

Growing a Gnarly Crop: recommendations for cultivating celeriac

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Celeriac: *Apium graveolens* var. *rapaceum*

- Same species as celery, but grown for its swollen hypocotyl (similar to kohlrabi)
- Also called celery root and knob celery
- Unclear origin with wide distribution of wild types
- Shorter, flatter stature than celery with unpalatable stalks
- Full-season, relatively demanding crop



Culinary use

- Most widely consumed in northern and eastern Europe – excellent storage “version” of celery
- Mild celery flavor that becomes more prominent with fall frosts
- Can be eaten raw as snacking vegetable or grated into salads
- Excellent addition to mixed roasted root veg, mashes, and winter soups
- Most recently \$3.99/lb in Maine supermarket



(Danny Kim,
Bon Appetit)



(Andrew Scrivani,
New York Times)

Variety Trial

- Six varieties:

Alicia

Balena

Brilliant

Diamant

Mars

Rowena

- Four blocks

Planting Density Trial

- Six planting arrangements (main plot):

3 rows @ 6"

2 rows @ 6"

3 rows @ 12"

2 rows @ 12"

3 rows @ 18"

2 rows @ 18"

- Three varieties (subplot):

Alicia

Brilliant

Diamant

- Four blocks

General culture

- Seeded into 128s
- Fertilized twice with 12-45-10 in greenhouse
- Field prepared with 500 lb/ac 10-10-10
- Hand weeded and fertigated as necessary during field season

	2023	2024
Seed	4/18 (-59 dap)	4/16 (-62 dap)
Transplant	6/13-16	6/17
Density trial harvest	10/3 – 11/2 (109 – 157 dap)	10/17 – 11/13 (122 – 149 dap)
Variety trial harvest	11/3 (143 dap)	11/20 (156 dap)

Harvest



Variety trial

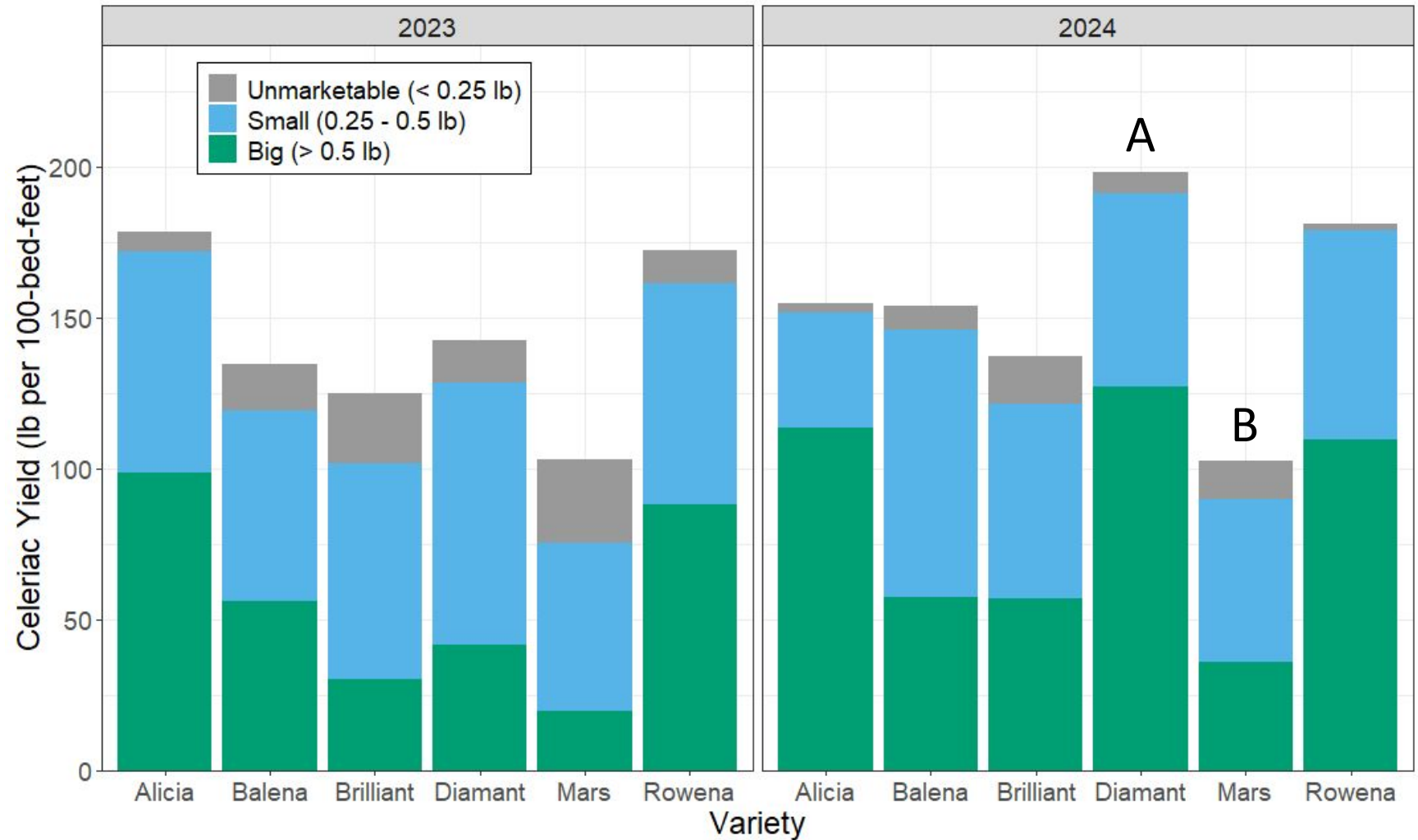
- Grown on 2-row beds spaced 6" in-row on white plastic
- Size classed (diameter) and weighed each celeriac after trimming

Variety	Source	Hybrid Status	Available Organic
Alicia	Bejo	F1	
Balena	HM 2023, Bejo 2024	F1	✓
Brilliant	Bejo	OP	
Diamant	Bejo	OP	✓
Mars	JSS	OP	✓
Rowena	Bejo	F1	



Variety trial

- Highly variable yields in both years
- Alicia and Rowena consistently produced a good yield of large celeriac
- In 2024, Diamant produced greater marketable yield than Mars



* All on white on black Bio360

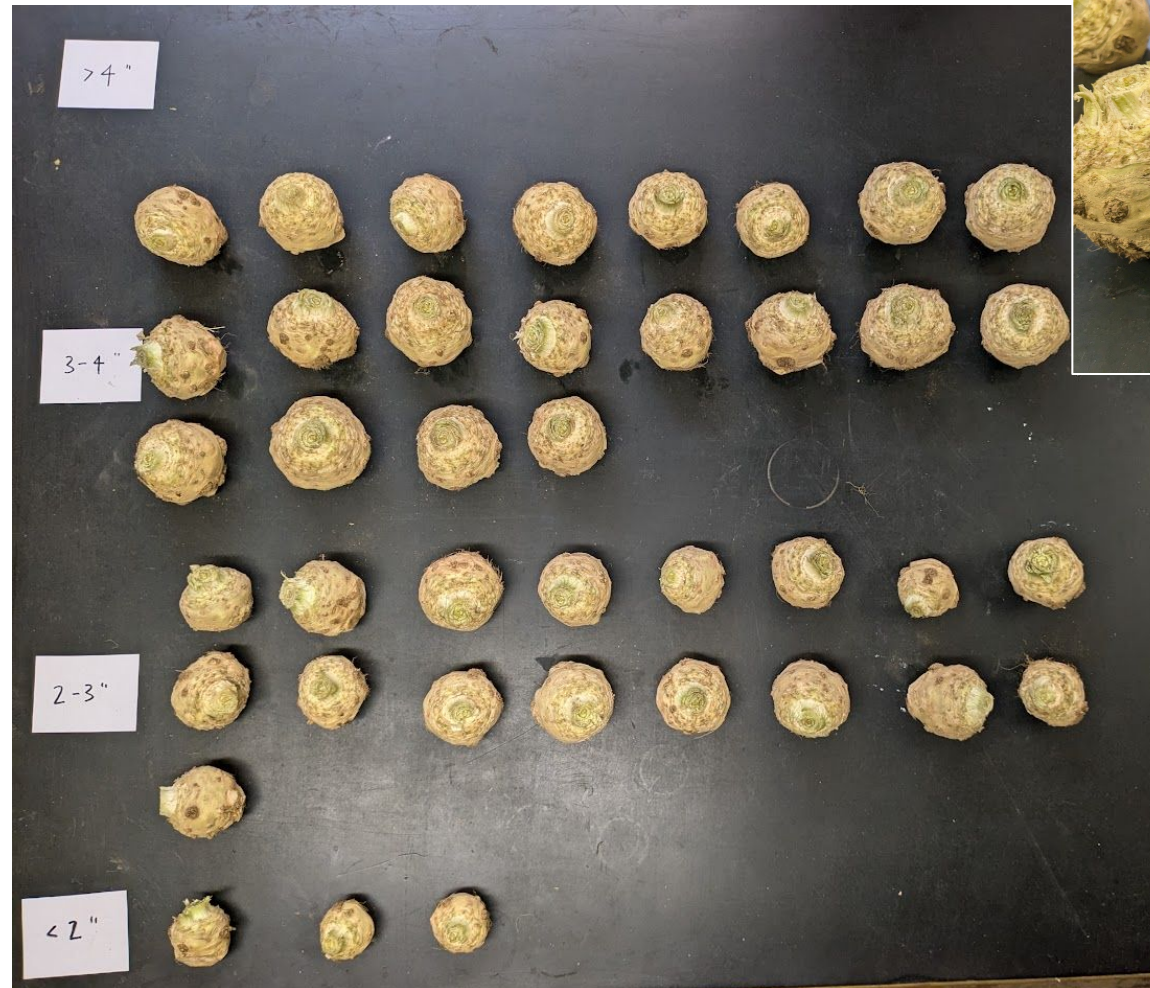
'Alicia'

- Mostly in the 3-4" diam range
- Squat to spherical shape
- Needed the least trimming of all varieties
- Relatively smooth & free of roots on top half



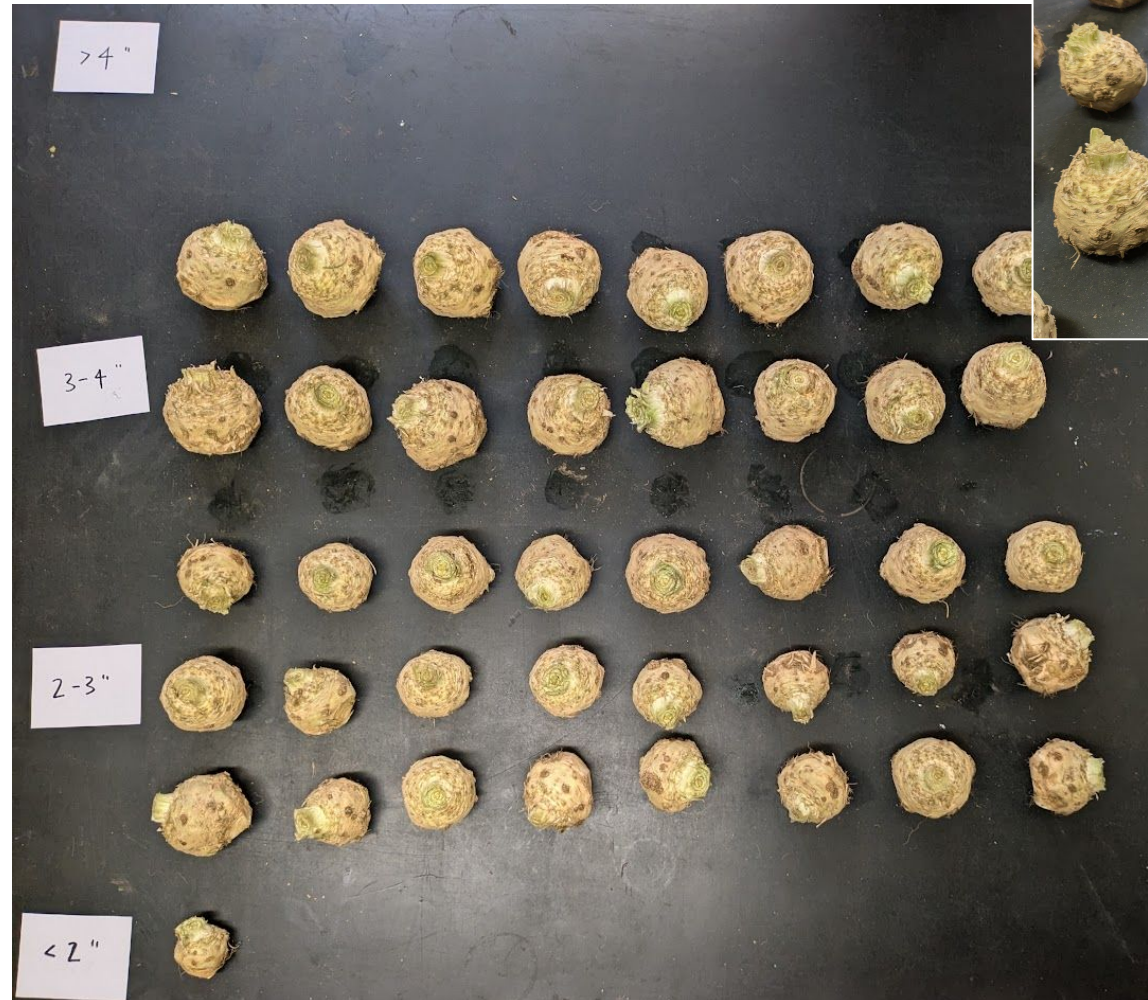
'Balena'

- Shape ranges from spherical to oblong
- Medium visual quality – almost better at 2-3" diam than larger
- Lots of hairy knobs



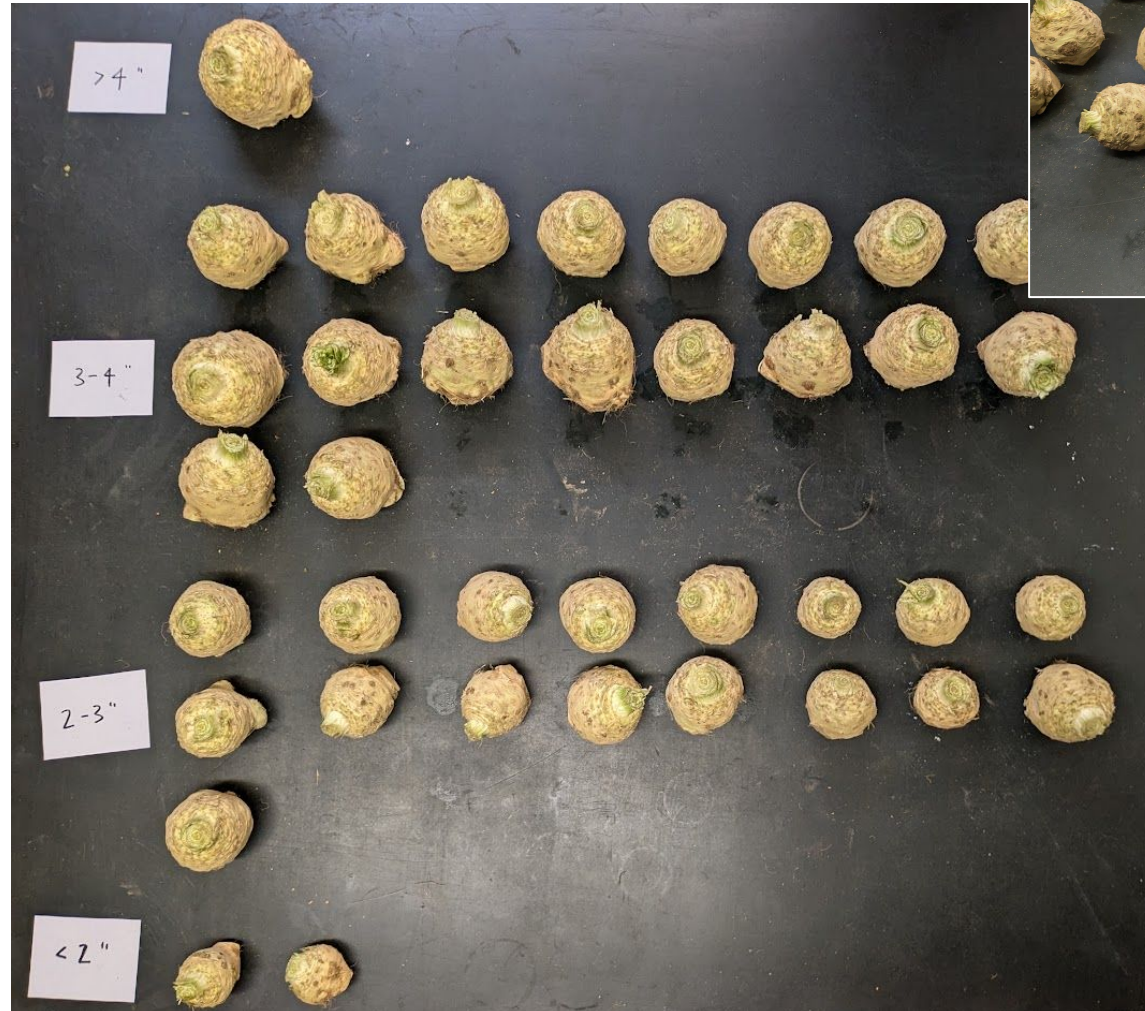
'Brilliant'

- On the smaller side
- Relatively round shape but roots along the sides necessitate more trimming into blocky shape



'Diamant'

- Fairly spherical in shape
- Second to least trimming needed (after Alicia)
- Attractive even at 2-3" size range
- Top halves clean up nicely



'Mars'

- Proportionately smaller sized
- Unattractive oblong / egg shape
- Knobby, bumpy top halves but not much along sides to trim



'Rowena'

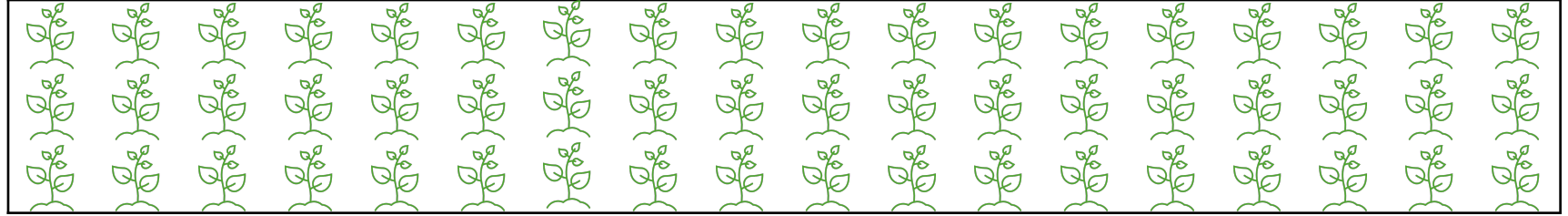
- Good size, high percent over 3"
- Squat, saucer-like shape
- Lots of side trimming and hairy knobs



Plant spacing trial

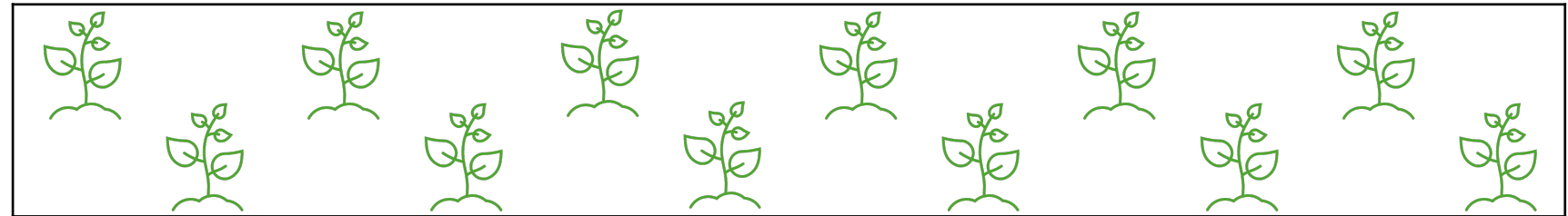
High density

more plants,
smaller size



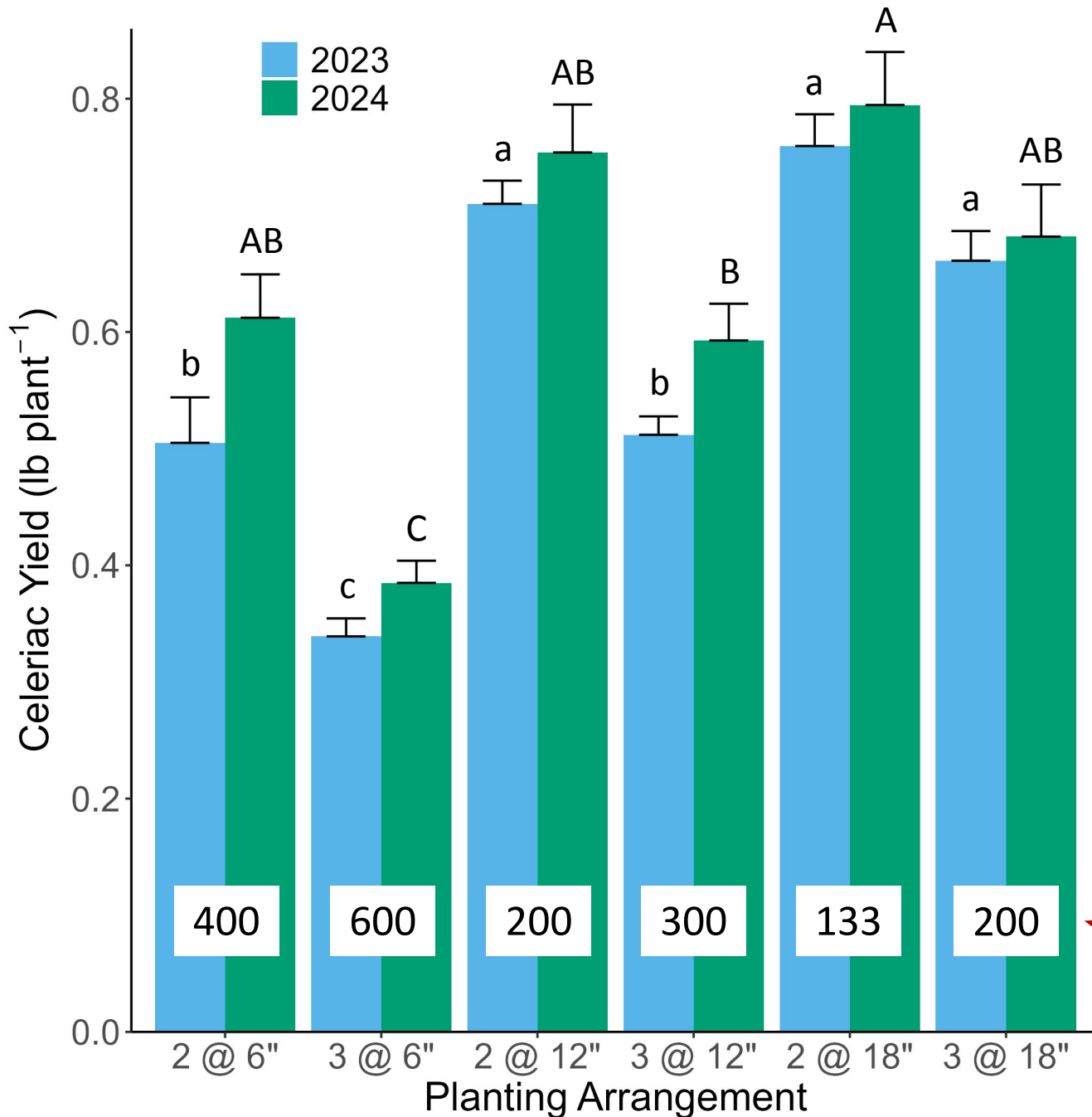
Low density

fewer plants,
larger size



What plant spacing produces the largest quantity of adequately-sized celeriac?

Spacing effect on plant size

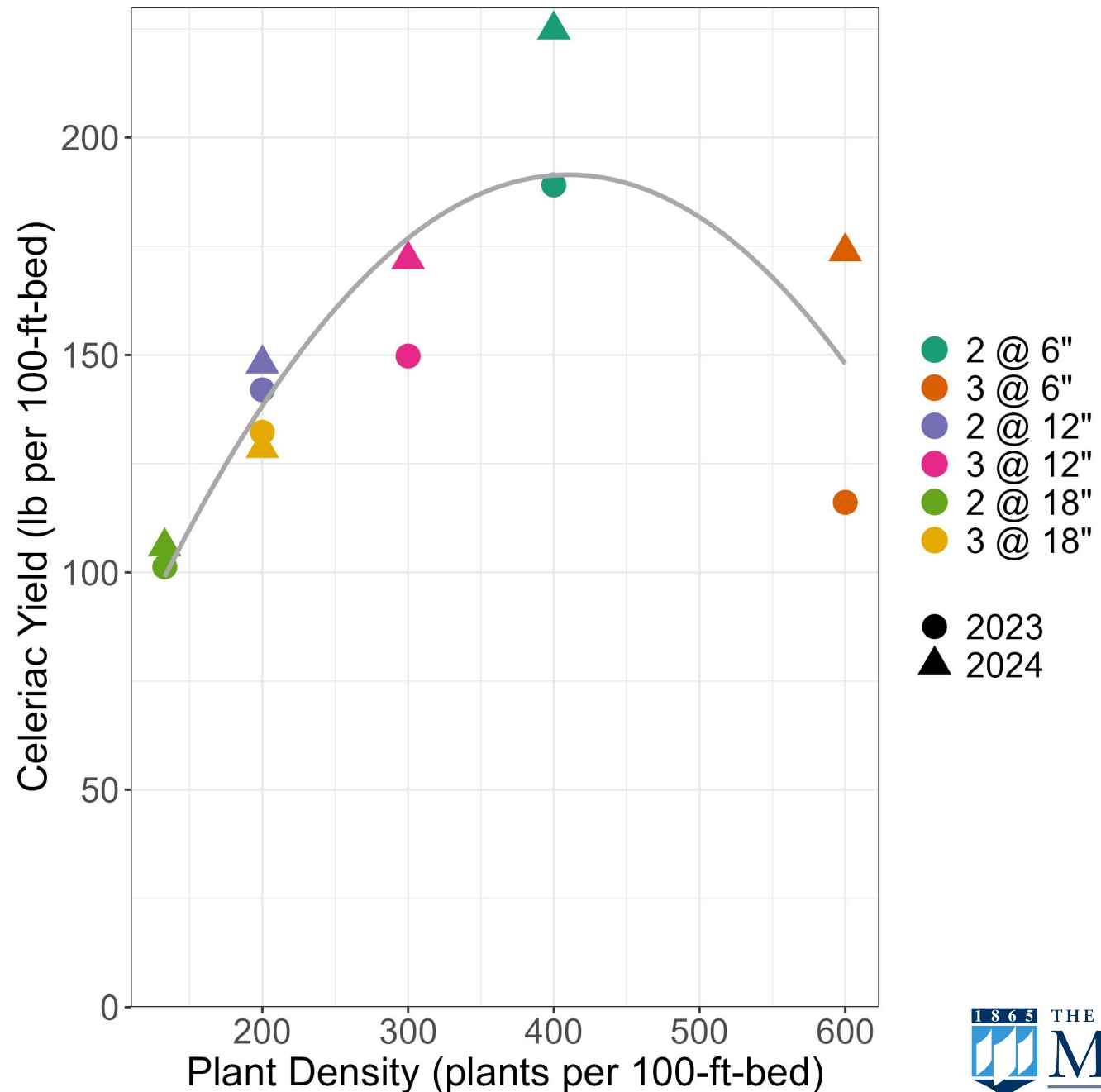


- No variety differences
- 3 @ 6" is too dense and will result in plants less than ½ lb ea.
- 2 @ 18" resulted in largest celeriac – about ¾ lb ea.
- Remainder were intermediate

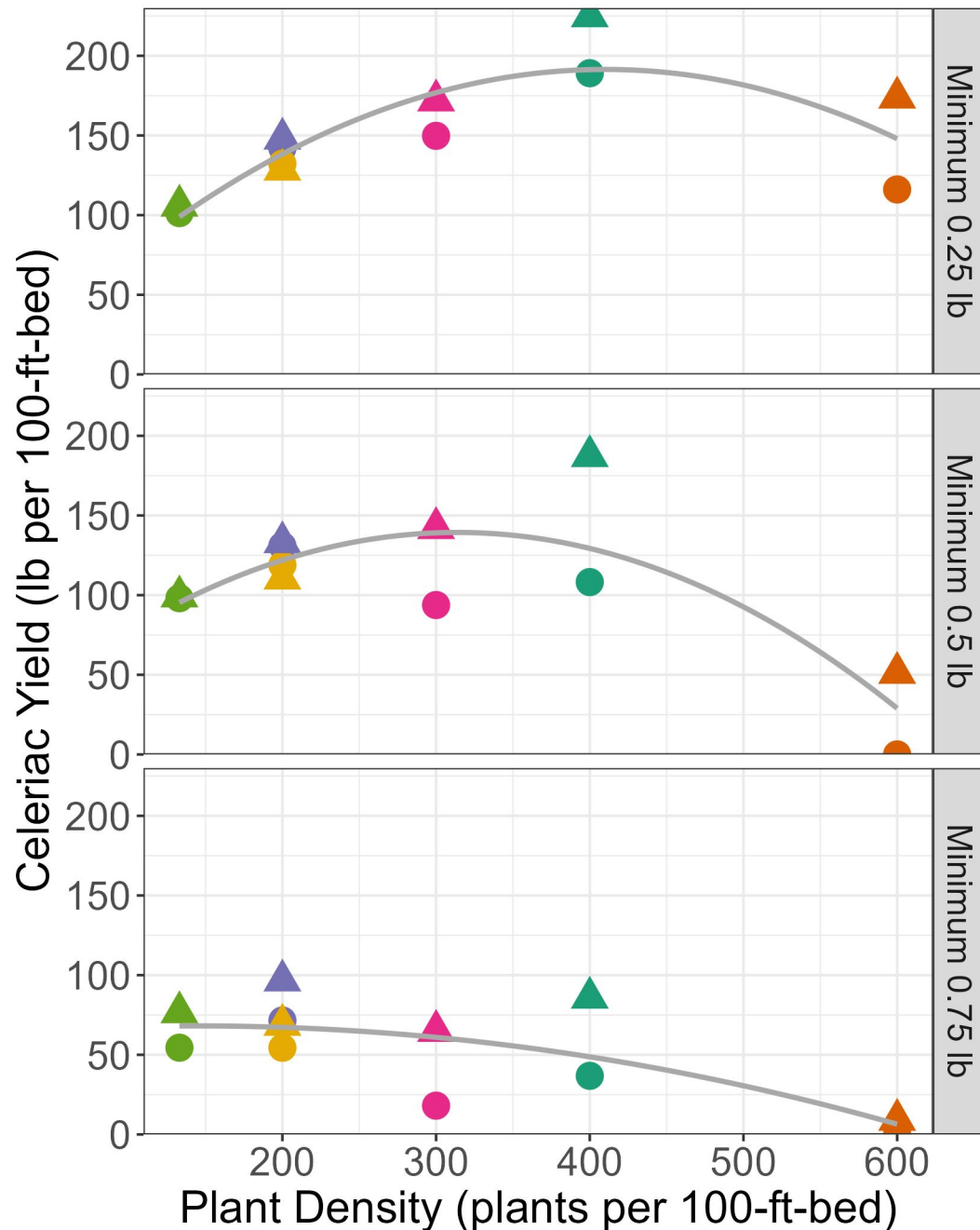
plants per
100 bed-ft

Spacing effect on marketable yield

- Highest marketable yield per unit area with 400 plants per 100' length of bed
- Celeriac considered marketable at $\frac{1}{4}$ lb or greater...



Choosing a planting density



- If your markets will accept celeriac as small as $\frac{1}{4}$ lb each, maximum yield can be attained by growing plants on 2 rows at 6" in-row
- As size preferences increase, planting density will need to be decreased to get maximum yield

Recommendations

- Growing celeriac on bare ground or white plastic is recommended for improved plant vigor relative to black plastic
- Rowena, Diamant, and Alicia are recommended varieties for larger size and visual quality
- Space plants no more densely than 400 plants/100ft of bed (2 rows at 6" in-row)
- Decrease plant density to 200-300 plants/100ft if your market demands larger size celeriac



Thank you!

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