2020 Squash Variety Trial Report

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Objectives:

- Evaluate 3 commonly grown delicata squash varieties under dry farm conditions on multiple DFC sites in the maritime PNW
- Evaluate 3 maxima squash varieties that have performed well in prior dry farm trials under dry farm conditions on multiple DFC sites in the maritime PNW
- Pilot SeedLinked as a platform for data collection in DFC variety trials

Trial Hosts

Delicata Squash Trial (left) – 25 participants in the maritime Pacific Northwest from Seattle, WA to Medford, OR

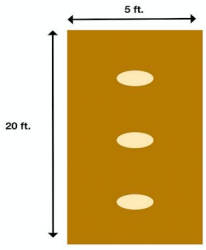
Maxima Squash Trial (right) - 10 participants from Oregon's Willamette Valley

Trial Summary - Average delicata yield is from 2 OSU managed sites in Corvallis and Full Cellar Farm in Portland. OSU plots did not get thinned, so there were actually 6 plants per plot (16.67 sqft per plant) and Full Cellar Farm planted the recommended 3 plants per plot (33.33 sqft per plant).

Trial	Code	Variety	Species	Source	Avg. Yield/plant (lbs)	Avg # fruit/plant
Delicata	HB	Honeyboat	*C. pepo*	Siskiyou Seeds	6.5	6.56
	CS	Candystick Dessert	*C. pepo*	Adaptive Seeds	6.14	5.49
	ZE	Zeppelin	*C. pepo*	Wild Garden Seed	7.09	7.18
Maxima	ST	Stella Blue	*C. maxima*	Seed rEvolution Now!	15.1	3.00
	SI	Silver Bell	*C. maxima*	Restoration Seeds	12.0	2.28
	TE	Tetsukabuto	*C. maxima x C. moschata* F1 hybrid	Johnny's Selected Seeds	21.0	6.61

Protocol

- Transplant or direct-seed (soil > 60°F) – May
- Row cover (~1 month or until flowering)
- No irrigation
- Diligent weed management



May 20th

May 26th

Squash trial hosts were recruited in three categories to allow participation from growers at different scales.
100 sqft. = 1 rep
Recommended planting density = 3 squash plants/rep

Grower Participation Category	# Participant Sites	Trial area per site (sqft)	# plants per variety at each site	Total trial area (sqft)	Total # Plants in Trial (# participants x # plants/var x 3 var)
Small Grower	8	100	1	800	24
Single Replicate Grower	17	300	3	3600	108
Full Trial	10	900	9	6300	189
Total	35			10700	321

Results

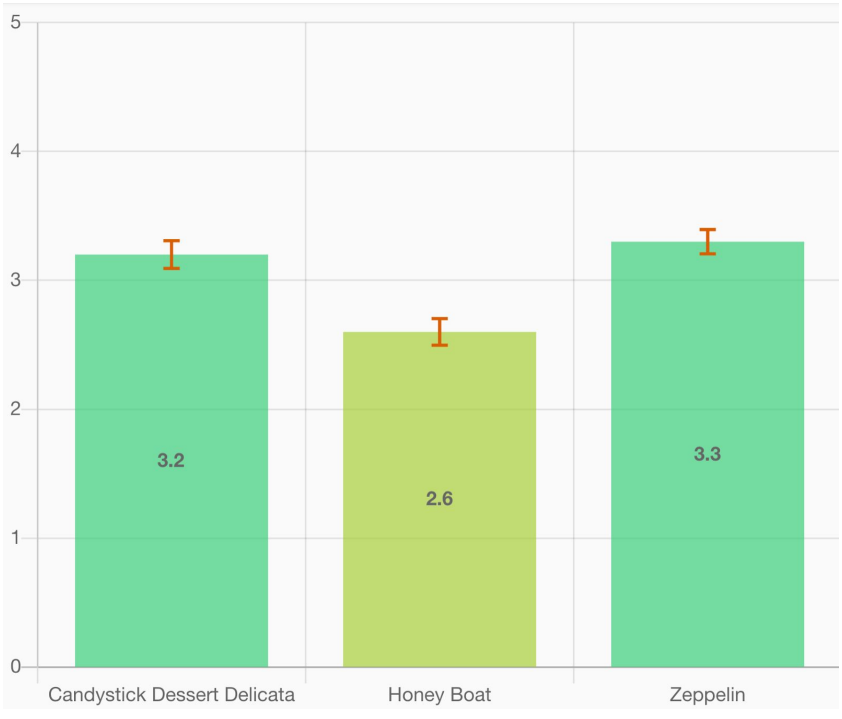
The characteristics reviewed by trial participants in SeedLinked include: Dates (Planting, Transplanting, 1st harvest, Last harvest), Germination, Vigor, Disease Resistance, Insect Resistance, Earliness, Appearance, Flavor, Marketability, Yield, Storage. Three sites (Peoria, Oak Creek, Full Cellar Farm) collected yield and fruit count data. The only SeedLinked results reported below are the categories in which there was a difference of 0.5 or more between the varieties.

Delicata Trial

For the delicata trial, those categories were Germination, Yield, and Flavor.

SeedLinked - Germination (15 reviews)

Graph shows the average ranking (scale 1-5) for germination by 15 trial participants in the maritime Pacific Northwest. 'Zeppelin' and 'Candystick Dessert' ranked higher than 'Honeyboat'.

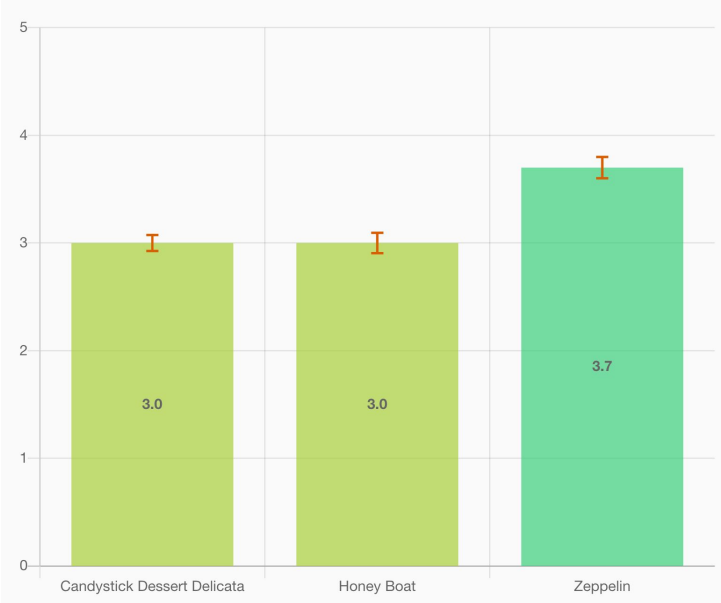


Example of harvest tote from one 'Zeppelin' plot in Corvallis (right)
'Unmarketable' are outside of the tote.

Qualitative SeedLinked reviews (scale 1-5) from trial participants on yield mirrored quantitative yield data for OSU managed trials, with a higher ranking or total yield for 'Zeppelin'.

SeedLinked - Yield (11 reviews)

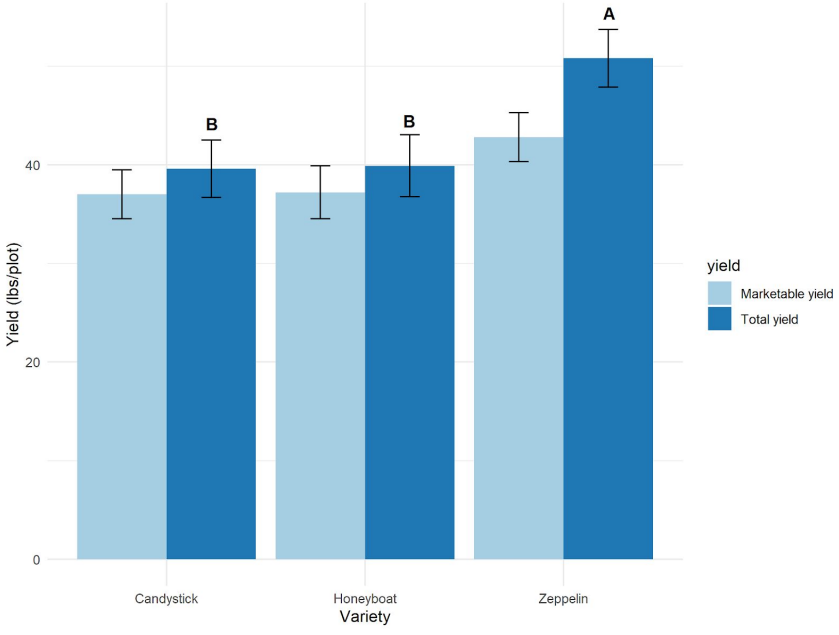
Graph shows the average ranking (scale 1-5) for yield by 11 trial participants in the maritime Pacific Northwest



Quantitative Yield - dry-farmed delicata at OSU managed sites

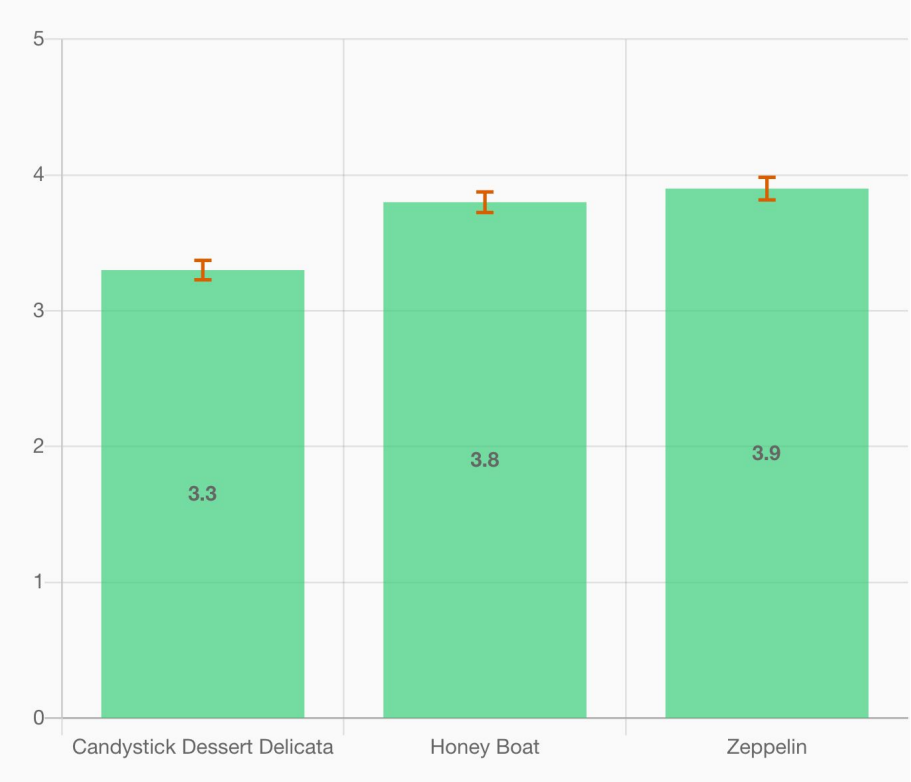
On two OSU managed sites in Corvallis, delicata were counted and weighed and then sorted 'marketable' and 'unmarketable'. Marketable yield was not significantly different for each variety. The unmarketable portion of total yield was primarily from gopher/vole damage and immature squash. Total yield for 'Zeppelin' was higher than 'Candystick Dessert' and 'Honeyboat'. Important to note that plots did not get thinned as planned at these sites, so there were actually 6 plants per plot represented in this data below.

Delicata Marketable and Total Yield by Variety



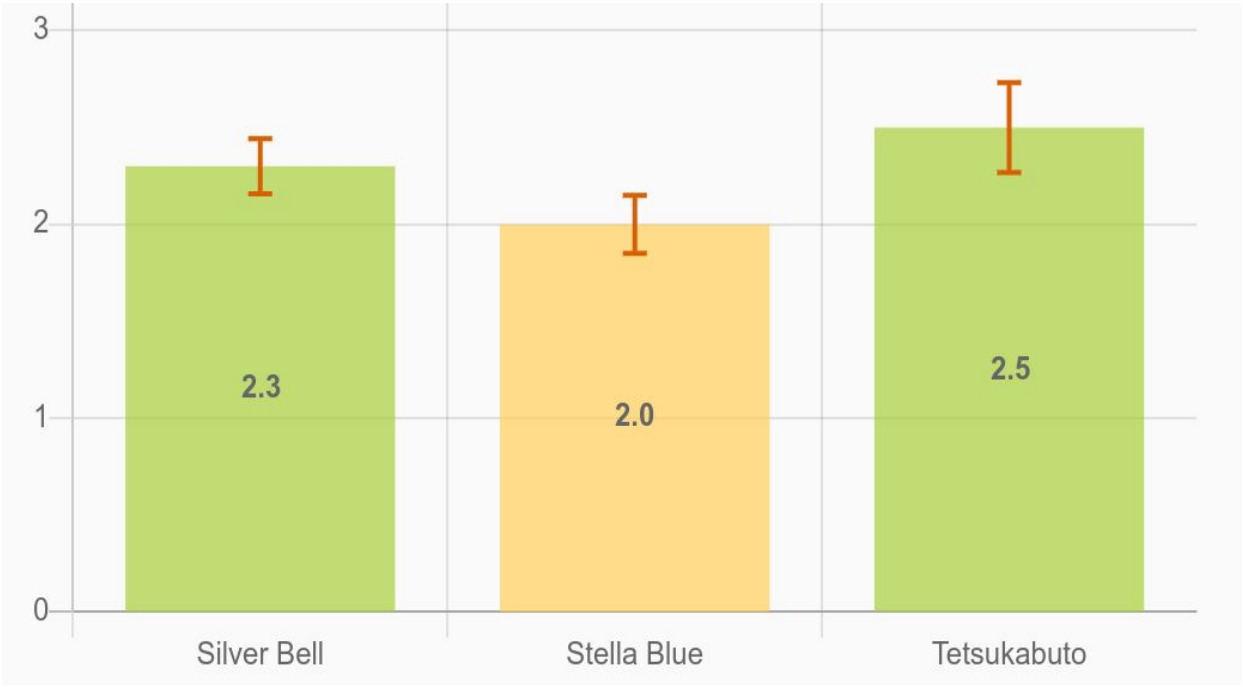
SeedLinked - Flavor (7 reviews)

Graph shows the average ranking (scale 1-5) for flavor by 7 trial participants in the maritime Pacific Northwest.

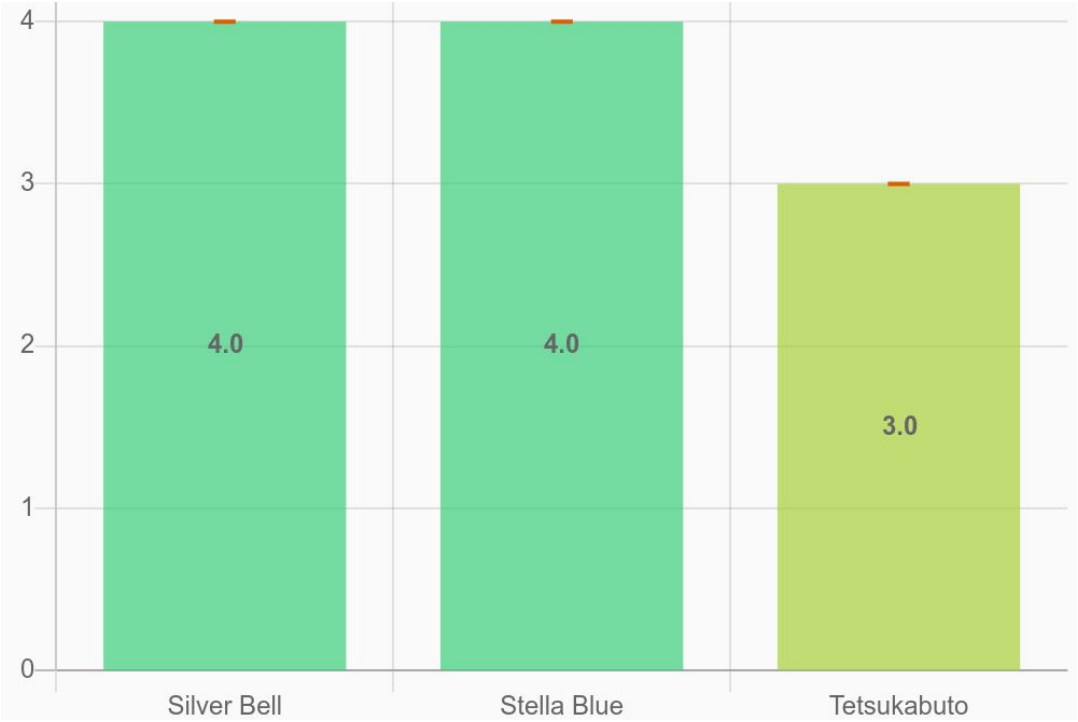


Maxima trial

SeeLinked - Yield (2 reviews)



SeedLinked - Flavor (2 reviews)



Quantitative Yield from OSU managed site

At the Vegetable Research Farm and a collaborating private farm, we compared dry farmed and irrigated performance of the *C. maxima* varieties. Irrigated plots which received approximately 1.5" of overhead irrigation every 14 days from June through early August. Under dry farmed conditions, the tetsukabuto hybrid yielded more than Stella Blue and Silver Bell. Stella Blue yielded comparably to Tetsukabuto in irrigated conditions.