

A NEW SOIL CONDITIONER FOR BROCCOLI

OBJECTIVE:

To determine if broccoli production is affected by the addition of BorreGRO® HA-1 soil conditioner to standard fertility programmes.

RESULTS:

- A test plot treated with fertiliser and BorreGRO HA-1 soil conditioner produced 93 more boxes of marketable broccoli per acre than a control plot treated with fertiliser alone (Table 1). This correlates to 12.4% more marketable broccoli (Table 3).
- Use of BorreGRO HA-1 lowered soil salinity (Table 2).
- Gross income to the grower increased by 651 dollars per acre over the control (Table 3).

Treatment	Plant Wt (lb)	Head Diameter (mm)	Yield (boxes/acre)
Control	1.49	58	751
BorreGRO HA-1	1.62	59	844

Table 1: Yield Data, Santa Paula CA Trials conducted by Holden Research, California.

PROCEDURES:

The trial was performed by Holden Research, near Santa Paula, California, USA. The trial was conducted on a silty clay loam soil. BorreGRO HA-1 was applied at 1.5 gallons per acre two weeks before planting in addition to a normal fertiliser programme. BorreGRO HA-1 was placed below the seed furrow in 400 gallons per acre of water. The broccoli was planted on October 6th and harvested the following January 6th. The control had the same fertility programme

as the BorreGRO HA-1 treatments. Plant weight was measured throughout the growing season. Broccoli plant weight, head size, and yield, in boxes per acre, were measured at harvest.

Treatment	Soil salinity		Reduction (%)
	29-Oct	26-Nov	
Control	5.5	5.4	2
BorreGRO	5.3	4.4	20.5

Table 2: Effects on Soil Salinity

DISCUSSION:

BorreGRO HA-1 is produced from leonardite using a patented process. It is soluble over the pH range 2-12. Unlike conventional humates, it can be formulated with both acidic and basic fertilisers. In this trial, no precipitation was observed when BorreGRO HA-1 was applied. Conventional humates precipitate when mixed with acid fertiliser.

The results of these trials clearly indicate that broccoli production can be increased by the addition of BorreGRO HA-1 to standard fertility programmes. The results of these trials also support the results obtained in several trials on peppers, tomatoes, and potatoes over several years.

Treatment	Broccoli			
	Yield (boxes/acre)	Increase (%)	Value/acre	Increase (\$/acre)
Control	751	-	\$5,257	-
BorreGRO HA-1	844	12.4	\$5,908	\$651

Table 3: Yield and Value Data. Broccoli price based on 7 dollars per box.

CONCLUSIONS AND RECOMMENDATIONS:

Plots treated with fertiliser and 1.5 gallons of BorreGRO HA-1 per acre produced an average of 12.4% more broccoli than a similar plot treated with fertiliser alone. This range of product application is recommended for future plantings. BorreGRO HA-1 should be diluted for application and applied in-furrow to maximise response. BorreGRO HA-1 can be applied with liquid acid fertilisers.

WHAT DOES BORREGRO DO?

Through extensive crop trials, BorreGRO has been shown to improve the structure of soil by aiding aeration, improving water penetration, and increasing water holding capacity.

BorreGRO can also act as a complexing agent, making natural or supplemented soil nutrients such as iron or zinc available to the plant and soil microbes. In addition to being a source of organic carbon, BorreGRO is also a source of the essential nutrient sulphur. Consequently, use of BorreGRO can result in:

- Increased crop yield
- Increased root mass
- More vigorous early stage growth
- Increased vegetative mass
- Increased chlorophyll content

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