



Evaluation of Nitrogen and Potassium fertigation ratios on physiological disorder, yield and fruit quality attributes of fresh market tomato cultivars and evaluation of fresh market tomato cultivars

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MATERIALS and METHODS:

This trial compared 2 fresh market tomato cultivars Mountain Spring and Primo Red. Each of the cultivars had five different fertilizer treatments applied. The replicated trial was located in southern Ohio, at the Ohio State University South Centers field research trials in Piketon, Ohio. Seeds were hand planted May 8th into 98 cell Pro Trays filled with soilless mix in the greenhouse. Plants were transplanted onto 10 inch tall raised beds covered with black plastic spaced 12 inches apart in row on June 21st using a waterwheel transplanted. Trickle irrigation was installed under the plastic mulch. Bed spacing was 6 foot apart on center. 70 pounds of N, P2O5 and K2O per acre were applied before forming beds and laying plastic mulch. After the standard commercial fungicide and insecticide program were implemented, following recommendations from the Ohio Vegetable Production Guide, OSU Bulletin #672, weeds were controlled with cultivation and hand hoeing.

Table 1: Total fruit yields and average fruit weight responses for fresh market tomato Nitrogen and Potassium Fertigation Ratios (Piketon), 2012.

Treatment	Marketable lbs. per plant	Yellow Shoulder lbs. per plant	Catfacing lbs. per plant	Average Fruit Weight (lbs.)
Mt. Spring 1:3	15.09	.41	1.34	.552
Primo Red 1:1	12.80	.70	1.27	.558
Mt. Spring 1:4	12.30	.31	.85	.466
Mt. Spring Control	11.88	.52	1.65	.520
Mt. Spring 1:1	11.31	.25	1.33	.506
Primo Red 1:2	9.85	.84	.55	.485
Primo Red 1:4	9.45	.06	.58	.526
Mt Spring 1:2	9.07	.47	1.41	.493
Primo Red 1:3	9.04	.16	3.32	.530
Primo Red Control	7.29	.33	.97	.529
LSD	6.73	NSD	1.96	.077

Table 2: Fertigation Ratio's 8-15-2012 thru 9-16-2012.

Treatment	21-0-0	0-0-30
1:1	3.5 lb.	3.5 lb.
1:2	3.5 lb.	7.0 lb.
1:3	3.5 lb.	10.5 lb.
1:4	3.5 lb.	14 lb.

Table 3: Fertigation Ratio's 9-17-2012 thru Final Harvest.

Treatment	21-0-0	0-0-30
1:1	3.5 lb.	7 lb.
1:2	3.5 lb.	10.5 lb.
1:3	3.5 lb.	14 lb.
1:4	3.5 lb.	14.5 lb.