Huma® Breakout® Increases Processing-Tomato Yield With 8:1 ROI

Research Report

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Huma® Products: Breakout®

Objective

In this study, the Huma® growth manager product Breakout® was evaluated in terms of its effects on yield and quality of processing tomatoes.

Materials & Methods

In cooperation with the University of California, processing tomato seedlings were transplanted on a farm in Central Valley of California near Patterson on April 4 and then harvested on August 26. The plots were arranged in a randomized complete block with four replications (Photo 1).

Photo 1. Processing Tomatoes Treatment Plot

While the control plants (Check) did not receive any stimulant treatments, other tomato plants (Huma®) received foliar applications of Breakout® sprays at one pt/acre each on five different dates (05/11, 05/26, 06/08, 06/23, and 07/06) (Table 1). The Breakout® applications started on bud initiation and lasted until about seven weeks prior to harvest. On about May 26, Curly Top Virus (also known as Beet Curly Top Virus—BCTV) appeared on some plants and increased with the passage of time. On July 6, the percentage of plant canopy coverage, and then at harvest the yield, Brix, grade qualities (red, pink, green, sunburn, mold, and blossom end rot) were assessed (Table 2, Table 3).

Table 1. Foliar Spray of Breakout® Treatments on Processing Tomatoes

Treatment	Amount	Days After Transplant
Check	Grower Standard	—
Huma® Applications of Breakout®	1 pt/acre	37
	1 pt/acre	52
	1 pt/acre	65
	1 pt/acre	80
	1 pt/acre	93

Results

Spraying leaves of tomato plants with Breakout® at 1 pt/acre resulted in a 4% increased yield (56 ton/ac) over the Check treatment regime (54 ton/ac) (Figure 1). This yield increase offset the cost of Breakout® application by a factor of 8:1, resulting in a net gain to the grower of $186.04 per acre.

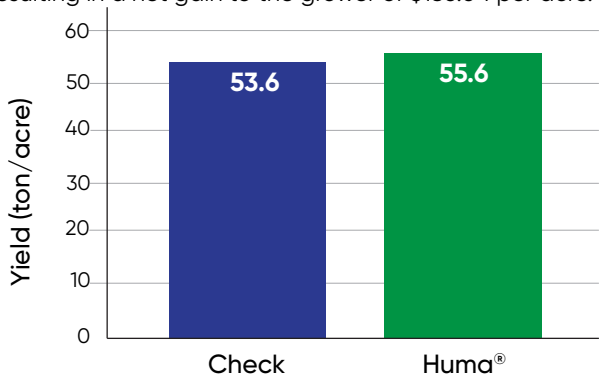

Figure 1. Processing Tomatoes Yield Response of Breakout® Treatments

Brix reading and percentage of red tomatoes, as well as the plant canopy coverage, were higher among the Breakout®-treated plants than the Check plants (Table 2, Table 3).

Table 2. Tomato Plant Canopy Coverage, Brix, and Disease

Treatment	% Canopy Coverage (July 6)	Brix (Harvest)	% Curly Top Virus (June 8)	Blossom End Rot (Harvest)
Check	78	5.475	25	1
Huma®	82	5.625	8	2

Table 3. Tomato Grade Quality, At Harvest

Treatment	% Red	% Pink	% Green	% Sunburn	% Mold
Check	77	2	2	11	7
Huma®	82	2	5	5	5

The Curly Top Virus and mold were more present among the Check plants than the Huma® plants.

Conclusions

The positive outcome of applying Breakout® to processing tomatoes included a 2-ton/acre yield increase, a higher percentage of high-grade tomatoes at harvest, an 8:1 ROI, and net return of $186.04 per acre. The addition of Breakout® is a profitable choice for growers.

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