



UC DAVIS STRAWBERRY BREEDING PROGRAM CULTIVAR RELEASES – WATSONVILLE DISTRICT PRUNEDALE, CA JUNE 11, 2024

UC MONARCH – Short Day

- ❖ Comparable yields to Fronteras when planted in short-day environments and cultivated like Fronteras.
- ❖ Can also adapt to day-neutral environments when cultivated like Monterey (11-25% yield increase), performing best with 350-400 hours of field nursery chill.
- ❖ Unique compact and long-truss plant architecture, which enhances harvestability and makes it suitable not only for open field cultivation with reduced planting density but also ideal for tabletop production and machine harvest.
- ❖ Firm, flavorful and excellent shelf-life, superior to Fronteras and Monterey.
- ❖ Resistant to Fusarium, moderate resistance to Verticillium and Phytophthora.

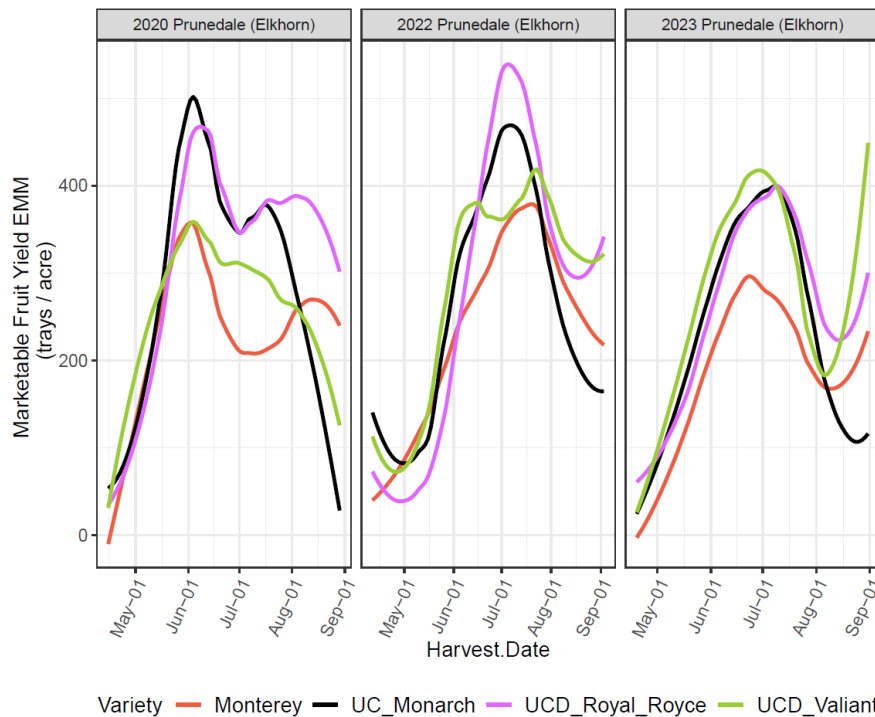


FIGURE 1. Marketable yields in trays/acre of UC Monarch compared to Monterey, UCD Royal Royce, UCD Valiant in Prunedale, CA during the fall plant harvest seasons of 2020, 2022, 2023 (April to August).

UC GOLDEN GATE – Day Neutral

- ❖ High yielding day neutral performing best when it has 400-600 hours of in field nursery chill.
- ❖ Slightly earlier than Monterey, displaying superior marketable yields through the season (+27-55%).
- ❖ Compact type plant with long-truss architecture. Good performance in tabletop and open field production.
- ❖ Excellent firmness and shelf-life.
- ❖ Resistant to Fusarium, moderately resistant to Phytophthora and Verticillium.

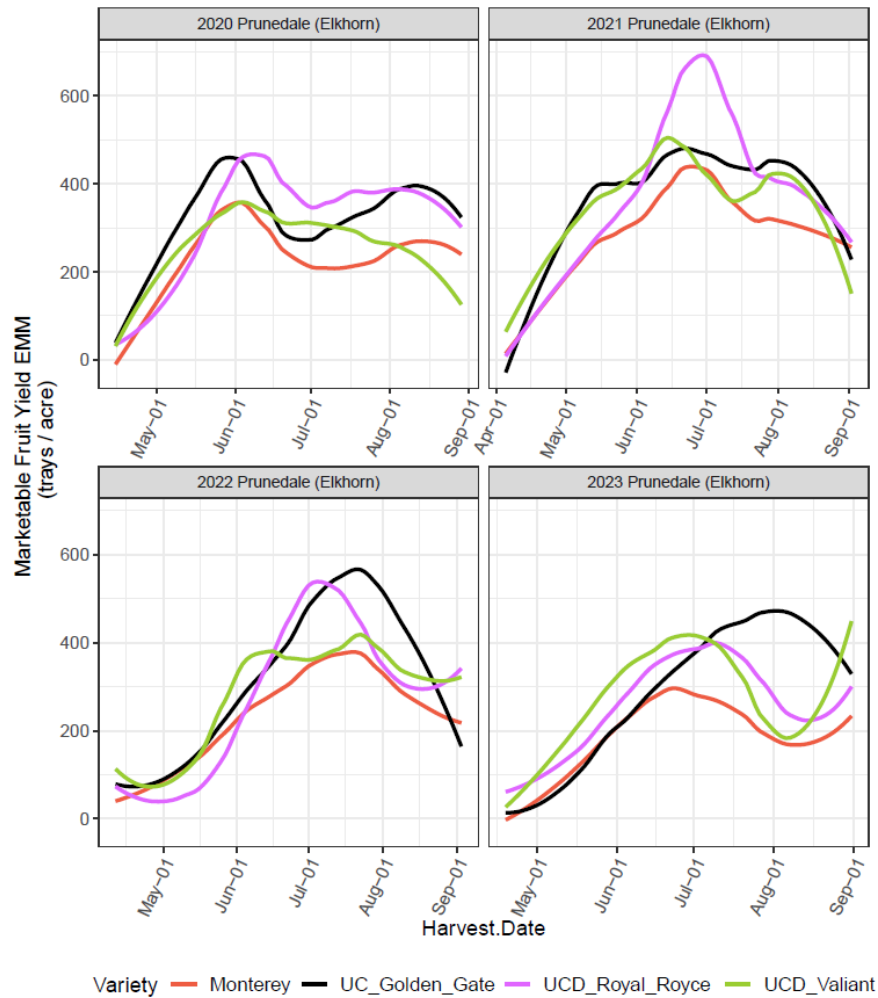


FIGURE 2. Marketable yields in trays/acre of UC Golden Gate compared to Monterey, UCD Royal Royce, UCD Valiant in Prunedale, CA during the fall plant harvest seasons of 2020 - 2023 (April to August).

UC KEYSTONE – Day Neutral

- ❖ High yielding cultivar starting slightly later than Monterey, like UCD Royal Royce, with superior marketable yields than Monterey through the season (+15-76%).
- ❖ Performs best with 400-600 hours of in field nursery chill and 7-14 days of post-harvest chill.
- ❖ Improved firmness and shelf-life compared to Monterey.
- ❖ Resistant to Fusarium, moderately resistant to Phytophthora and Verticillium.

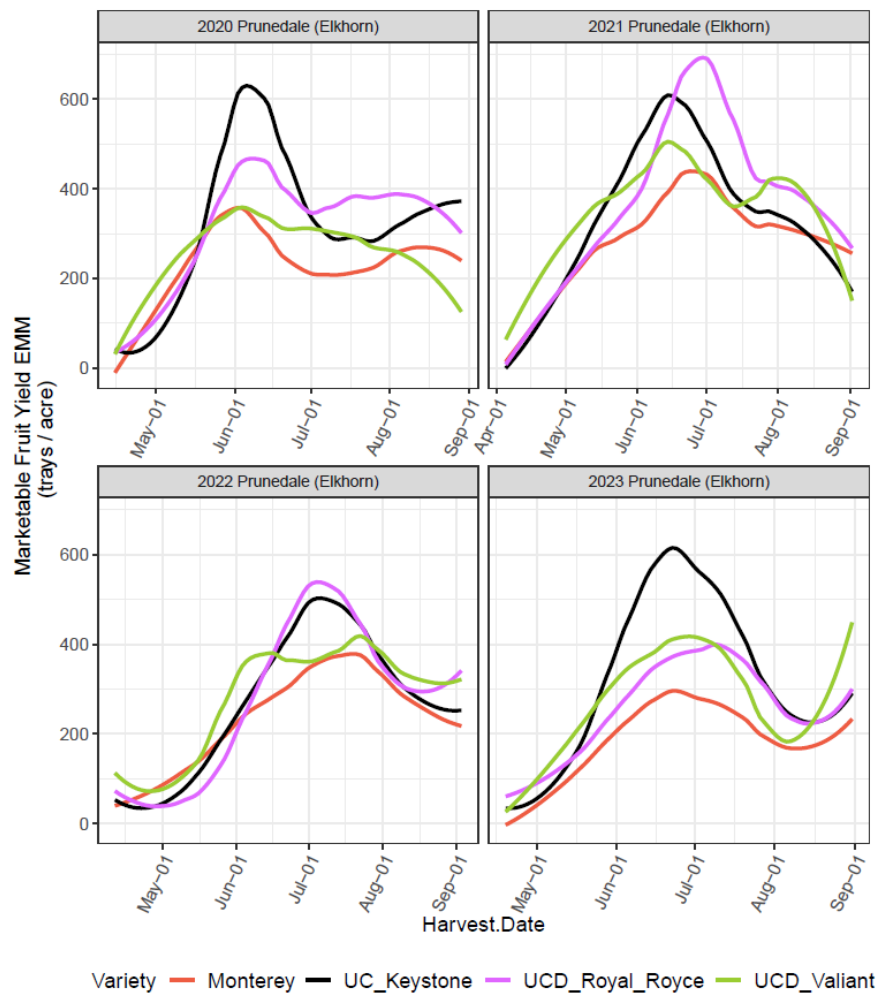


FIGURE 3. Marketable yields in trays/acre of UC Keystone compared to Monterey, UCD Royal Royce, UCD Valiant in Prunedale, CA during the fall plant harvest seasons of 2020-2023 (April to August).

UC ECLIPSE – Extreme Day Neutral

- ❖ Great establishment and performance in **summer and fall plant production**, with significantly higher marketable yields than Monterey (+30-77%).
- ❖ High yields in summer plant when planted like Portola (+48-66%).
- ❖ Very good fruit size that stays consistent through the season with good shelf life.
- ❖ Resistant to Fusarium, moderately resistant to Phytophthora and Verticillium.

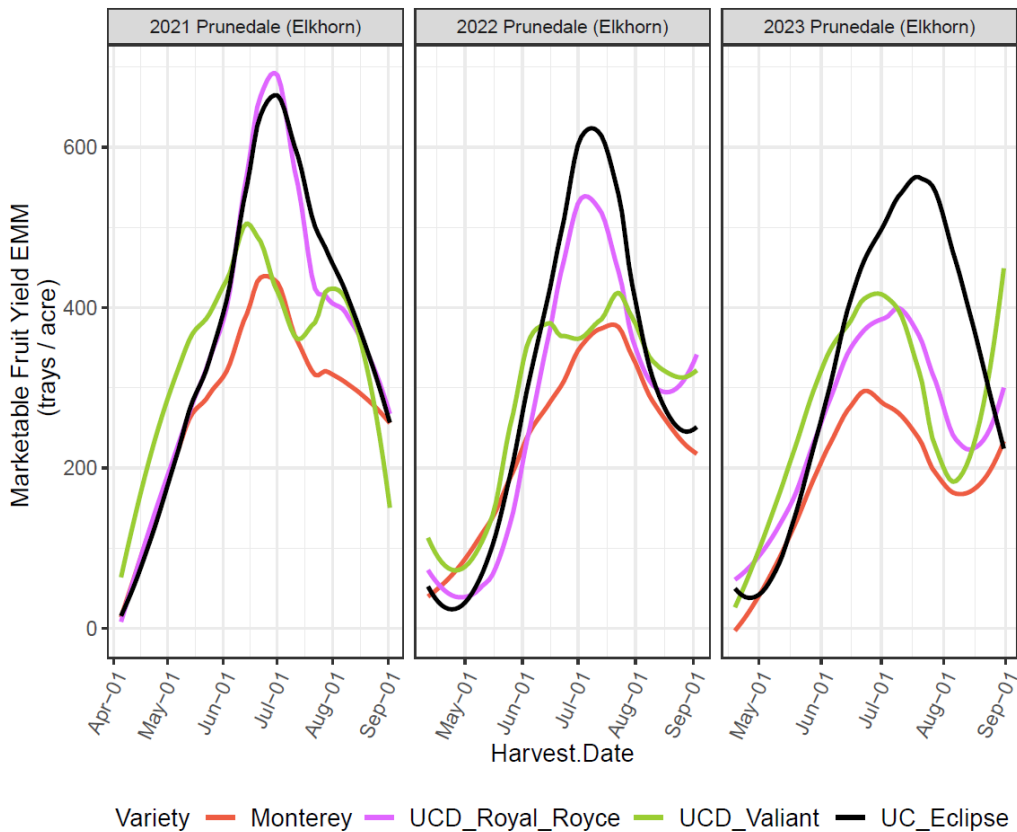


FIGURE 4. Marketable yields in trays/acre of UC Eclipse compared to Monterey, UCD Royal Royce, UCD Valiant in Prunedale, CA during the fall plant harvest seasons of 2021-2023 (April to August).

Cultivar	2020 Total Marketable Fruit Yield		2021 Total Marketable Fruit Yield		2022 Total Marketable Fruit Yield		2023 Total Marketable Fruit Yield		Percent Marketable Fruit	Yield Increase Over Monterey
	g/plant	trays/acre*	g/plant	trays/acre*	g/plant	trays/acre*	g/plant	trays/acre*		
UC Monarch	2,786 ab	11,122	NA	NA	2,717 bc	10,846	2,269 ad	9,060	76-86%	+ 11-25%
UC Golden Gate	3,224 a	12,872	3,869 a	15,445	3,285 a	13,113	2,813 bc	11,229	84-88%	+ 27-55%
UC Keystone	3,227 a	12,882	3,626 ab	14,475	2,825 ac	11,278	3,177 c	12,684	80-85%	+ 15-76%
UC Eclipse	NA	NA	4,065 a	16,227	3,182 ab	12,702	3,195 c	12,755	80-90%	+ 30-77%
UCD Valiant	2,560 b	10,221	3,744 a	14,947	2,923 ac	11,669	2,694 ac	10,755	69-84%	+ 12-49%
UCD Royal Royce	3,164 a	12,632	4,030 a	16,091	2,907 ac	11,605	2,522 ab	10,067	84-91%	+ 19-39%
Monterey	2,293 b	9,154	3,051 b	12,182	2,453 c	9,792	1,810 d	7,227	81-89%	

TABLE 1. Cumulative marketable yield for UC Monarch (short-day) and UC Golden Gate, UC Keystone and UC Eclipse (day-neutral) compared to three commercial checks (UCD Valiant, UCD Royal Royce and Monterey) tested in Prunedale, CA in 2020-2023 from April to August.

Values followed by different letters indicate significant statistical differences ($\alpha=0.05$)

*Calculations made based on a planting density of 14,500 plants/acre

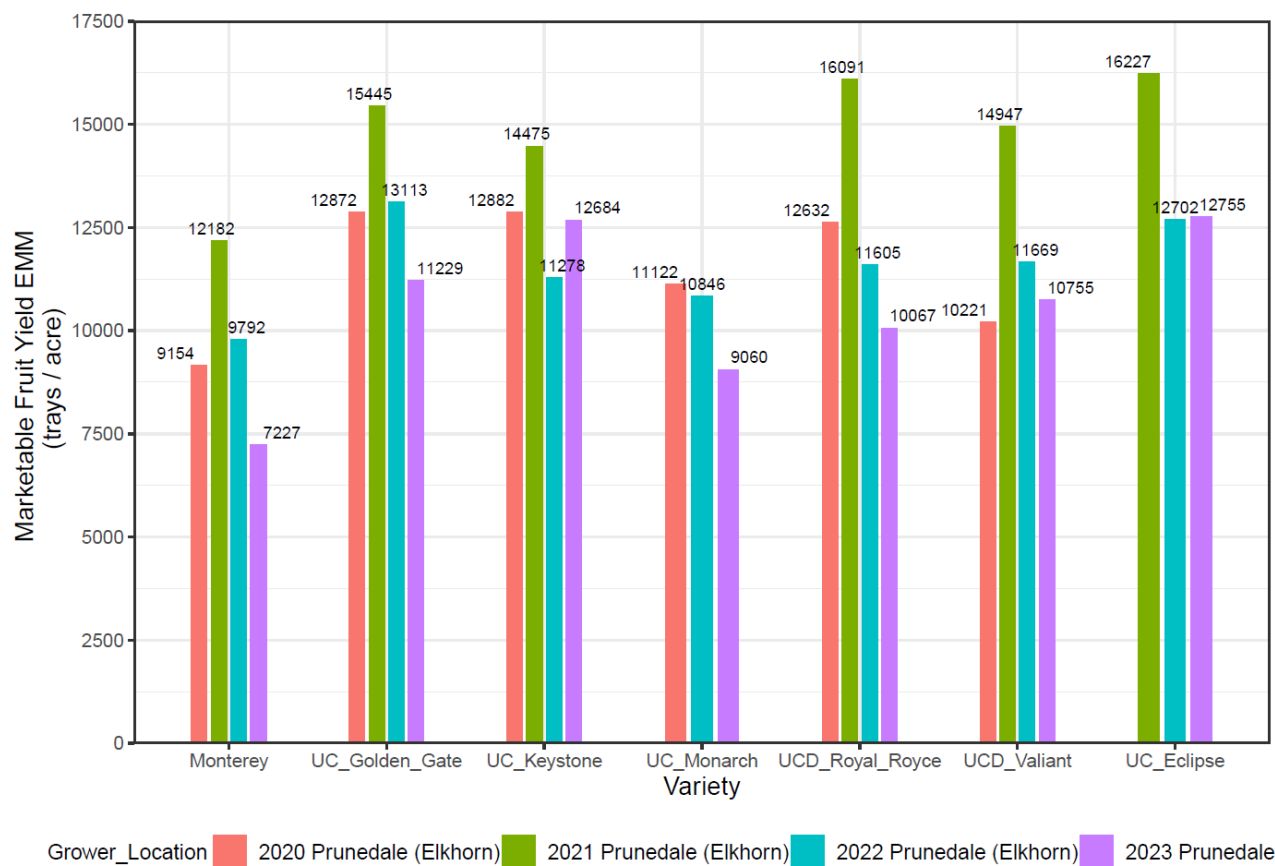


FIGURE 5. End of season cumulative yield (trays/acre) of UC Golden Gate, UC Keystone, UC Monarch and UC Eclipse compared to Monterey, UCD Valiant, UCD Royal Royce tested in Prunedale, CA during the harvesting season April-August of 2020-2023.

Cultivar	Fusarium Resistance	Verticillium Resistance	Phytophthora Resistance	Macrophomina Resistance	Firm. (gf)	Brix (%)	Brix/Acid	Fruit Size (g)
UC Keystone	1	2	2	3	244	7.6	10.2	32
UC Golden Gate	1	2	2	3	311	7.7	8.8	34
UC Eclipse	1	2	2	4	255	7.3	9.1	38
UC Monarch	1	2	2	3	330	7.2	10.2	30
Monterey	4	3	3	4	221	8.3	11.1	33
UCD Royal Royce	4	3	2	3	336	7.0	8.8	34
UCD Valiant	4	2	2	3	290	7.0	9.2	39

For additional information about UC released cultivars visit the CSC breeding dashboard: <https://www.calstrawberry.com/en-us/> and our program's webpage: <https://strawberry.ucdavis.edu/>

TABLE 2. Disease resistance scores collected from annual disease trials performed at the Cal Poly Strawberry Center and UC Davis. Fruit quality traits were measured in the 2020-2023 harvest seasons in Prunedale, CA. Evaluations were made in peak (May-June) and late (July-August) seasons.