Effect of Stimplex on Late Season Tomatoes Grown at Reduced N

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Helping Our World Grow Healthier Plants

Trial Details

OBJECTIVE: Investigate effects of Stimplex on heat and nutrient stressed tomatoes

LOCATION: Study was conducted at the Central Maryland Research and Education Center-CMREC (located just north of Upper Marlboro, Maryland).

YEAR: 2014

DESIGN: Replicated study with 2 factors, 4 treatments, 6 replicates

SAMPLE SIZE: Yields consisted of weight and number of tomato fruit from the center 8 plants of each plot

APPLICATION DATES: Dates of CaSi and Stimplex applications were: 4, 18 of June; 2, 15 and 28 of July and 12 August).

VARIETY: . Seven week old transplants of *Mountain Fresh+* went to the field on June 3, 2014 at 2 ft spacing, ~12 plants/plot.

HARVEST DATES: First harvest was on August 25, 2014, second harvest was on 4 September and the third harvest was 12 September.

DETAILS: ~12 plants/plot. Nitrate-N petiole-sap readings (taken with a Cardy meter) and SPAD readings were taken 30 (July 3) and 60 (Aug. 4) days after transplanting. Weekly fungicide (chlorothalonil rotated with Cabrio) and bactericide (ManKocide) applications were started at flowering and continued every 7 days until 2nd harvest.

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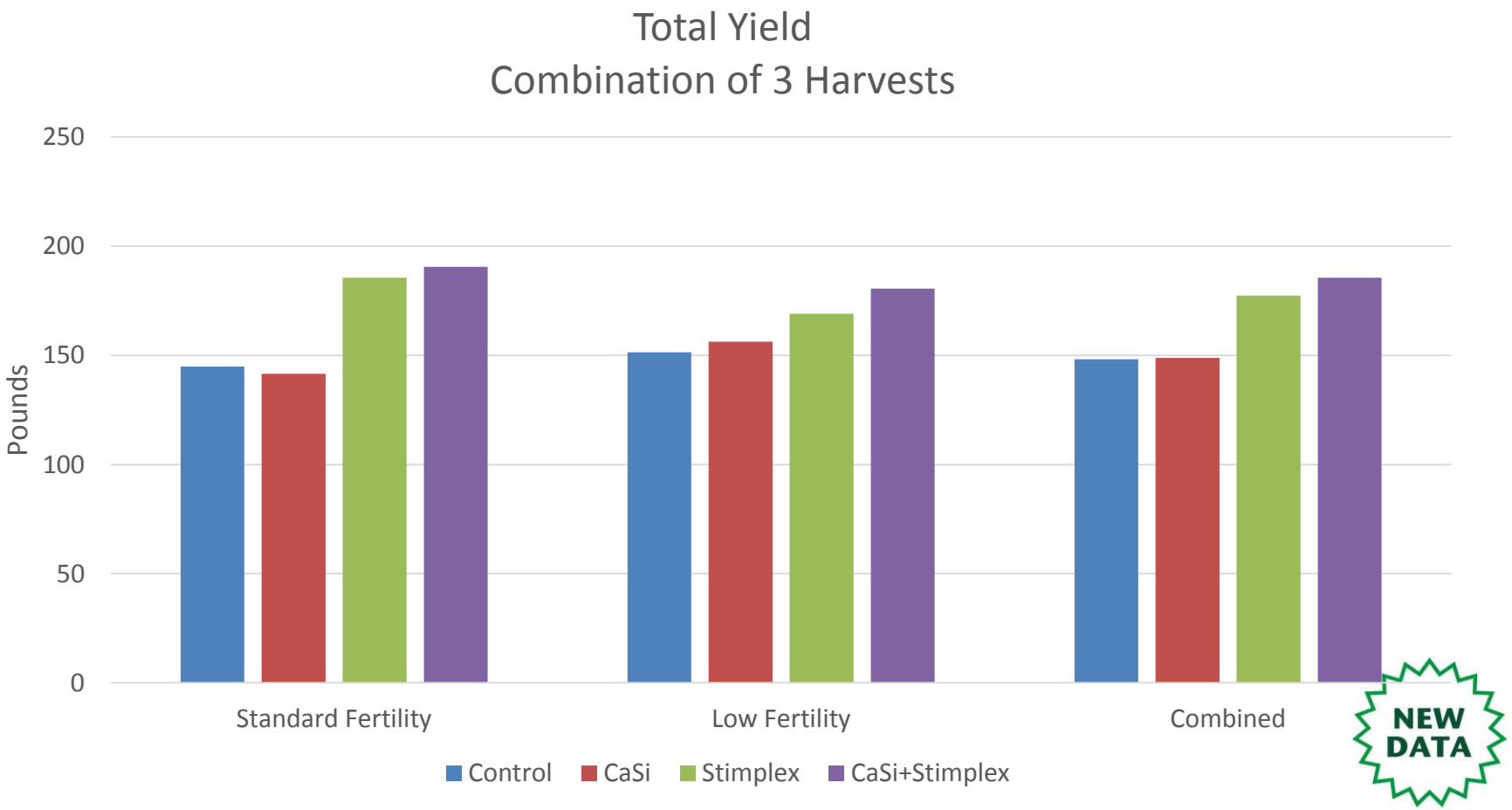
Treatments

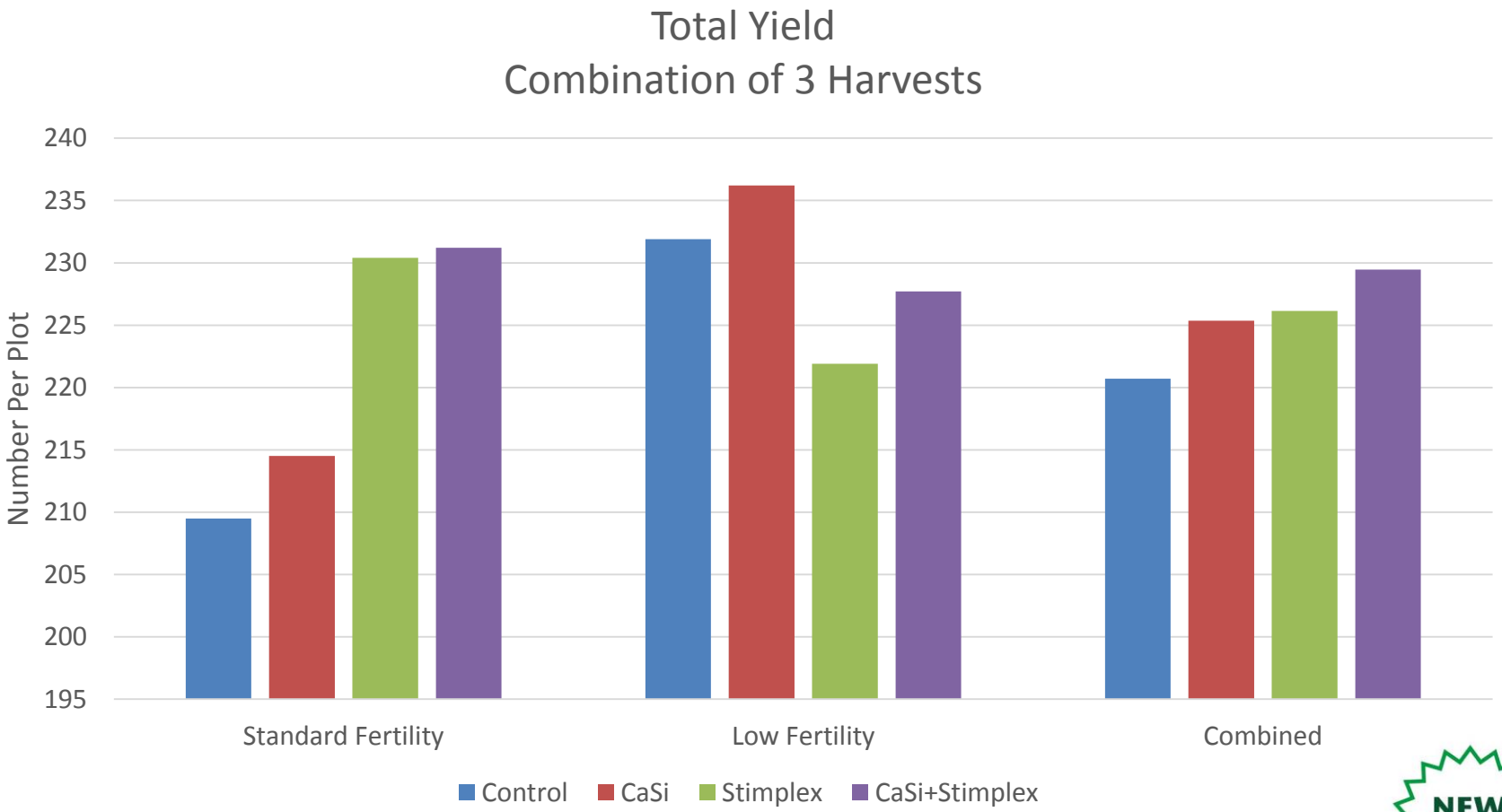
1. Factor 1 treatments were:
    1. Grower standard N rate applied at planting at the rate of 150 pounds/acre
    2. 30% reduction of N applied at 105 lbs/A
2. Factor 2 treatments were:
    1. Grower standard (Grower St) no Stimplex,
    2. Grower Standard plus 2 qts/A of Stimplex applied to soil at planting followed by foliar applications every 2 weeks
    3. Grower Standard plus CaSi at 2 qts/A applied to soil at planting followed by foliar applications every 2 weeks until harvest
    4. Grower Standard plus treatments 2 and 3; this was also repeated using the 30% reduced N rate instead of the Grower Standard.

NEW DATA

Results: Pounds Per Plot



Results: Number of Fruit Per Plot



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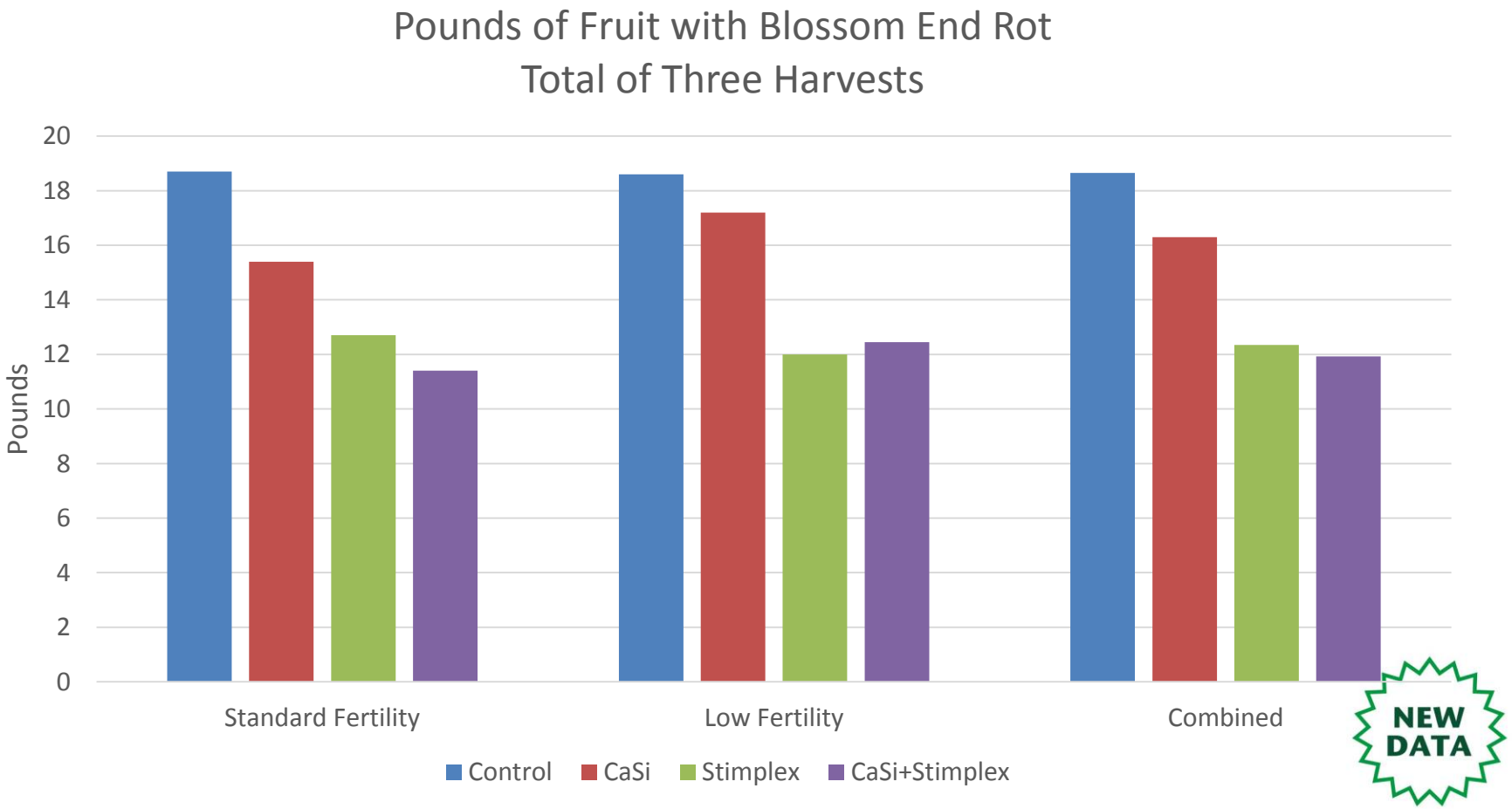
Results: Blossom End Rot



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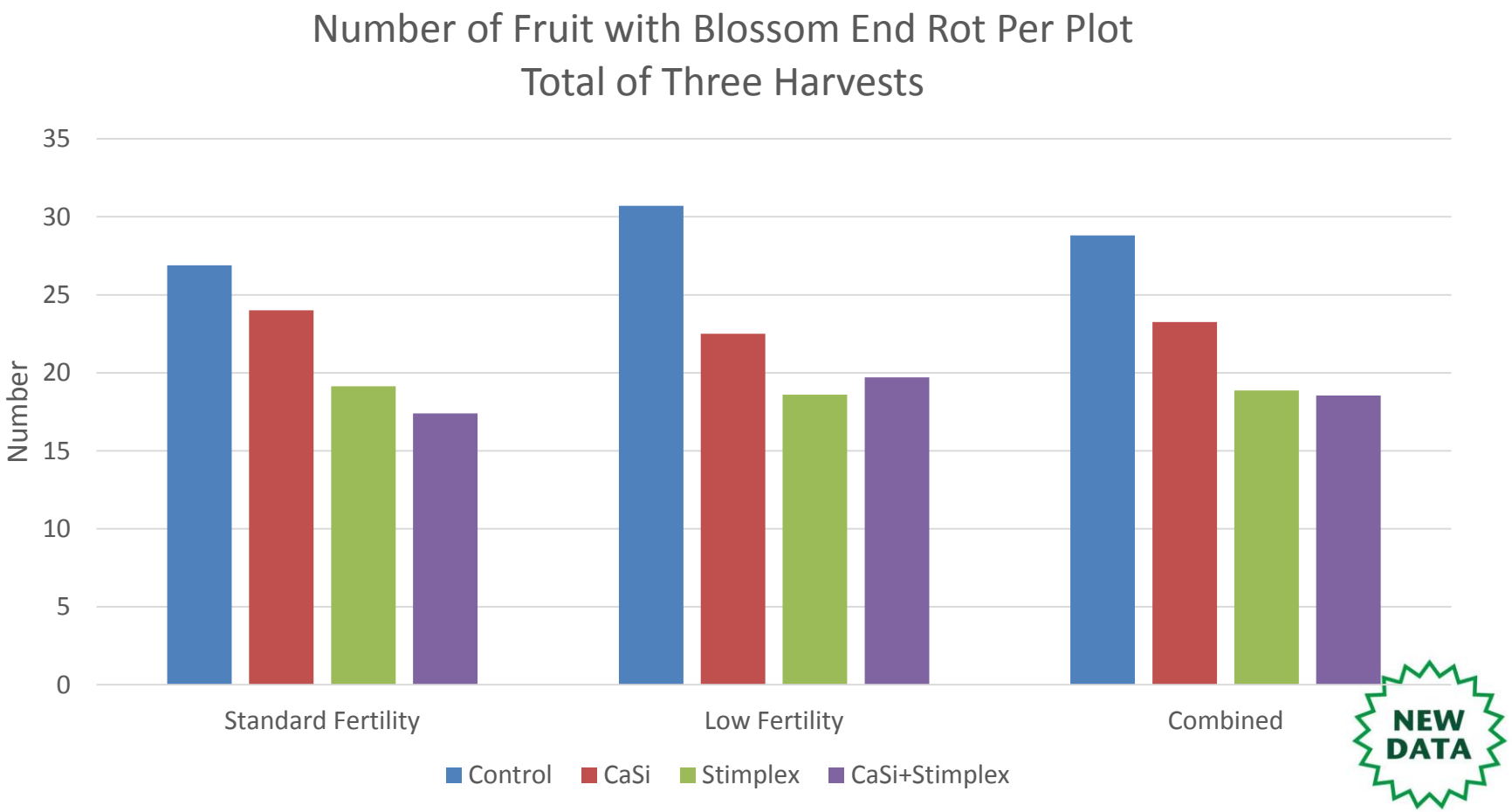
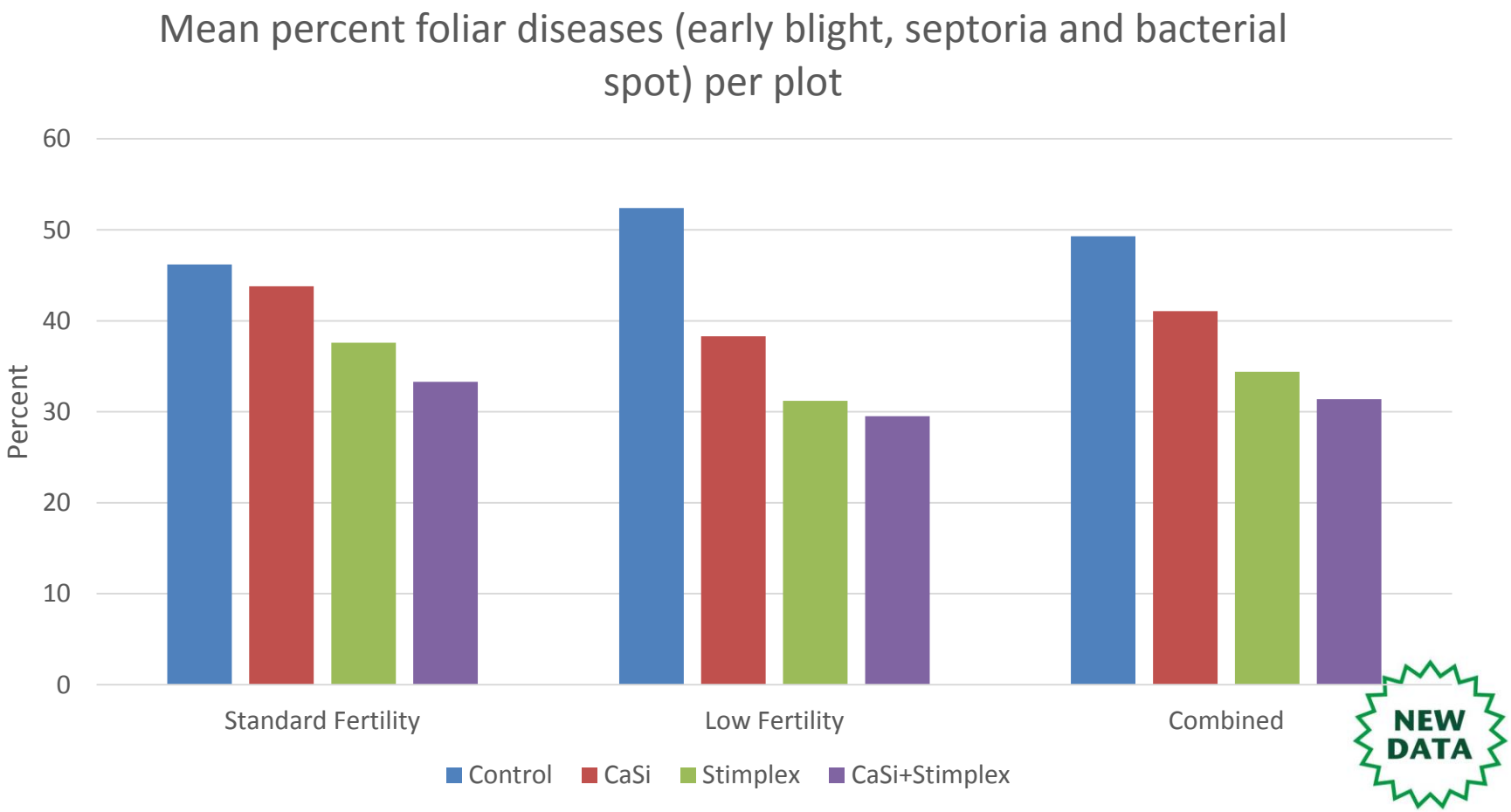


Results: Foliar Disease at 1st Harvest



Results: Tissue Analysis

Mean tissue test analysis for four treatments at two levels per plot for *Mt Fresh+* on 25 June 2014

Treatment	Fertility level	N	P	K	Ca	Mg	S	B
CaSi	Low	3.02	0.27	6.71b	2.12	0.46b	0.22	27.1
Ca Si	Grower St	2.82	0.22	5.38b	2.14	0.47b	0.20	24.6
Stimplex	Low	3.00	0.23	7.57a	2.51	0.56a	0.25	30.2
Stimplex	Grower St	2.96	0.20	7.61a	2.23	0.61a	0.21	24.7
Both	Low	2.94	0.20	6.61b	1.72	0.41b	0.21	26.8
Both	Grower St	2.71	0.24	6.52b	2.02	0.46b	0.20	24.3
Control	Low	2.75	0.21	5.67b	2.00	0.48ab	0.21	25.1
Control	Grower St	2.89	0.19	6.56b	1.82	0.51ab	0.20	28.4

Means within a column with different letters are significantly different at the P≤ 0.05 level. Not all nutrients are shown in this figure

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Results: SPAD and CARDY

Mean SPAD and Cardy-NO_3-N Readings per plot taken on 4 August 2014.

Treatment	Fertility level	SPAD Reading	Cardy Nitrate Reading
CaSi	Low	53.7bc	542.3b
Ca Si	Grower St	51.5bc	535.6b
Stimplex	Low	58.2a	610.2a
Stimplex	Grower St	57.8a	637.7a
Both	Low	55.2ab	598.3a
Both	Grower St	57.4ab	607.4a
Control	Low	49.2c	543.7b
Control	Grower St	48.6c	530.8b

Means within a column with different letters are significantly different at the P≤ 0.05 level.

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