



Performance of Grafted Watermelons at a Reduced Density in Indiana

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2020 Watermelon Working Group

Materials and Method

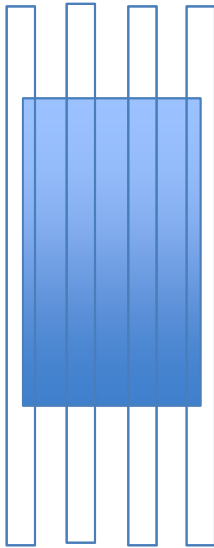
Grafting treatments:

- Non-grafted Fascination
- Fascination grafted onto an interspecific hybrid squash rootstock
- Fascination grafted onto Citron melon rootstock Carolina Strongback

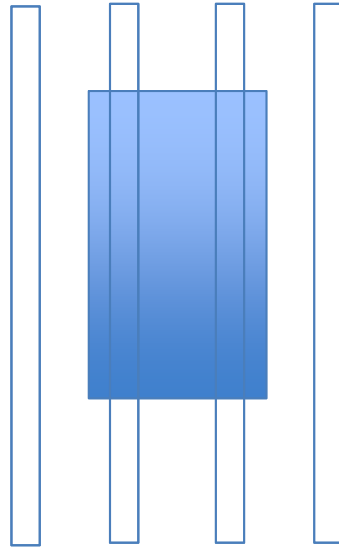


Grafted plants were provided by Tri-Hishtil

GS

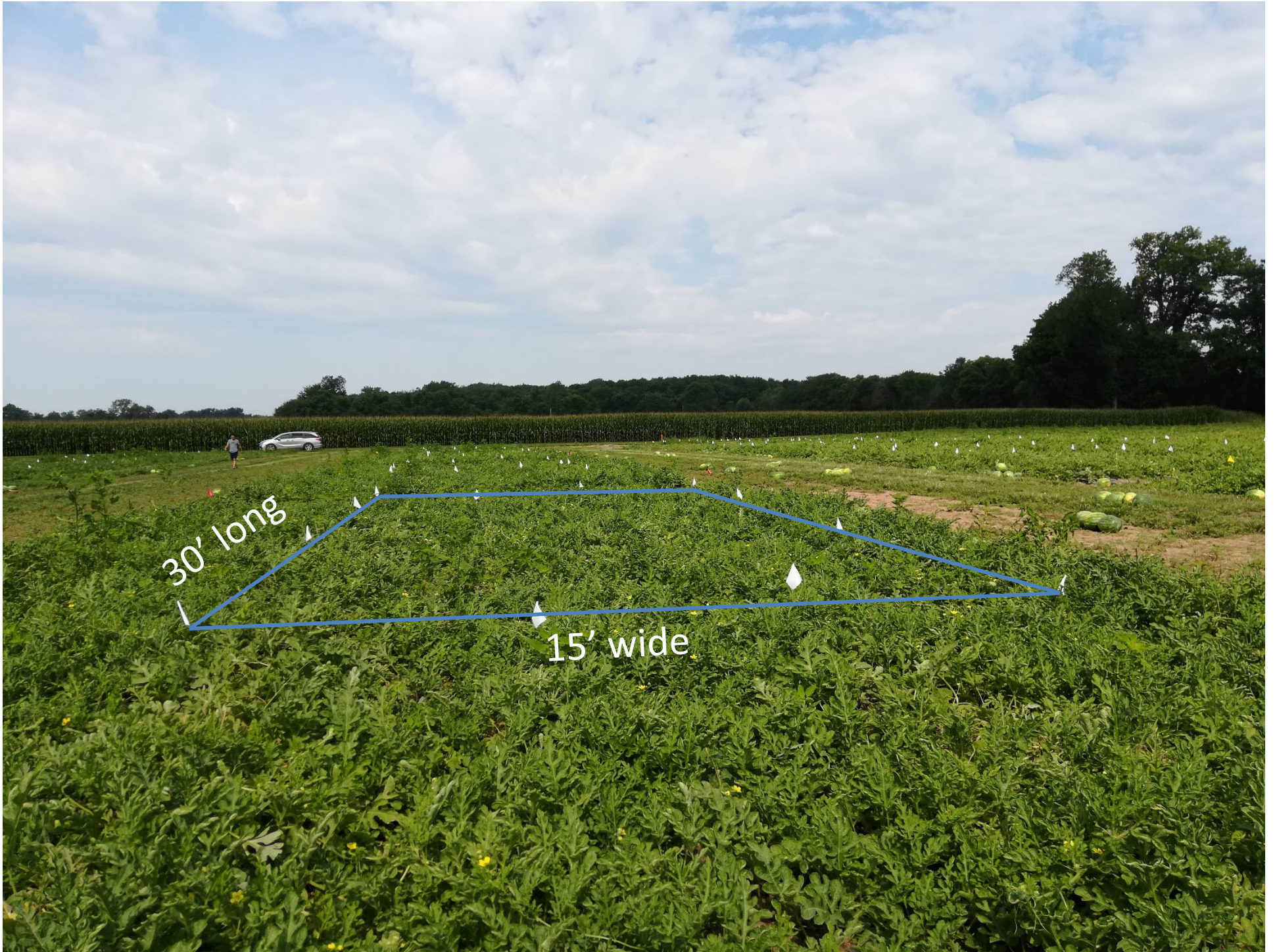


RS



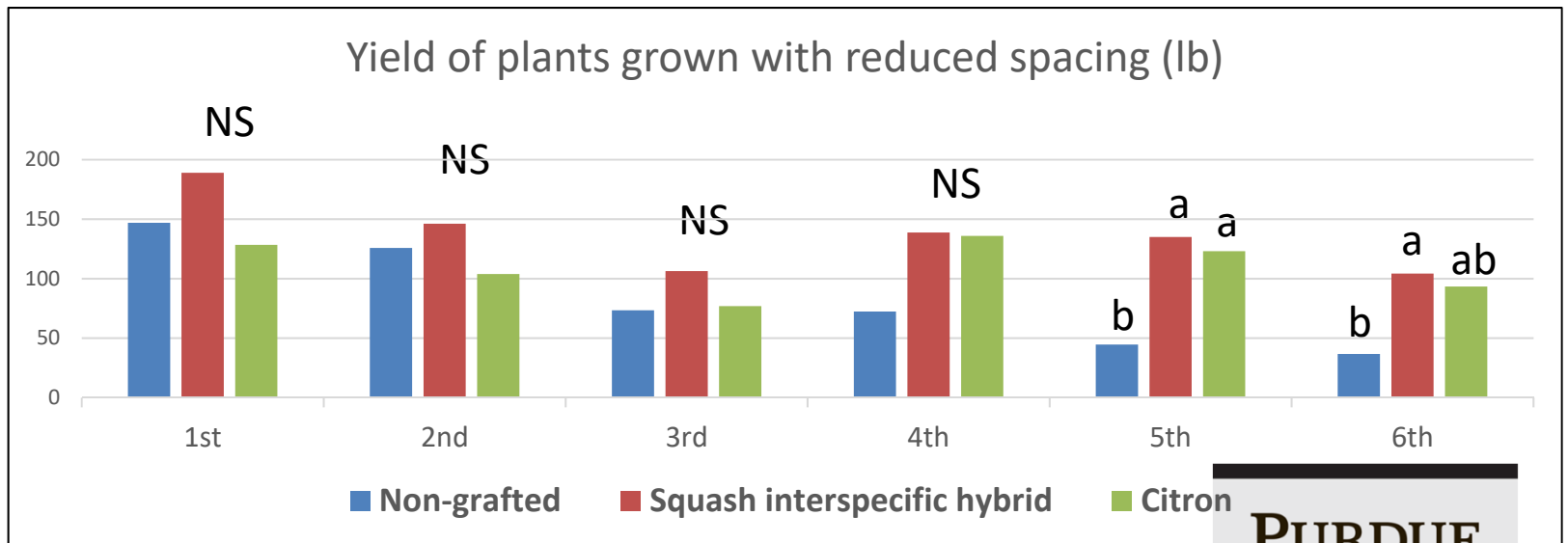
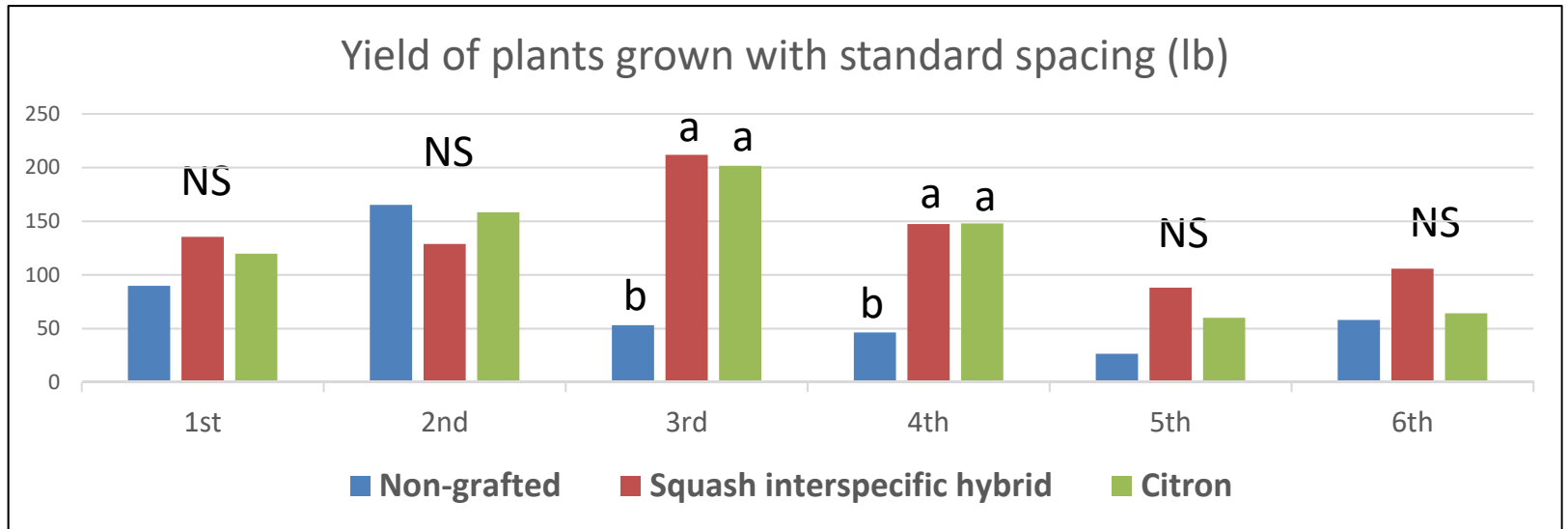
- Grower standard spacing:
4' (in-row) × 6' (between row),
1800 plants/acre
- Reduced spacing:
4' (in-row) × 9' (between row),
1200 plants/acre

- Each experimental plot comprised with 4 beds, 48' long
- Beds with different spacing were in adjacent lands. Three grafting treatments were randomly distributed in each land, with four blocks.
- Harvest was conducted in the central 15' × 30' area of each exp plot.

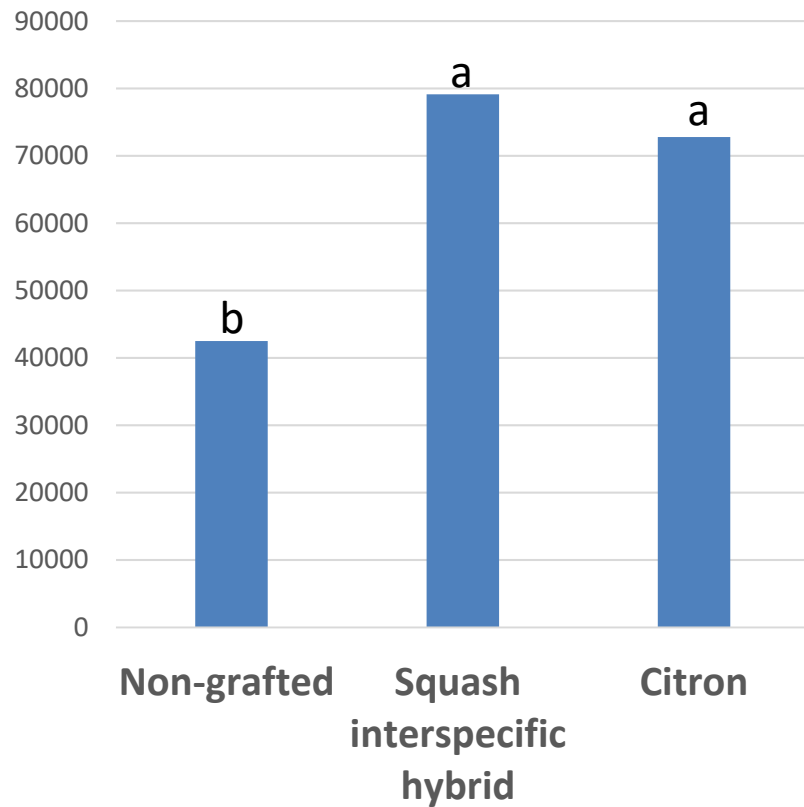


- Transplanted on May 24
- Harvest was conducted 6 times, once a week, from July 30 to Sep. 4
- 50 lb/a N applied preplant. Fertigation started a month after transplanting using 4-0-8 at a rate of 10 lb/a N per week until a week before final harvest. A total of 140 lb/a N applied

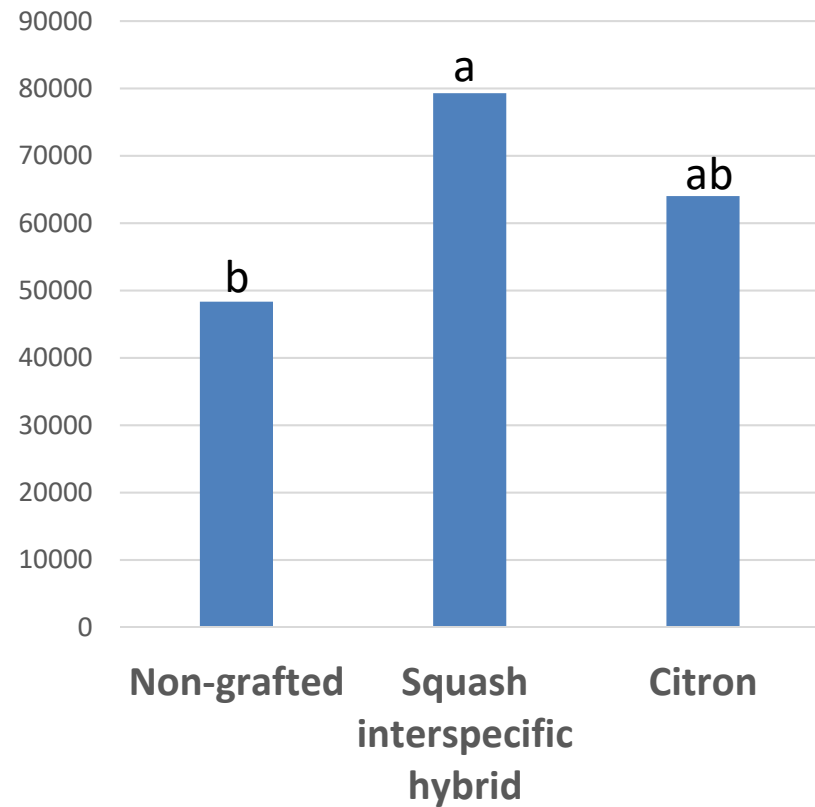
Results



Marketable yield (lb/acre) of plants grown with standard spacing



Marketable yield (lb/acre) of plants grown with reduced spacing



Monthly precipitation in Southwest Indiana

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
2019	4.09	6.67	5.46	6.24	7.03	7.7	4.34	4.88
Normal (1981-2010)	3.05	2.94	4.04	4.41	5.63	4.13	4.26	3.23

Midwestern Regional Climate Center, cli-MATE: MRCC Application Tools Environment

2019 season in Indiana was marked with wet condition!

Phytophthora fruit rot was confirmed in the trial, the first time at SWPAC.

Fusarium wilt was noticed early in the season in one experimental plot even the field was fumigated with chloropicrin