, not by what is in it.

Crystalline powder

The original grade. Dissolves fast and completely.

- Fertigation — drip, sprinkler and pivot
- Tank mixing where a rapid, complete dissolve is needed
- Blending into a custom formulation

Granular (danaydar)

The spreadable grade. Sized and hardened for mechanical and manual broadcasting.

- Band placement at land preparation or sowing
- Broadcasting by spreader or by hand
- Handling and storage where a powder would cake or drift

Fusion Potash appears in 24 of VAN's published crop programmes.

Not a recommendation invented for this deck — these are the programmes VAN publishes on van.com.pk, with a dose and a growth stage for each.

Wheat

Maize

Cotton

Sugarcane

Ratoon Sugarcane

Basmati Rice

Hybrid Rice

Potato

Onion

Garlic

Tomato

Chili

Canola

Sunflower

Soybean

Lentil

Turmeric

Watermelon

Strawberry

Mango

Date Palm

Citrus — 5 years and over

Banana — 1st year

Banana — 2nd year

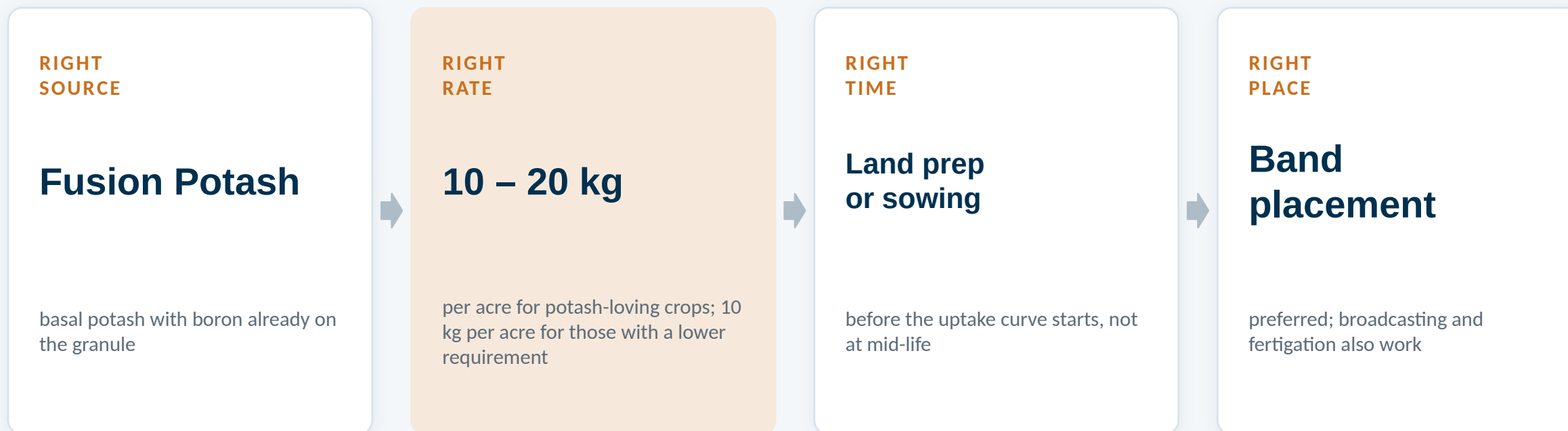
24 crop programmes. Every one of them is published in full, free, at van.com.pk/crops/ — product, rate, growth stage and method.

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The published programme is the rate to start from. A soil test is the rate to finish with — VAN Lab tests soil and fertilizer at prices published on the site.

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

VAN publishes a rate and a stage. It does not publish a yield promise.

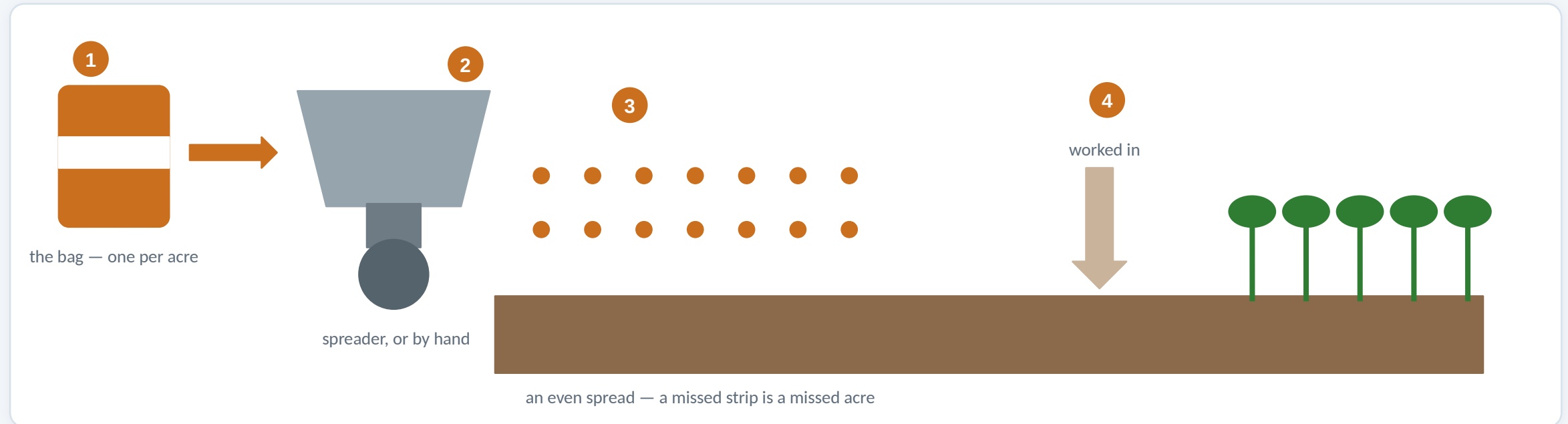


Rate varies by crop, soil test and region. The figures above are the published starting point, not a substitute for a soil analysis.

HOW IT IS APPLIED

An even spread, then worked in.

A potash that is spread and worked in, not sprayed.



1 Measure it
10–20 kg per acre, by soil test.

2 Spread evenly
Spreader or by hand. A missed strip is a missed acre and it shows at harvest, not on the day.

3 Work it in
Incorporate into the root zone. Material left on the surface is not where the roots are.

4 At the right stage
At land preparation or sowing, band-placed ahead of the crop.

Doses are per acre, from VAN agronomy. Incorporation is not optional — it is the difference between feeding the crop and feeding the surface.

Three ways in, and one of them is better than the other two.

1

Band placement

The preferred method. Places the granule in a concentrated band where the root will find it, rather than spreading it across ground the root never reaches.

2

Broadcasting

Even distribution across the field at land preparation, incorporated before or at sowing. Simplest, and the most common in practice.

3

Fertigation

The powder grade dissolves completely at 300 g/L, so it can be delivered through drip, sprinkler or pivot with the irrigation.

What is behind the bag.

1

PS 933-2026

Registered against the Pakistan Standard for multinutrient fertilizer.

2

Licence CM/L-2674/2028

PSQCA marks licence, current, printed on the pack.

3

Tested before it ships

Every batch VAN makes is tested in VAN's own PNAC-accredited laboratory, ISO/IEC 17025:2017, LAB-336, before it leaves the plant.

4

Certificate on request

Send the batch number off the bag and VAN will send you the certificate of analysis for that batch. Free, no sample, no form.

Four reasons, and none of them is a yield claim.

1

Rich nutrient source

Potash plus sulfur, boron and nitrogen — four declared nutrients where a straight potash gives one.

2

Neutral pH

pH 6.5–7.5. On alkaline ground that matters: it does not push soil pH further in the wrong direction.

3

High solubility

300 g/L at 25°C, fully soluble — so it runs through high-efficiency irrigation as well as going on the ground.

4

Even boron

Coated, not blended, in two chemistries. Boron cannot segregate from the potash it is sitting on.

SOURCES

Where every figure in this deck came from.

Analysis, standard, licence

van.com.pk product page — 2-0-50 + S 5% · B 1%, PS 933-2026, CM/L-2674/2028

Offtake and 2 kg/ha

Pakistan Fertilizer Statistics, 2012-13 to 2022-23

Potassium deficiency in soils

Wakeel, A. & Magen, H. (2017). Potash Use for Sustainable Crop Production in Pakistan: A Review. Int. J. Agric. Biol. 19(3)

1980 and 2023 potash share

van.com.pk — Vital Potash, national potash picture

Sugarcane uptake, 265 vs 220

VAN field measurement, published on van.com.pk

Potassium benefit percentages

International Potash Institute (IPI) — cited as IPI's figures, not VAN's

pH, solubility, physical form

VAN product data, Fusion Potash LMS 2026

Crop programmes

van.com.pk/crops/ — 24 published programmes name Fusion Potash

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