

TRIAL SUMMARIES

Chickpea, Nutrition, HRZ Southern Wimmera (Telangatuk), Victoria

Aim

To investigate the response of chickpea to application of macro and micro-nutrients.

Treatments

Variety: Genesis090

Treatments: See Table 1. The All Nut treatment had 10 kg/ha N, 15 kg/ha P, 30 kg/ha K, 12 kg/ha S, 2.5 kg/ha Zn, 2 kg/ha Cu, 3.5 kg/ha Mn and 0.06 kg/ha Mo.

Other Site Details

Sowing date	01 May
Stubble (height cm)	Standing (10)
Row Spacing (cm)	30
Plant density (plants/m²)	35

Results and Interpretation

- **Key Messages:** Grain yield was very low and variable in 2018 due to low soil pH at the site and water logging in part of the trial. The removal of phosphorus from the fertiliser significantly reduced plant biomass and showed a trend towards reduced grain yield. However, results should be treated with caution due to high variability in the trial.
- **Establishment and Plant growth:** Establishment was generally uniform despite some slug issues earlier in the season. However, plant growth was very slow and variable due to a dry start to the season. Low soil pH (4.5 in CaCl₂) at the site caused poor root nodulation which resulted in yellowing of leaves, stunting of growth and reduced biomass accumulation. In addition, this trial was impacted by weed competition and water logging in late August.
- **Biomass at Maturity:** A significant response to application of phosphorus was found for biomass at maturity. The all nutrient treatment produced 58 and 63% higher biomass than the all nutrient minus phosphorus and no fertilizer treatments, respectively (Table 1).
- **Grain Yield:** Grain yield was low and variable in 2018, 1.10-2.39 t/ha, due to the above-mentioned constraints, and the differences in grain yield between the soil nutrition treatments were not statistically significant (Table 1).

Table 1. Biomass at maturity (t/ha) and grain yield (t/ha) response of chickpea to application of various macro and micro-nutrients at Telangatuk in 2018.

Treatment	Biomass (t/ha)	Grain Yield (t/ha)
No fertilizer	1.99	1.19
Nut_All	5.36	1.23
Nut_All - N	4.14	2.39
Nut_All - P	2.28	1.10
Nut_All -K	4.09	1.90
Nut_All - S	5.98	1.45
Nut_All - Zn	4.18	2.22
Nut_All - Cu	4.20	1.88
Nut_All - Mn	3.86	2.13
Nut_All - Mo	3.15	1.40
LSD (P<0.05)	2.31	ns
CV	32	33