

PRODUCT KNOWLEDGE · SOIL & ORGANIC

Humi Grow Plus

Humic acid 10% · K_2O 3.5% · liquid potassium humate

Potassium humate in liquid form, built to go down the irrigation line. It does not feed the crop — it repairs the soil that everything else in the programme depends on.

PS 5610-2023

Licence CM/L-3274/2024

4 L · 20 L

Fertigation



THE PROBLEM

Most Pakistani cropping soils are running below 1% organic matter.

What a soil needs to hold nutrients, and what it has.

A healthy soil



3–5% organic matter

Typical Pakistani cropping soil



under 1%

< 1%

organic matter in most cropping soils

and organic matter is what holds nutrients, holds water and holds structure

A soil below 1% organic matter cannot retain what you apply to it. Nutrients move through it instead of staying in it, and every bag after that is treating a symptom.

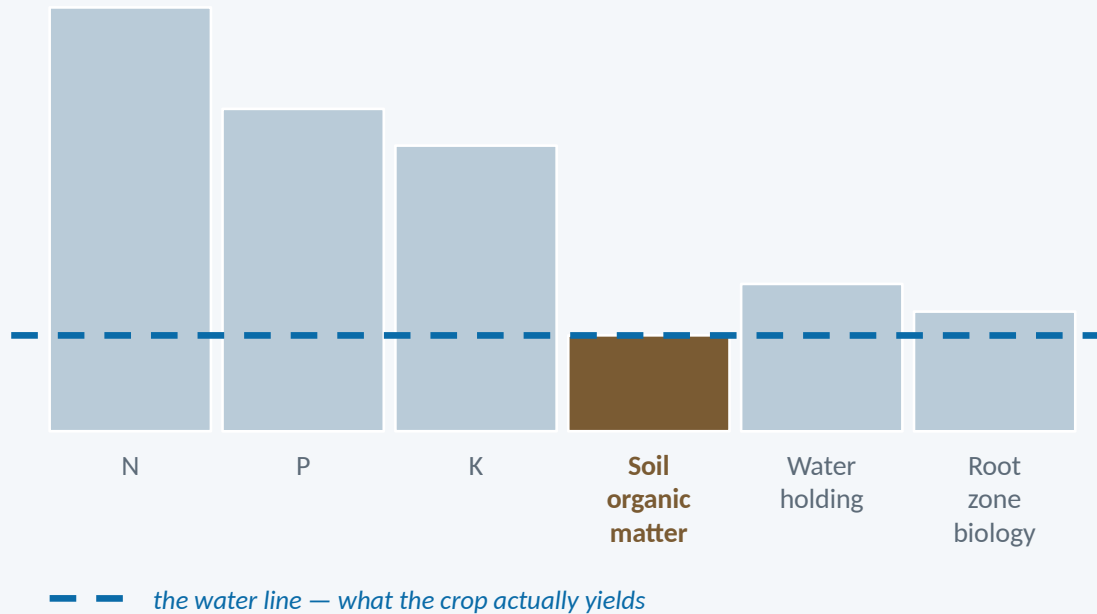
Indicative proportions. The point is the gap, and the gap is not controversial.



This is why nutrient use efficiency in Pakistan is low almost regardless of which nutrient is applied. The limitation is often the soil, not the fertilizer.

Sometimes the shortest stave is not a nutrient at all.

Carl Sprengel set the law out in 1840; Justus von Liebig made it famous. It is usually read as being about nutrients. It is really about whatever is limiting.



The soil itself

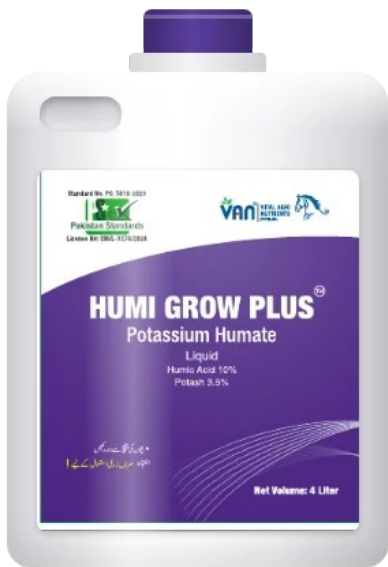
A soil with no organic matter cannot hold nutrients, cannot hold water and gives a root nothing to work through. Every nutrient stave above it is capped by that. Humi Grow Plus adds almost no nutrition — it lengthens the stave underneath all of them.

The staves show the shape of the problem, not measured soil values. A soil test reports organic matter as well as nutrients — VAN Lab publishes its prices.

THE PACK

What is actually in the bottle.

A liquid concentrate for growers already running an irrigation system.



Humi Grow Plus — 4 L and 20 L

HUMIC ACID

10%

POTASH

K₂O 3.5%

FORM

Liquid — dilutes and injects, no dissolving step

ROUTE

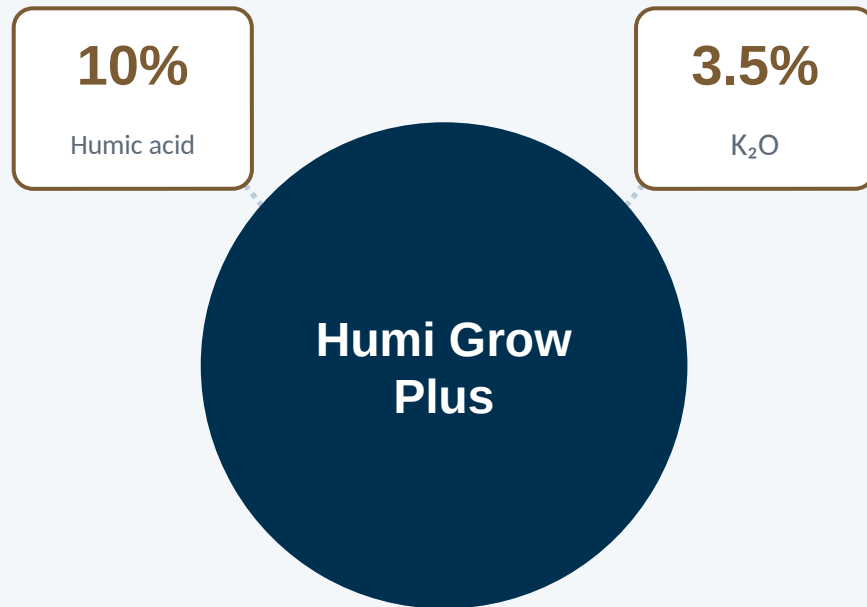
Fertigation, at germination and early growth

STANDARD & LICENCE

PS 5610-2023 • PSQCA marks licence CM/L-3274/2024

What the label declares.

As registered under PS 5610-2023 and as published on van.com.pk.



FORM

Liquid

injects straight into a fertigation line

ROUTE

Fertigation

reaches the whole wetted root zone,
not a spreader strip

ROLE

Soil conditioner

a soil amendment, not a nutrition
programme

Four things a humate does that a nutrient cannot.

This product is bought for what it does to the soil, not for what it feeds the plant.

1 Chelates the cations that lock nutrients up

Humic substances bind calcium, iron and aluminium — the three cations that capture phosphate on calcareous ground — so applied phosphorus stays available for longer instead of being fixed within days.

2 Holds water in the root zone

Raises the soil's absorption and retention. On irrigated ground in a water-scarce country that is a second return sitting alongside the nutrition one.

3 Buffers the soil

Increases buffering capacity, so the soil resists swings in pH and salt concentration rather than transmitting them straight to the root.

4 Delivered where the roots actually are

A liquid injected with the irrigation goes into the wetted zone the roots occupy. A solid worked into the top few inches does not always get there.

The measurable result is nutrient use efficiency. This product is sold into a nutrition programme to make the rest of it work, not to replace part of it.

Humates work on the interactions rather than on the nutrients.

Established interactions between soil nutrients — after Mulder. These describe how nutrients behave with one another, not how Humi Grow Plus performs.



Works with

Chelation of calcium, iron and aluminium keeps applied phosphate available instead of fixed

The same chelation holds zinc, iron, manganese and copper in a plant-available form on soil that would otherwise precipitate them

Better water retention improves uptake of every nutrient, because uptake happens in the soil solution

A buffered root zone lets a starter fertilizer work at the pH it was designed for



Competes with

Excess calcium suppresses phosphorus, magnesium, zinc, iron, manganese, boron and potassium together — the standing condition of calcareous soil, and what a humate buys you out of

Excess phosphorus suppresses zinc, iron and copper

Excess potassium suppresses calcium, magnesium and boron — worth counting, since this product carries a little potash

Run-off is not an antagonism but it is a loss: a soil that cannot hold nutrients loses them regardless of what else is right

Almost every antagonism in the right-hand column is made worse by low organic matter and better by raising it. That is the argument for this product in one line.

What it does for the soil and the root.

Six effects, all structural rather than nutritional.

1 Aggregate structure

Promotes larger, more stable aggregates — which is what creates pore space at all

2 Water holding

Raises absorption and retention, which matters most on light soils

3 Buffering

The soil resists pH and salinity swings instead of passing them to the root

4 Nutrient retention

Holds applied fertilizer in the root zone rather than letting it move off with the water

5 Micronutrient access

Chelation keeps iron, zinc, manganese and copper available on ground that would otherwise lock them up

6 Early root growth

A structured, moist, buffered root zone is a better place to build a root system — which is why this sits at germination and early growth

The pellet and the liquid are the same idea bought differently.

Which one fits depends on the equipment in the field, not on the agronomy.

Humi Grow — pellet

Concentrated potassium humate, spread and incorporated.

- 40% humic acid — the concentrated form
- Applied at land preparation, before sowing
- Spreads with normal equipment; also dissolves
- For a grower without a fertigation system

Humi Grow Plus — liquid

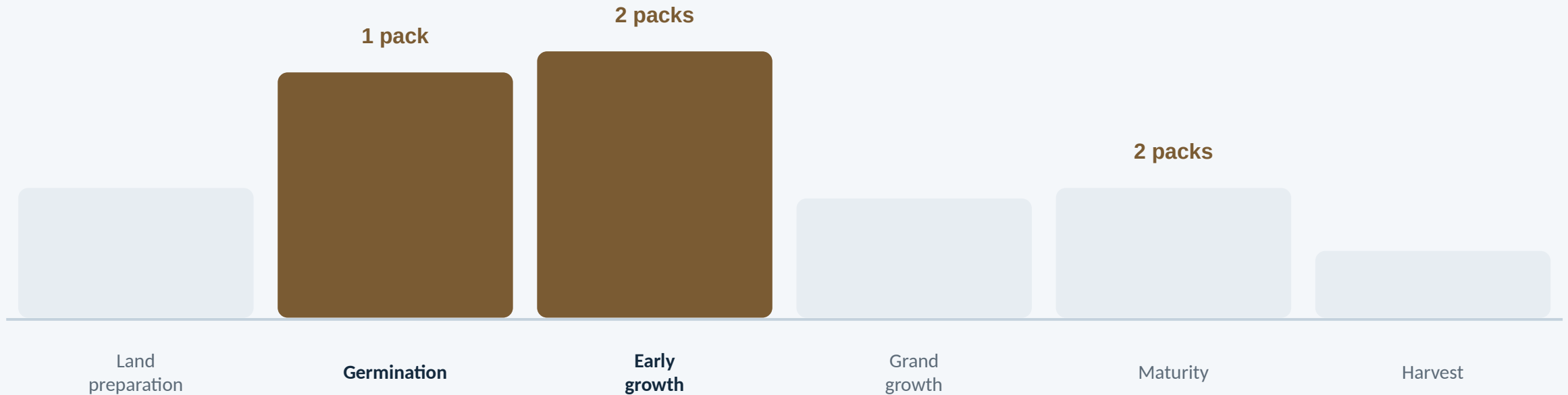
Humic acid with potash, injected with the irrigation.

- 10% humic acid — dilute, but delivered in solution
- Applied at germination and early growth, with the crop already in
- Injects directly — no dissolving, no spreader pass
- For a grower already running fertigation

Do not compare the two on humic acid percentage alone. One is a bulk soil application before sowing; the other is a placed, in-season application through the water.

This is an early-season product.

Where Humi Grow Plus sits in VAN's published crop programmes.



Germination: 1 pack (4 L). Early growth: 2 packs. Strawberry also carries 2 packs at maturity. The early weight is deliberate — soil structure has to be in place before the root system that will use it.

Stage weights show where the published programmes place the product, not a measured uptake curve.

WHERE IT IS USED

Eight crops in the published programmes, across field and horticulture.

Humi Grow Plus appears in VAN's locked 2025 crop nutrition plans as a fertigation application at germination or early growth.

Wheat

Corn

Potato

Garlic

Citrus

Strawberry

Ratoon Sugarcane

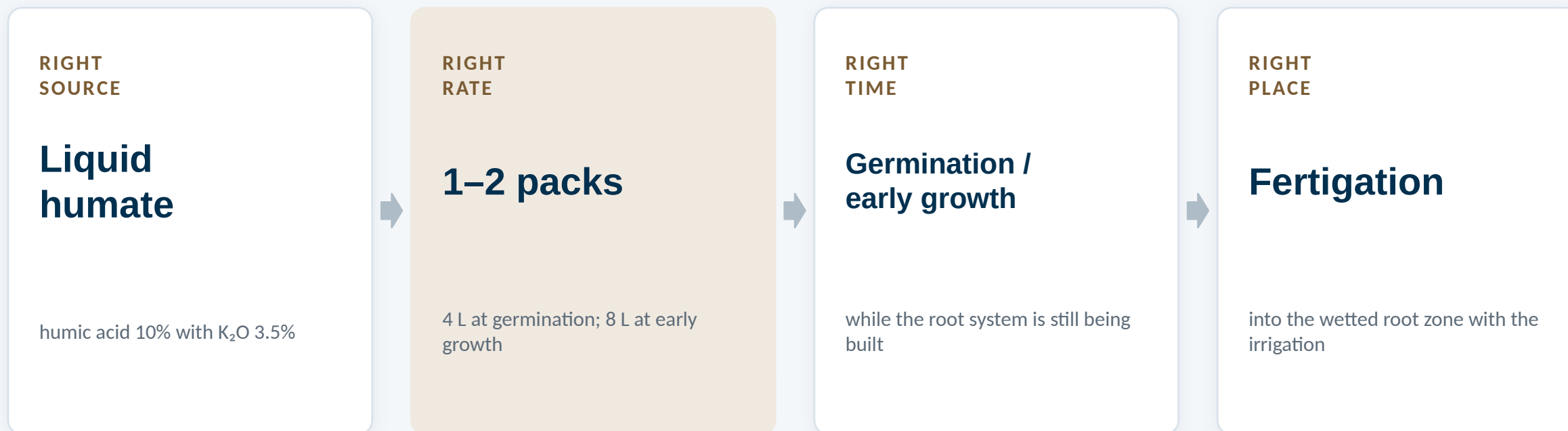
Onion

Published stage-by-stage at van.com.pk/crops/.

i The pattern is consistent: one pack at germination, two packs at early growth. Strawberry is the exception, carrying a second application at maturity.

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

The published doses. VAN publishes a rate and a stage, not a yield promise.

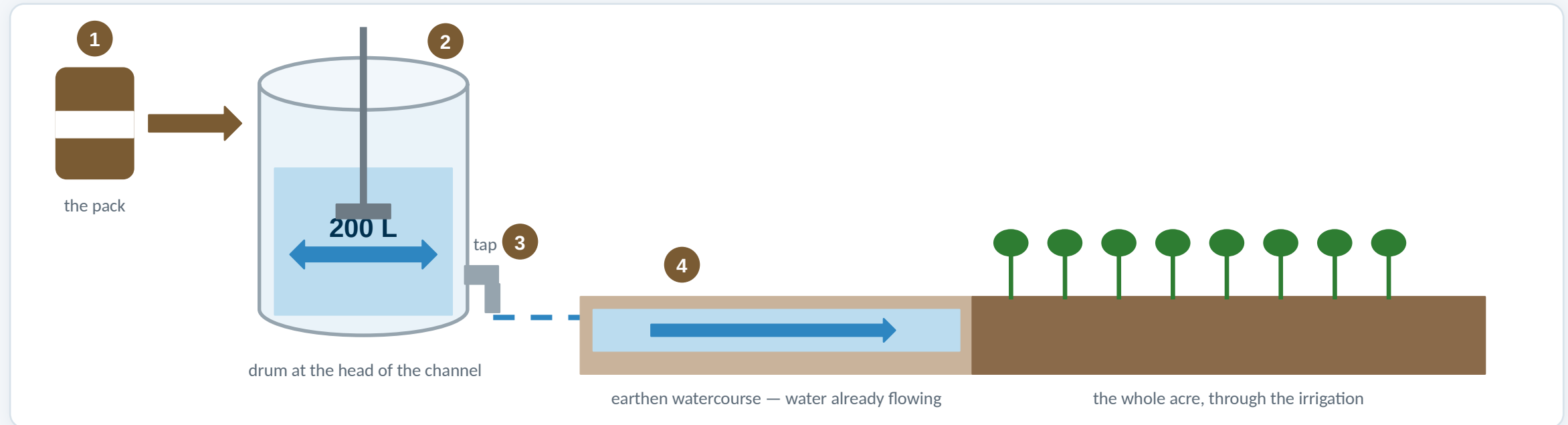


The effect on organic matter is cumulative across seasons. A single season is worth having; a programme is what actually moves the number.

HOW IT IS APPLIED

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

A liquid humate injected with the irrigation lands in the wetted zone the roots occupy.



1 Measure it

1 pack (4 L) at germination, 2 packs at early growth. 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

At germination and early growth, while the root system is being built. 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.

Four things that decide whether it works.

1

It is not a fertilizer

Do not budget it against a bag of urea. Budget it against the share of your nitrogen and phosphorus that currently never reaches the crop.

2

Do not read the 10% against the pellet's 40%

Different form, different application, different rate. The comparison that matters is humic acid delivered per acre, in solution, at the right stage.

3

Early, not late

It is placed at germination and early growth because that is when a root system is being built. Applied at maturity it is late for the job it does.

4

Count the potash

K₂O 3.5% is small but it is not zero. On a programme already heavy in potash, count it in — excess potassium suppresses calcium, magnesium and boron.

What is behind the bottle.

1

PS 5610-2023

Registered against the Pakistan Standard for the product class.

2

Licence CM/L-3274/2024

PSQCA marks licence, printed on the pack.

3

Tested before it ships

Every batch is tested in VAN's own PNAC-accredited laboratory, ISO/IEC 17025:2017, LAB-336.

4

Certificate on request

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

SOURCES

Where every figure in this deck came from.

Analysis, standard, licence

van.com.pk — humic acid 10%, K₂O 3.5%, PS 5610-2023, CM/L-3274/2024, 4 L and 20 L

Doses and stages

VAN locked crop nutrition plans, 2025 set — garlic, strawberry, corn, citrus, potato, wheat, ratoon sugarcane

Soil effects

VAN Humi Grow product-knowledge material — aggregation, water holding, buffering, chelation, run-off

Nutrient interactions

After Mulder's chart — established relationships

Law of the minimum

Carl Sprengel (1840), popularised by Justus von Liebig

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