A photograph of a lettuce field with a rainbow in the background. The field is filled with rows of green lettuce plants. In the background, there are mountains and a clear blue sky. A rainbow is visible in the distance, arching over the field. The text is overlaid on the top half of the image.

# **Varietal evaluations for managing Pythium Wilt and INSV on lettuce**

**Kelley L. Richardson  
Pest Management Meeting  
November 3, 2022**

# Experimental design

- **53 varieties**
- **4 replications: Rated 3 for INSV, saved the 4<sup>th</sup> for Pythium samples**
- **Collected tissue for ELISA from most resistant lines**



# Flag plots

- 10 plants per seedline flagged for weekly evaluation



# INSV severity rating

- Rated each plant for INSV severity (0-5) at 8 and 9 weeks after planting

	Plant 1	Plant 2	Plant 3	Plant 4	Plant 5	Plant 6	Plant 7	Plant 8	Plant 9	Plant 10	Date	MEAN
Week 1	0	1	0	0	0	0	0	0	0	1	9/28	.2
Week 2	1	2	1	1	1	0	0	1	0	1	10/5	.8
Week 3	2	2	2	2	2	1	1	2	1	1	10/1	1.6
Week 4	2	2	2	2	2	2	2	2	2	2	10/1	2
Week 5	2	2	2	3	2	3	2	2	2	4	10/2	2.4



D. Hasegawa

# INSV severity rating

- Severity vs incidence

	Plant 1	Plant 2	Plant 3	Plant 4	Plant 5	Plant 6	Plant 7	Plant 8	Plant 9	Plant 10	Incidence
Week 1	0	1	0	0	0	0	0	0	0	1	0%
Week 2	1	2	1	1	1	0	0	1	0	1	10%
Week 3	2	2	2	2	2	1	1	2	1	1	60%
Week 4	2	2	2	2	2	2	2	2	2	2	100%
Week 5	2	2	2	3	2	3	2	2	2	4	100%

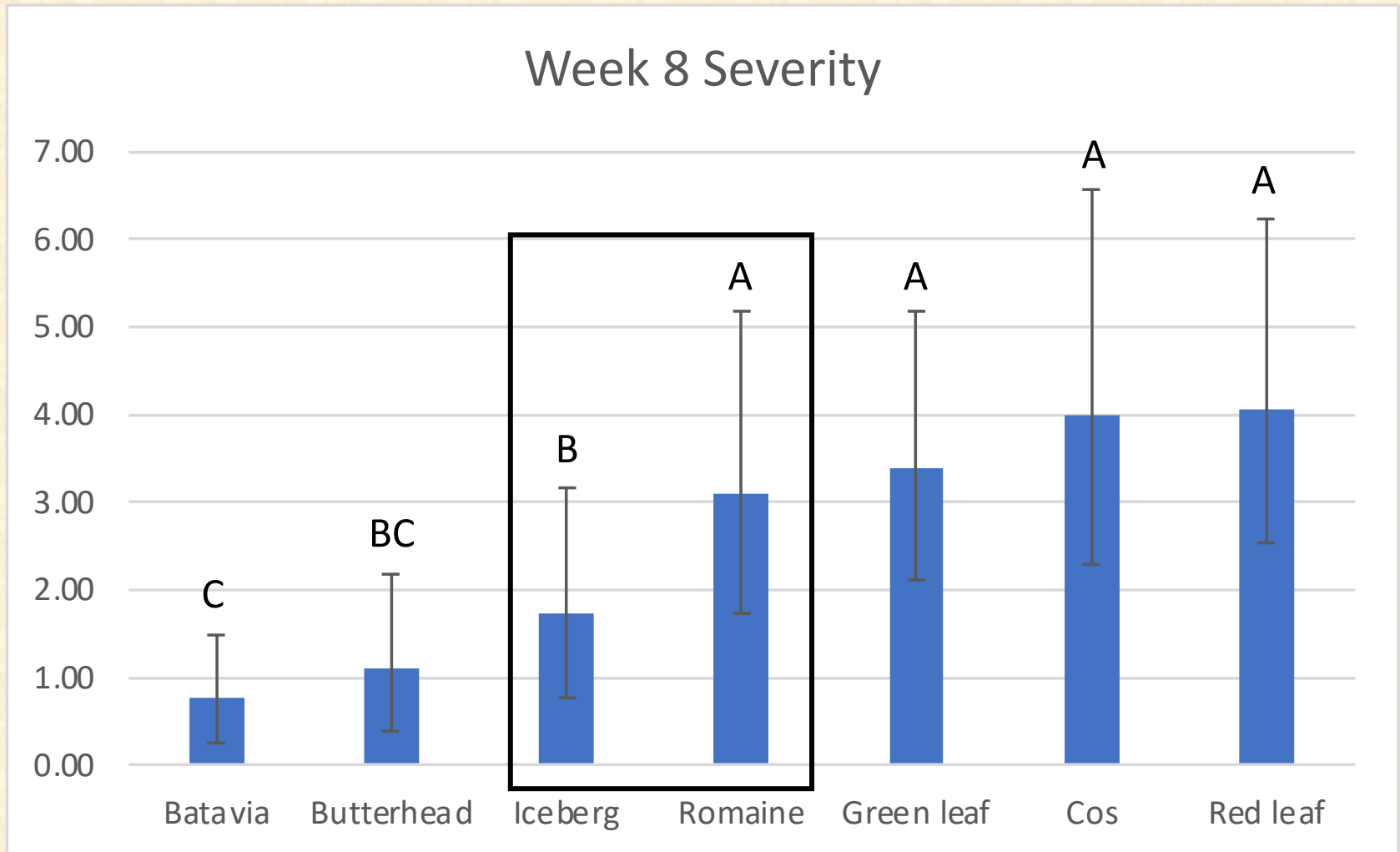
## 2 Diseases

- **INSV vs Pythium symptoms**



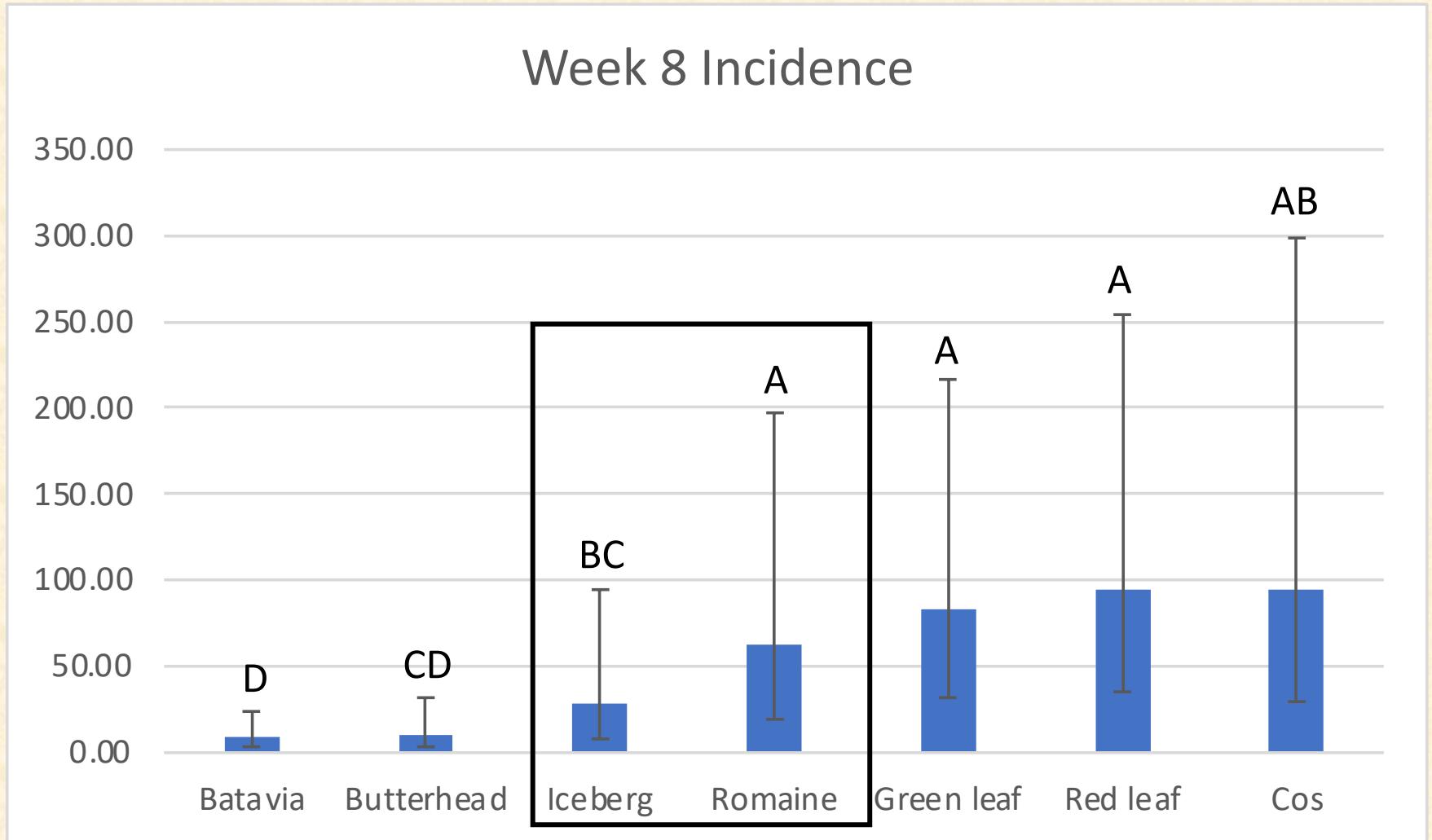
# INSV results

- Romaine vs Iceberg



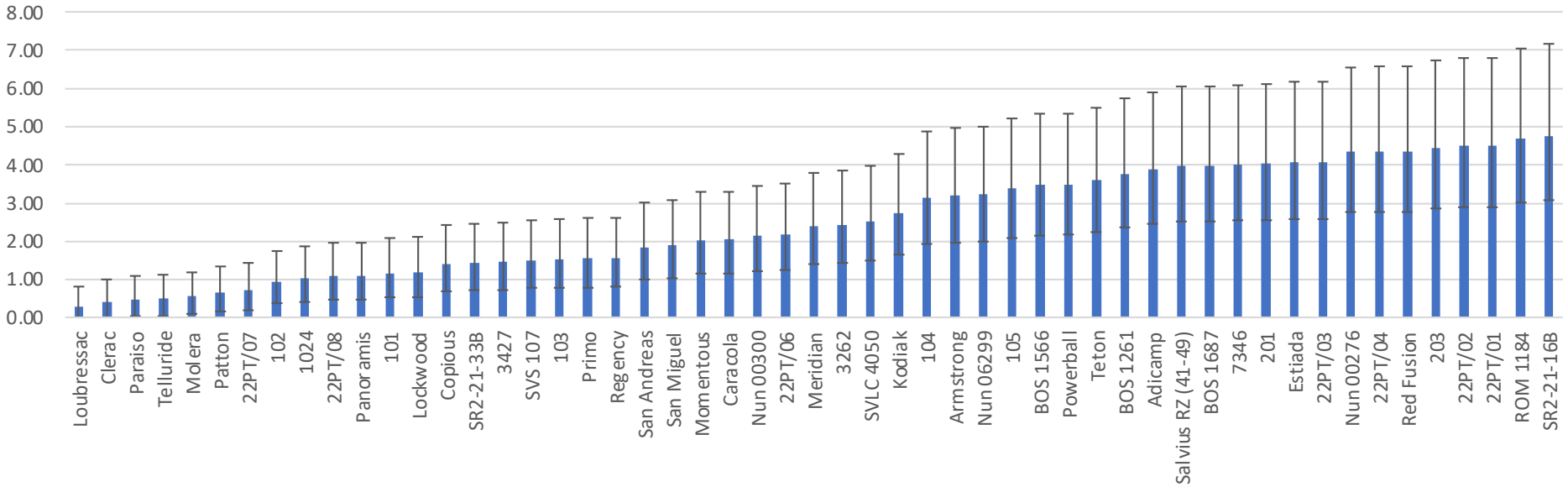
# INSV results

- Romaine vs Iceberg

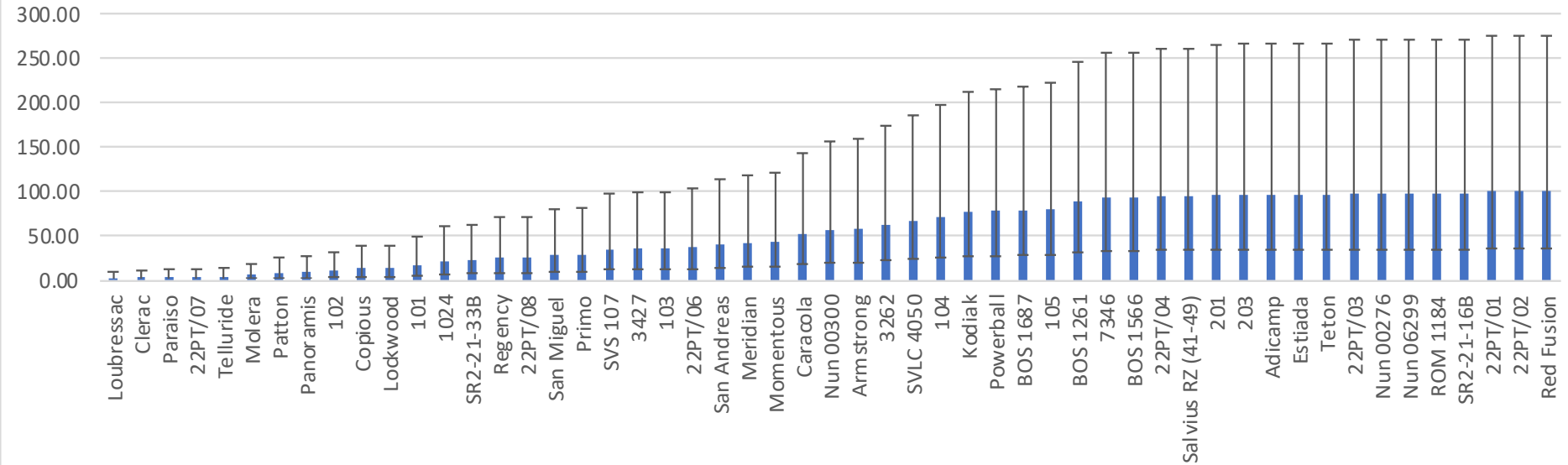




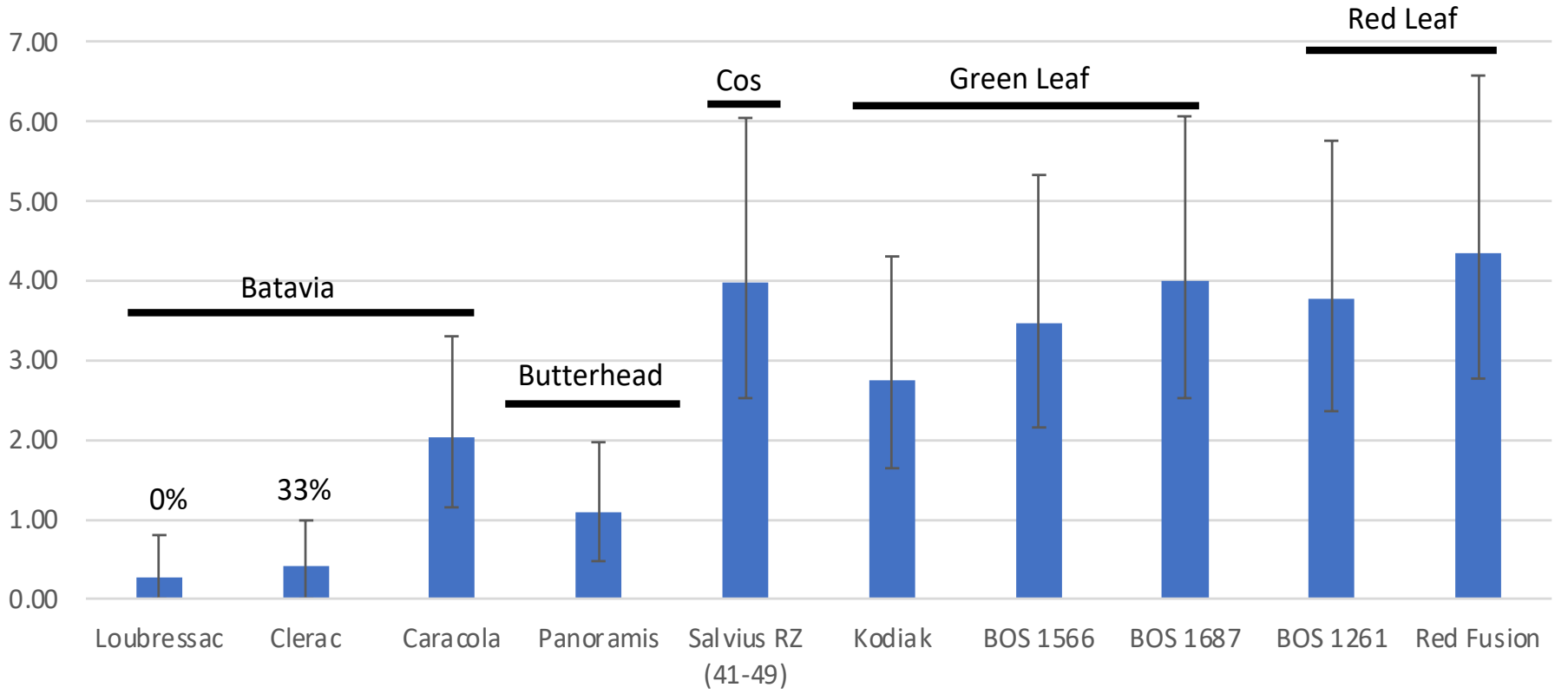
### Week 8 Sev



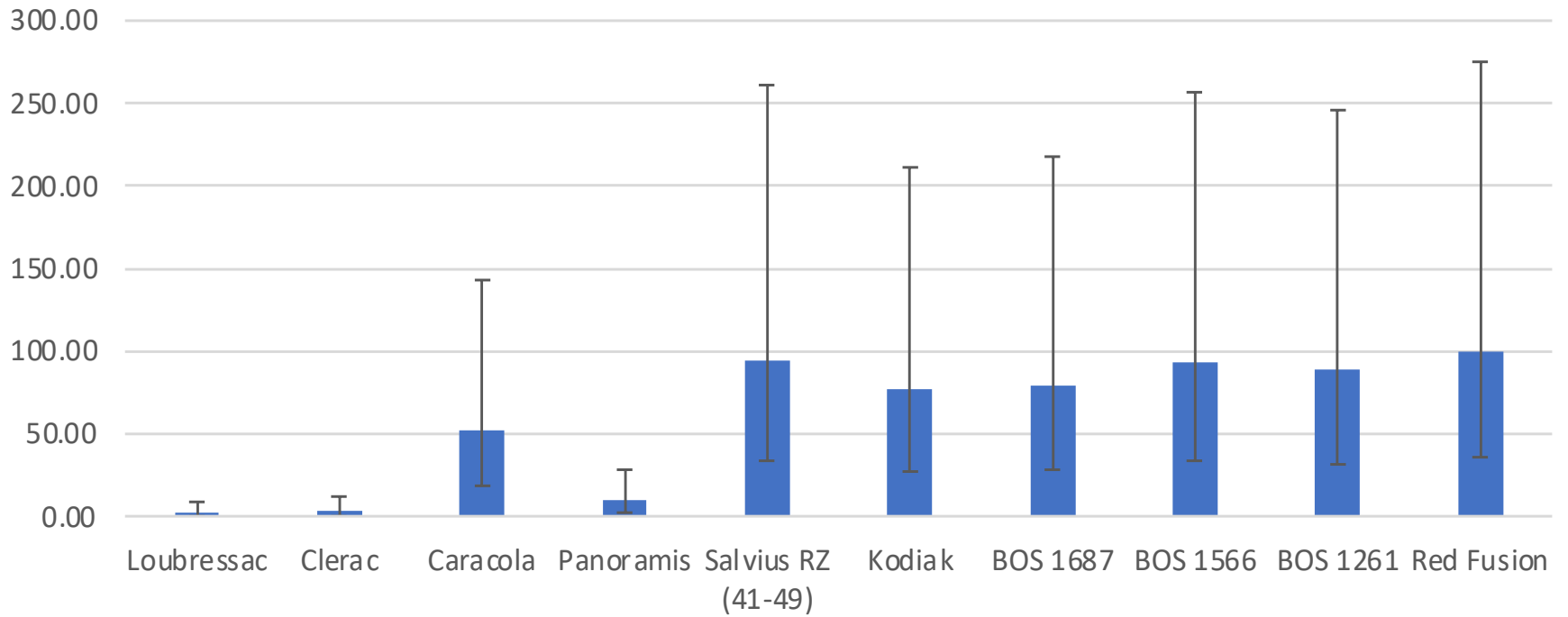
### Week 8 Incidence



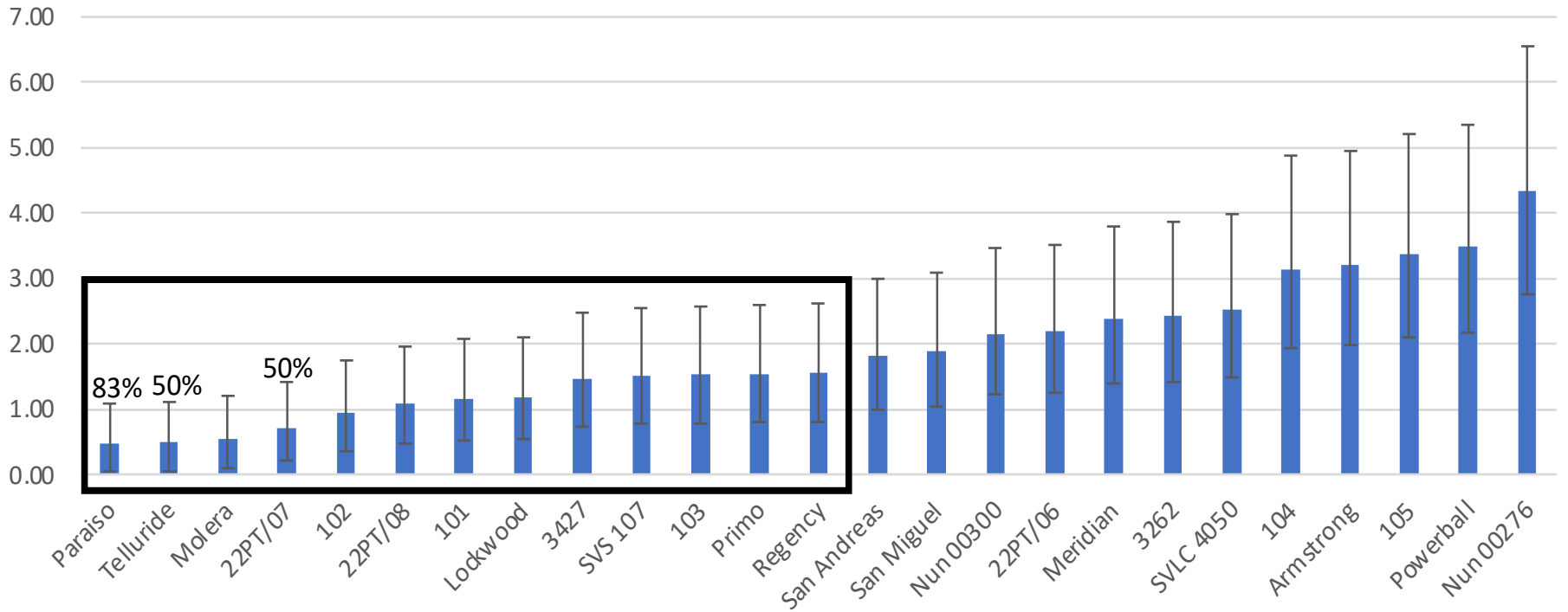
# Other Week 8 Sev



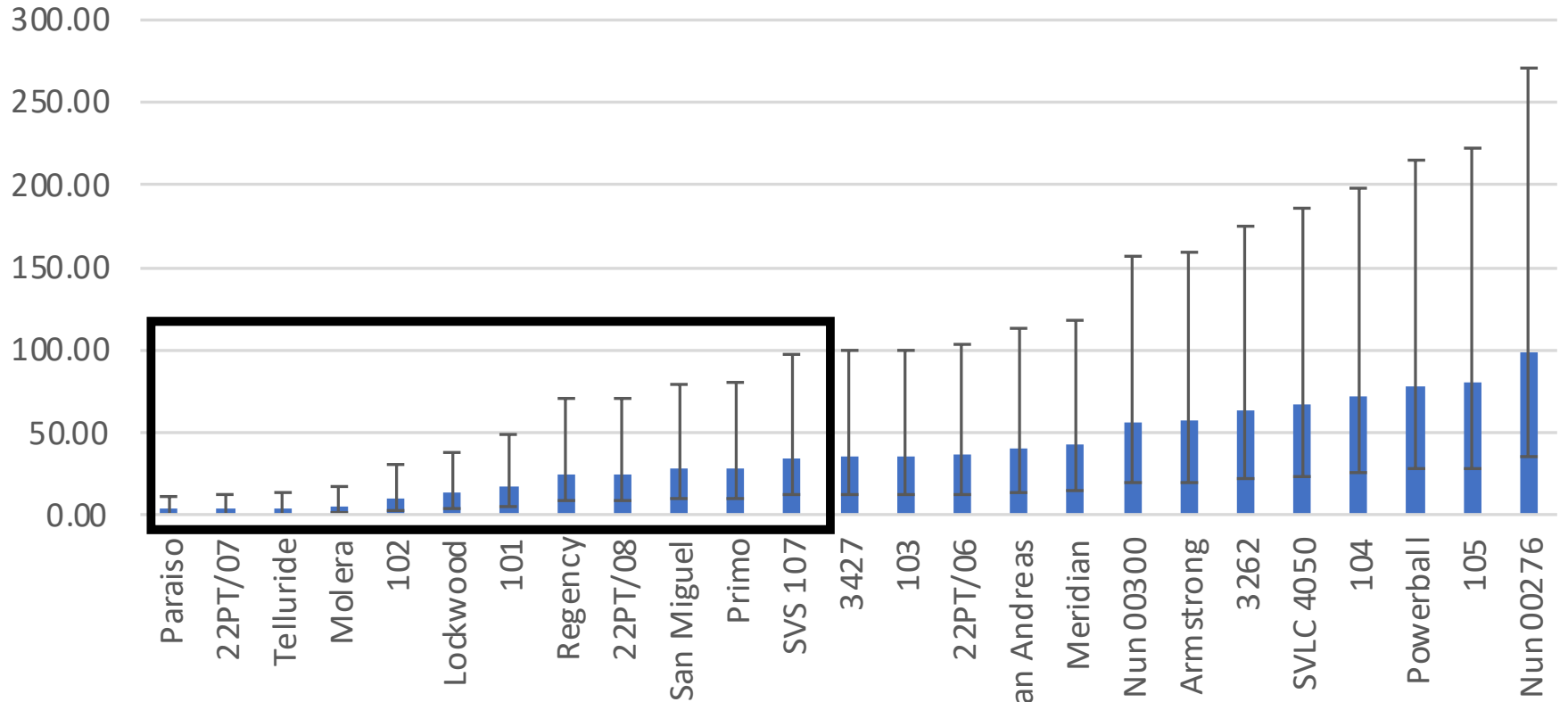
## Week 8 Incidence



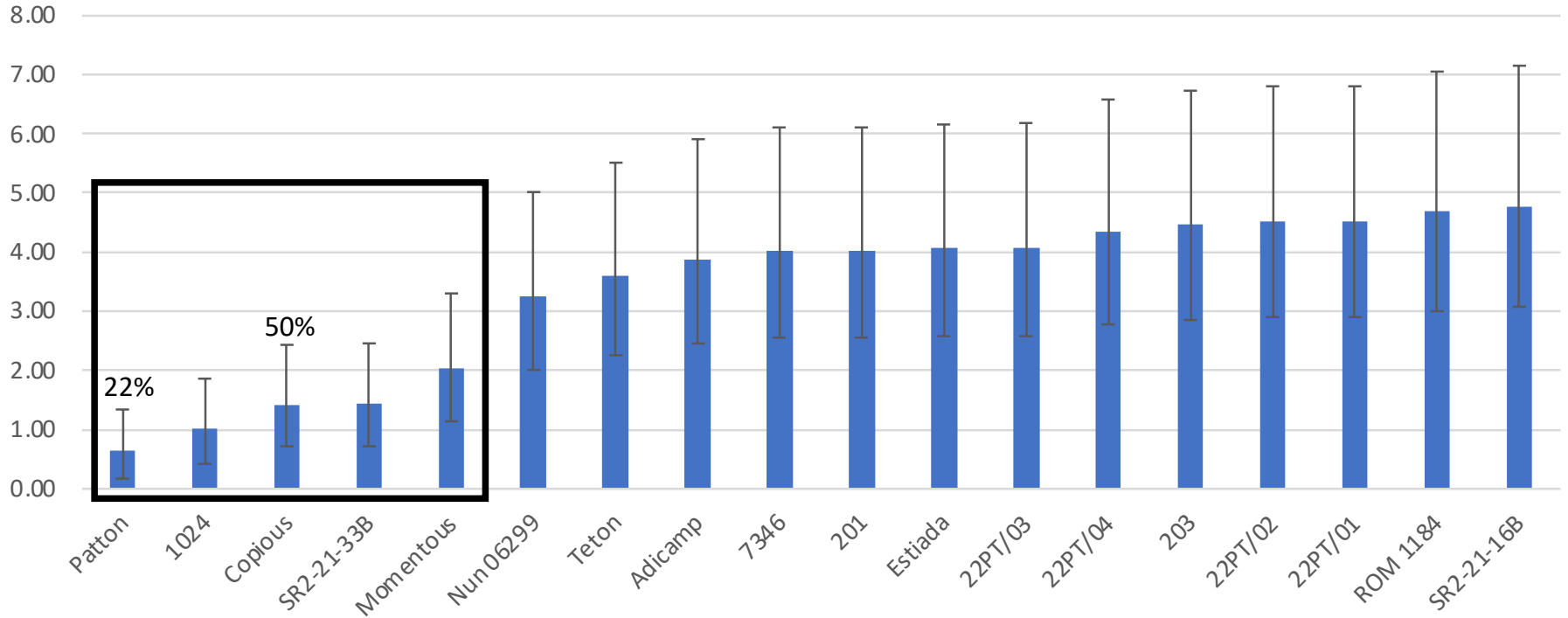
# Crisphead Week 8 Sev



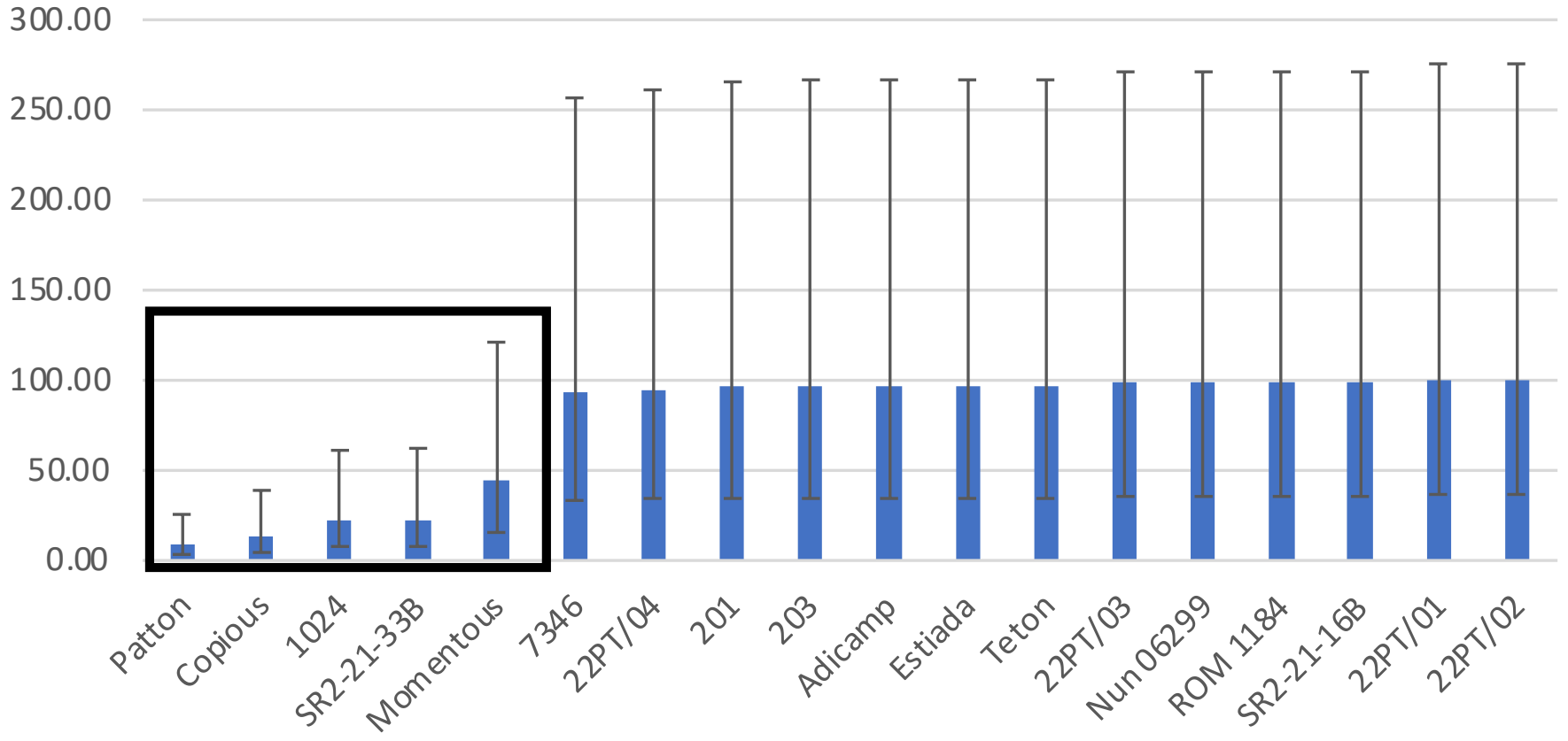
# Crisphead Week 8 Incidence



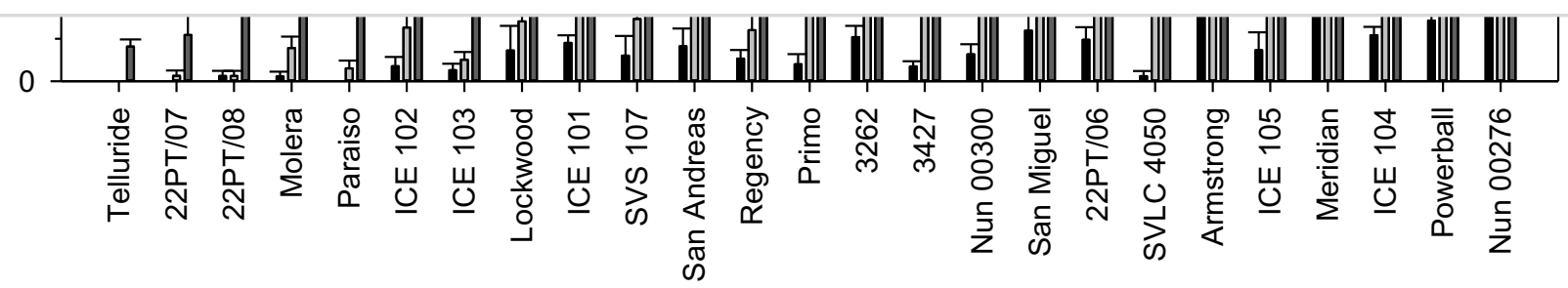
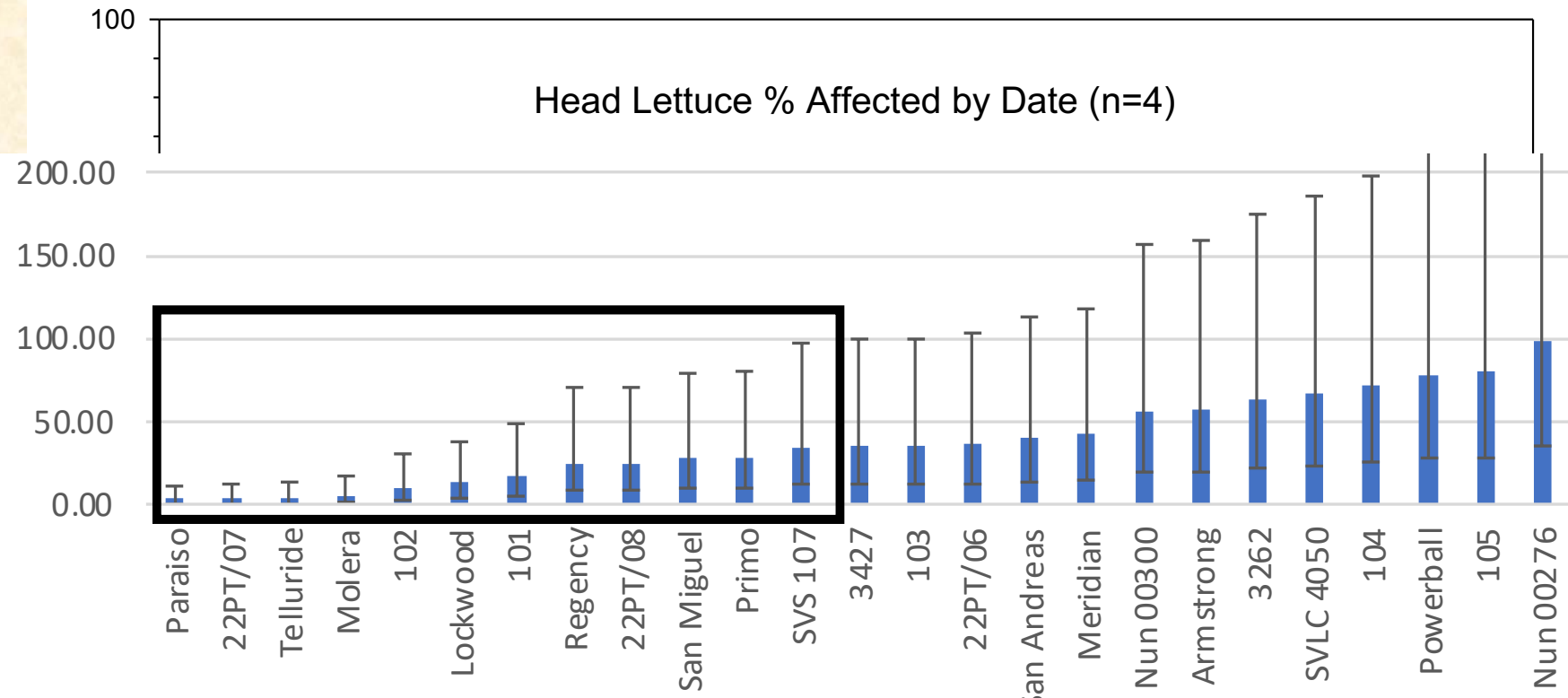
# Romaine Week 8 Sev



# Romaine Week 8 Incidence

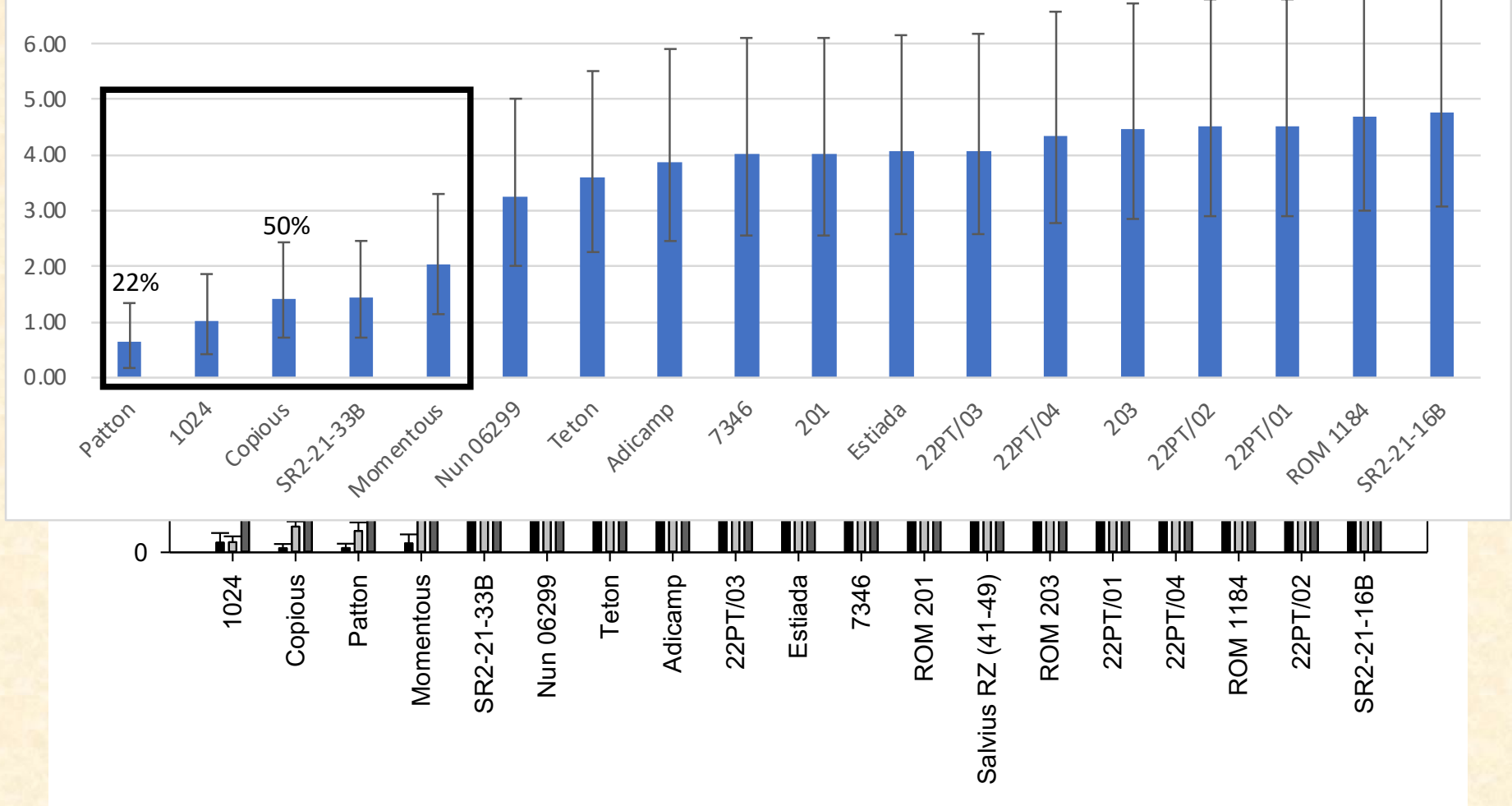
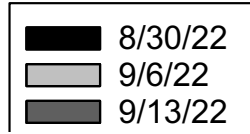


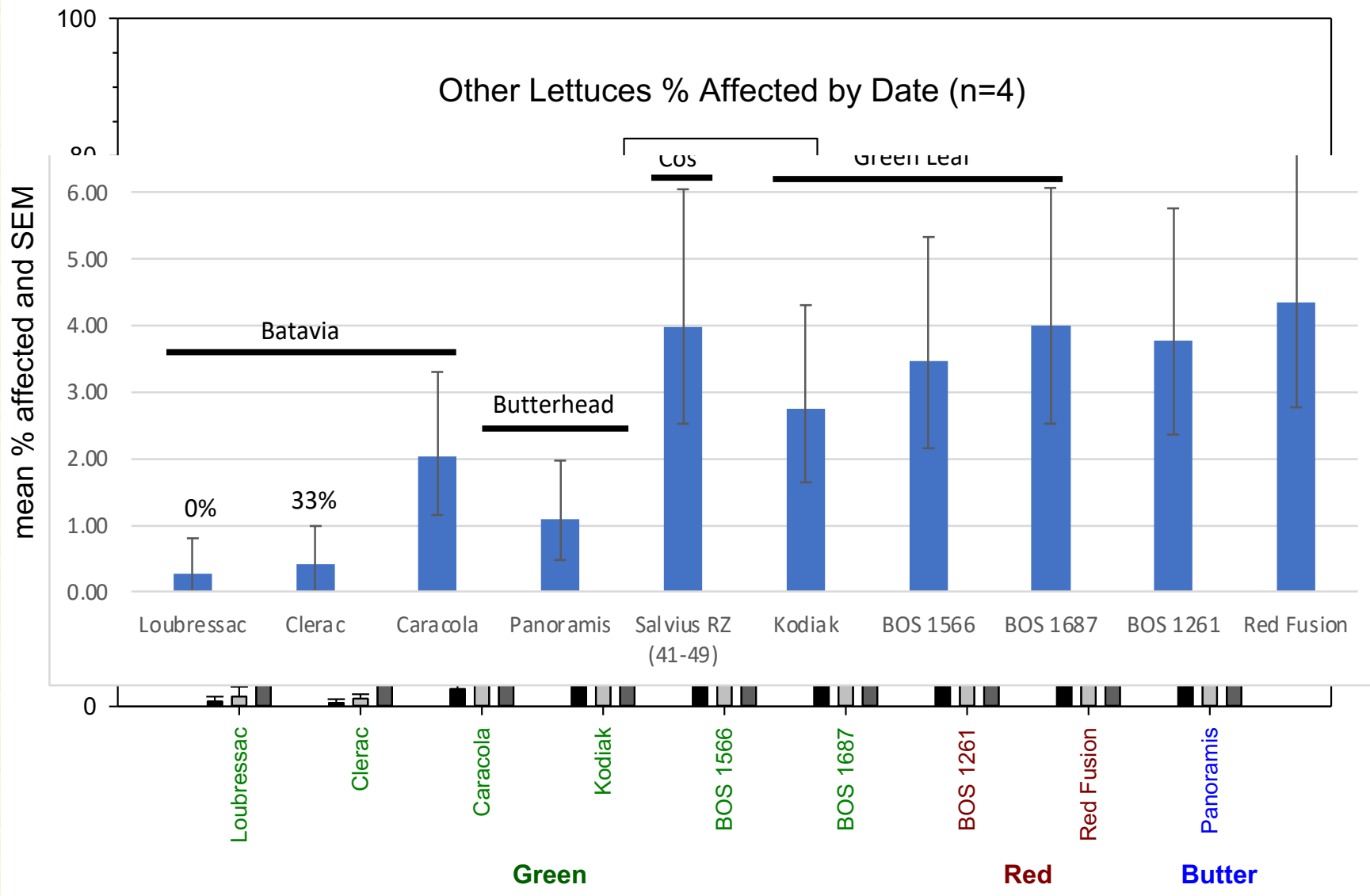
Head Lettuce % Affected by Date (n=4)





Romaine Lettuce % Affected by Date (n=4)





# Summary

- Romaine varieties had higher INSV severity than iceberg
- Variety selection is extremely important

Variety	Week 8 SEV		INC		ELISA %POS	Company	Type
Loubressac	0.28	O	2.69	J	0.00	Seminis	Batavia
Clerac	0.41	NO	3.58	IJ	33.33	Seminis	Batavia
Paraiso	0.48	NO	3.68	HIJ	83.33	SVS	Iceberg
Telluride	0.49	NO	4.47	FGHIJ	50.00	Enza Zaden Vitalis USA	Iceberg
Molera	0.55	MNO	5.98	EFGHIJ		SVS	Iceberg
22PT/07	0.71	KLMNO	3.89	GHIJ	50.00	Vilmorin-Mikado	Iceberg
Patton	0.65	LMNO	8.76	DEFGHIJ	22.22	Greengo	Romaine

# Acknowledgements



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