

Plant Tuff Tomato Trial 2016
Mid-Michigan Agronomy, LLC
Dundee, MI

Objective: To evaluate the effect of Plant Tuff Silicon Fertilizer on the growth and yield of processing tomatoes.

This trial was established as a Randomized Complete Block design and the ANOVA was run using that design. A variety of Roma tomato was planted on 5/16/2016 in a 2-row plot. The treatments were applied to the plot uniformly using a handheld broadcast spreader. Treatments were randomized and replicated four times. The goal in processing tomatoes is to increase tonnage by increasing size and number of the tomatoes.

Plots were harvested on 8/17/2016 and yields (Ton/Acre) were measured for each treatment. Plant weight was also measured to determine whether or not there was a difference in biomass. Total number of tomatoes per plot was also determined.

Location: Dundee, MI
Soil Type: Silty Clay Loam

Planting Date: 05/16/2016
Treatment Date: 05/16/2016
Harvest Date: 08/17/2016
Variety: Roma

Pre-Treatment

Soil Si Range: 16 -77 PPM
Soil Si Avg.: 35 PPM
Soil Si Outliers: 110 PPM

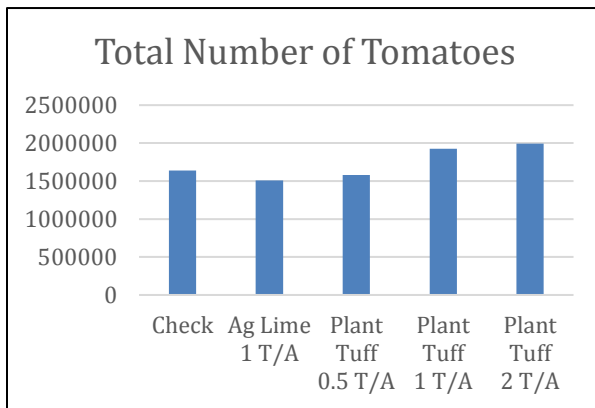
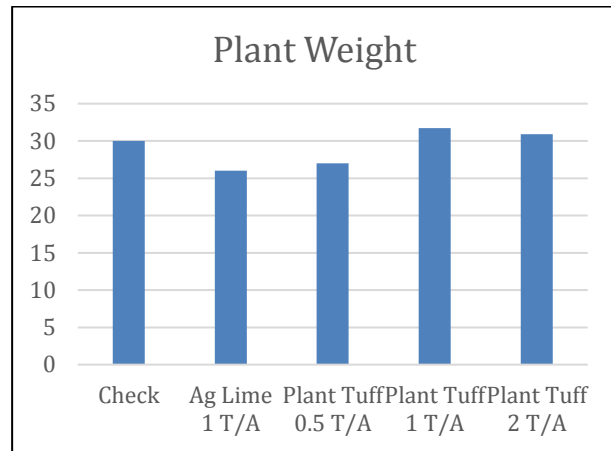
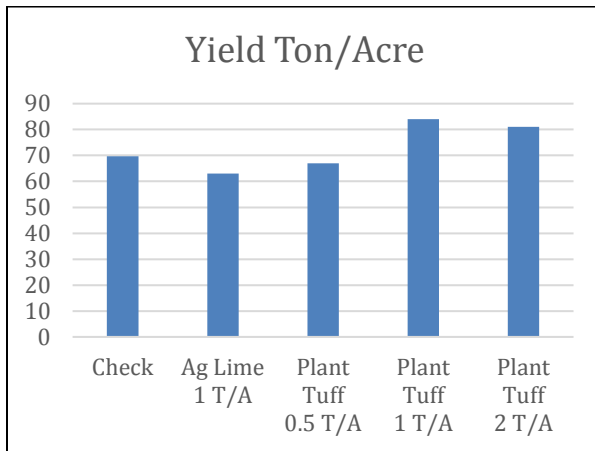
Parameters Measured: Total Yield (T/A)
Plant Weight
Total Number of Fruit

Treatments:

<u>Material</u>	<u>Rate</u>
Untreated Check	---0---
Ag Lime	1 T/A
Plant Tuff	0.5 T/A
Plant Tuff	1 T/A
Plant Tuff	2 T/A

Table 1. Yield for Roma Tomatoes (T/Acre)

Treatment	Rate	Yield Ton/A	Plant Weight	Total Number
Check	0	69.7	30	1638535
Ag Lime	1	63	26	1508900
Plant Tuff	0.5	67	27	1578412
Plant Tuff	1	84	31.7	1927157
Plant Tuff	2	81	30.9	1993486



Results:

Broadcast soil applications of Plant Tuff Silicon Fertilizer were evaluated on Roma processing tomatoes. Treatments included Plant Tuff applied at 0.5, 1.0, and 2.0 tons per acre, Ag Lime applied at 1 ton per acre, and an untreated check. All treatments were applied in the spring prior to planting. The data was statistically analyzed as a Randomized Complete Block design with 4 replicates.

There was a significant trend observed in yield expressed in tons/acre. As the rate of Plant Tuff Silicon Fertilizer was increased there was an increase in total tonnage. The highest yield was observed in the 1-2 ton/Acre rate of Plant Tuff Silicon Fertilizer. Yield for the 1 T/A rate of Plant Tuff was 84 T/A compared to 63 T/A for 1 T/A rate of Ag Lime and 69.7 T/A for the untreated check. The total number of tomatoes was also the highest for the 1 and 2 T/A rates of Plant Tuff Silicon Fertilizer. Increases in numbers of tomatoes ranged from an 18% increase as compared to the untreated check to a 28% increase as compared to the 1 T/A Ag Lime treatment for the plots treated with 1 T/A of Plant Tuff Silicon Fertilizer. Similarly, the plots treated with 2 T/A of Plant Tuff Silicon Fertilizer saw an increase in total number of tomatoes ranging from 22% as compared to the untreated check to 32% as compared to the 1 T/A of Ag Lime. There were no significant trends in plant weight for any of the treatments suggesting that there are more flowers being initiated, more flowers being retained, and more fruit being set in the tomatoes that received Plant Tuff Silicon Fertilizer treatments.

There was a significant trend of increasing total yields (T/A) and of total number of tomatoes as the rate of Plant Tuff Silicon Fertilizer was increased. The timing of application may be a key issue affecting the performance of Plant Tuff's Silicon Fertilizer. It is theorized that a fall application will allow soil microbes to work on the Plant Tuff Silicon Fertilizer and make the nutrients available earlier in the growth season, promoting early plant growth and greater yields.