



Manufactured lime for soil pH management

Optima Lime blends Bio-Lime, lime reagents and calcium-solubilising agents for systems where tillage is limited and an earlier pH response is a priority. [1]



Assess reactivity, neutralising capacity and placement together.

83.7%

Bulk neutralising value

12.4

Product pH (CaCl₂)

33.5%

Total calcium

126 kg/t

Ultrafine particles <0.075 mm

Wanneroo sample analysed 21 January 2026 | Laboratory NW26-0039. [2]

How to assess Hi-Cal

01 Reactivity

Optima positions the alkaline reagents for an earlier response. Product pH alone does not establish a field reaction rate. [1]

02 Capacity

Bulk NV represents acid-neutralising capacity relative to pure calcium carbonate. One tonne carries 0.837 t of theoretical CaCO₃-equivalent capacity. [2,4]

03 Placement

Reaction depends on contact with acid, moisture, particle size and mixing. Match the product and application method to the soil profile. [4]

Supply: Wanneroo / Wesco Road, Nowergup. Confirm collection details when ordering. [1,2]

Fine fractions: compare the right size

Hi-Cal contains more ultrafine material below 0.075 mm than these limesands. Its total fraction below 0.5 mm is smaller. Hi-Cal and Bio-Lime samples: January 2026; others: December 2025. [2]

Product / source	Bulk NV (%)	pH CaCl ₂	Available lime (%)	Total Ca (%)	<0.5 mm (%)
Hi-Cal / Wanneroo	83.7	12.4	0.85	33.5	64.4
Bio-Lime / Wanneroo	82.6	9.3	0.19	33.0	80.7
Agri-Cal / Dongara	92.5	10.8	2.03	37.0	98.5
Limesand / Boranup	89.8	8.5	0.09	35.9	89.4
Limesand / Dongara	90.5	8.4	0.16	36.2	97.9
Limesand / Lancelin	95.3	8.5	0.25	38.1	96.1

Fine fractions are sums of the published sieve classes below 0.5 mm; rounding applies. [2]
Dongara sizing: 30.8% + 54.2% + 12.0% + 0.9% = 97.9%. Analysis: 3 December 2025, NW25-00948-S02.

Particle mass at the example application rates

Particle class	1 t/ha Hi-Cal kg/ha	3 t/ha Lancelin kg/ha	3 t/ha Boranup kg/ha
0.25-0.50 mm	238	1,626	1,569
0.15-0.25 mm	201	1,044	951
0.075-0.15 mm	79	195	135
<0.075 mm (ultrafine)	126	18	27
Total below 0.5 mm	644	2,883	2,682

Ultrafine material below 0.075 mm

1 t Hi-Cal		126 kg
3 t Lancelin		18 kg
3 t Boranup		27 kg

7 X

126 kg in 1 t Hi-Cal versus 18 kg in 3 t Lancelin sand. This ultrafine advantage may aid early reaction; a 1:3 field equivalence is not established. [2,4]

Mass = rate x 1,000 x sieve fraction. Available lime is a separate assay indicator, not soluble Ca.

Dumbleyung 2025: reported responses

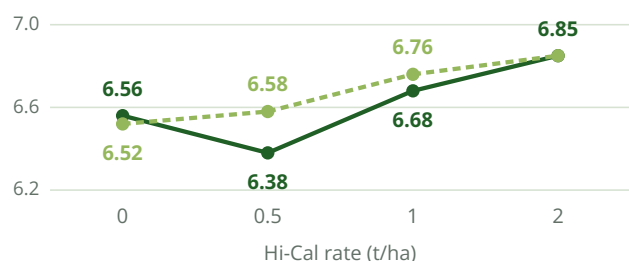
Four rates across 15 plots in three blocks. Layout counts: control n=4; 0.5 t/ha n=3; 1 and 2 t/ha n=4 each. Results below reproduce the supplied treatment means. [3]



Actual trial site | soil depths: 0-5 cm (topsoil) and 20-25 cm (subsoil)

Soil pH (water)

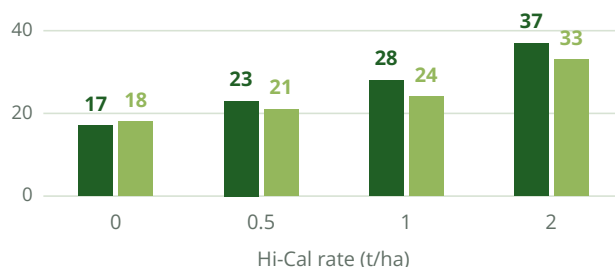
Water pH | 2:1 paste extract



■ Topsoil 0-5 cm ■ Subsoil 20-25 cm

Available soil calcium

mg/kg, as reported | 2:1 paste extract

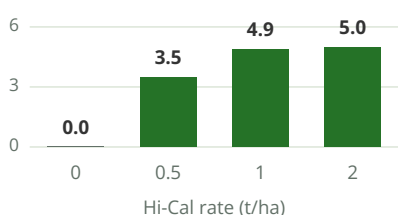


At 2 t/ha vs control: subsoil available Ca +83.3%; water pH +0.33 units.

Subsoil indicator: available Ca above control at 20-25 cm is consistent with lime-derived Ca moving downward. CSBP HLW +5.0%; screenings -60.4%. Descriptive treatment means. [3]

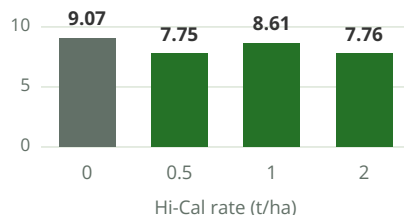
HLW response*

CSBP | change vs control (%)



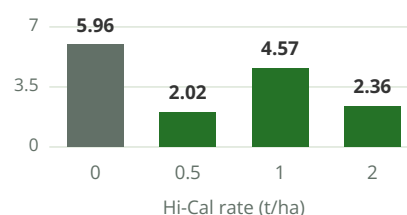
Protein

CSBP analysis (%)



Screenings

CSBP analysis (%)



Rate t/ha	Water pH 0-5 cm	Water pH 20-25 cm	Available Ca mg/kg 0-5 cm	Available Ca mg/kg 20-25 cm	HLW change* % vs control	Protein %	Screenings %
0	6.56	6.52	17	18	0.0	9.07	5.96
0.5	6.38	6.58	23	21	+3.5	7.75	2.02
1	6.68	6.76	28	24	+4.9	8.61	4.57
2	6.85	6.85	37	33	+5.0	7.76	2.36

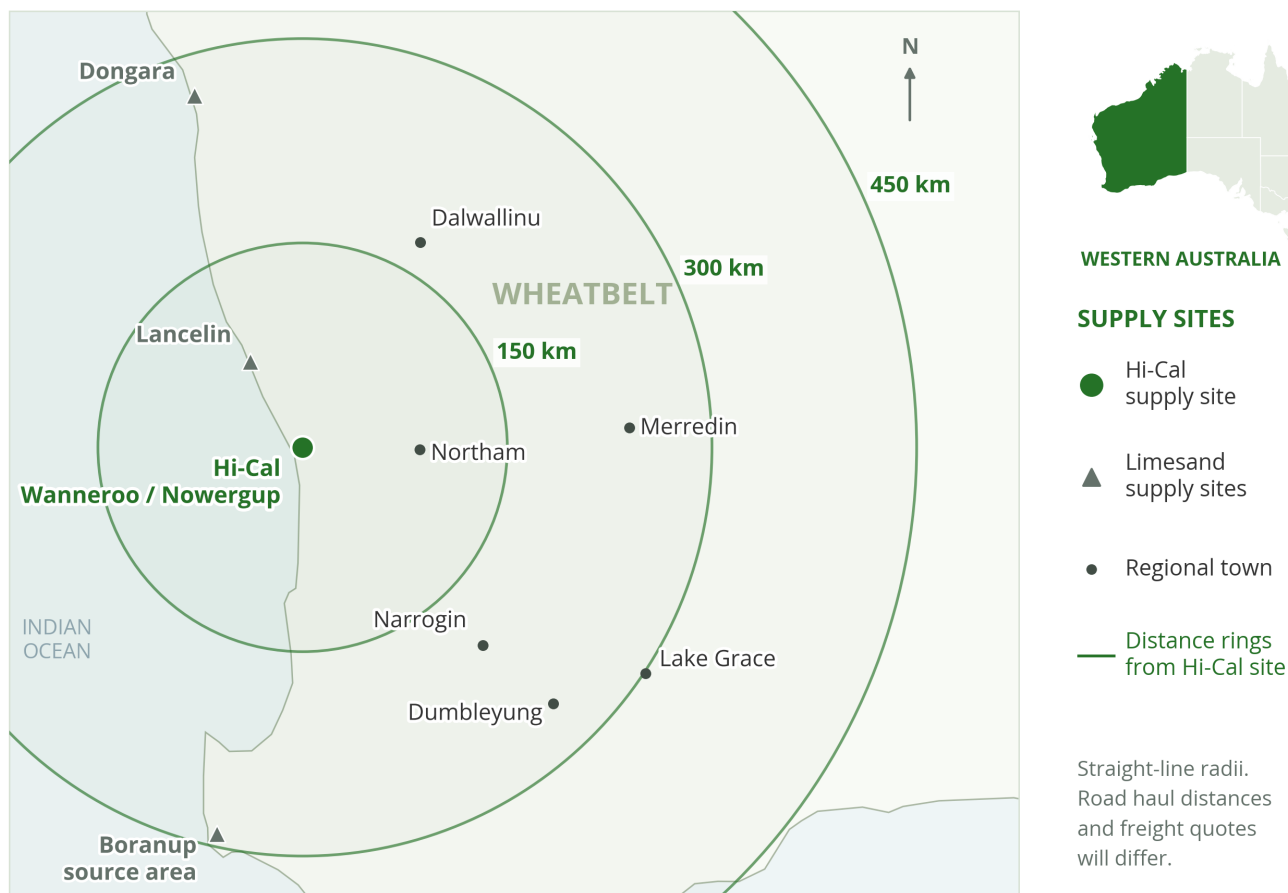
Soil method: "2:1 saturated paste extract", as supplied; water pH and available Ca (mg/kg, as reported).

CSBP grain analysis: HLW, protein and screenings. * **HLW:** test weight is conventionally reported in kg/hL [7]. Change vs control is shown because the supplied masses have no confirmed test volume. Change = (treatment / control - 1) x 100.

Subsoil differences are consistent with downward movement of lime-derived calcium. Raw plot data and significance tests were not supplied. [3]

Freight exposure across the Wheatbelt

Distance and tonnes carted drive freight exposure. Where a lower application rate meets the soil objective, fewer tonnes can offset a higher product price as hauls lengthen. Compare the actual source-to-paddock route. [5]



Cost factors to compare

Product

Purchase price, required tonnage and neutralising capacity supplied. Assess the current specification.

Transport

Road distance, tonnes carted, truck payload, loading time, carrier arrangements and backloading.

Field performance

Required rate, spreading and handling, reaction timing and total acidity correction.

Longer hauls make fewer carted tonnes more valuable.

Use that advantage where the lower rate achieves the paddock soil-management objective.

[1] Hi-Cal product and supply information
[3] Supplied HiCal 2025 trial handout
[5] Optima lime economics, February 2026

[2] Current product specifications
[4] DPIRD lime quality audit
[6] Map: GA Gazetteer / Natural Earth / Optima pins