



# UC DAVIS STRAWBERRY BREEDING PROGRAM SHORT-DAY CULTIVAR RELEASES

**OXNARD, CA**  
**APRIL 16, 2024**



## UC SURFLINE

- ❖ Production starts earlier than Fronteras, overall higher marketable yields than Fronteras (up to 62%) through the season.
- ❖ Performs better in short-day environments with at least 200 hours of in field nursery chill.
- ❖ Improved firmness and shelf-life compared to Fronteras.
- ❖ Resistant to Fusarium and Phytophthora, moderate resistance to Verticillium.

## UC MONARCH

- ❖ 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, 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 cultivar, superior to Fronteras.
- ❖ Resistant to Fusarium, moderate resistance to Verticillium and Phytophthora.



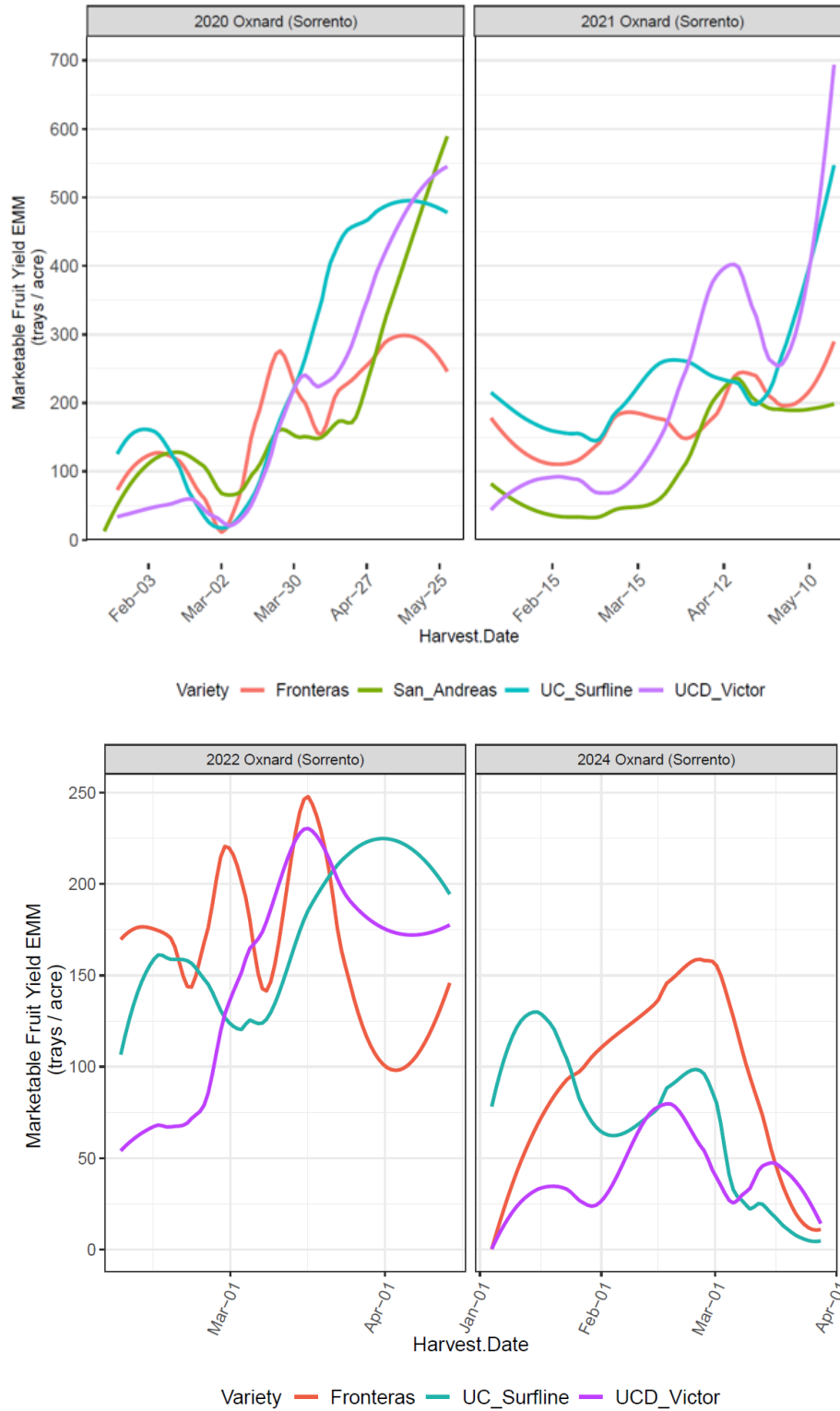
Cultivar	2020 Total Marketable Fruit Yield			2021 Total Marketable Fruit Yield			2022 Total Marketable Fruit Yield			2024 Total Marketable Fruit Yield (Up to March)			Early Yield Increase Over Fronteras	Percent Marketable Fruit
	Early Season trays/acre*	End Season g/plant	End Season trays/acre*	Early Season trays/acre*	End Season g/plant	End Season trays/acre*	Early Season trays/acre*	End Season g/plant	End Season trays/acre*	Early Season trays/acre*	End Season g/plant	End Season trays/acre*		
UC Surflin	1,036	1,227 a	8,780	1,580	1,117 b	7,999	995	305 c	2,185	1,018	176 b	1,193	Up to 33%	86-97%
UC Monarch	NA	NA	NA	1,057	801 ab	5,732	860	227 b	1,627	666	164 ab	1,110	0%	95%
UCD Victor	369	883 b	6,318	781	1,041 b	7,454	948	496 a	1,821	398	101 a	684		82-98%
San Andreas	897	771 b	5,522	413	562 a	4,023	NA	NA	NA	NA	NA	NA		73-83%
Fronteras	907	758 c	5,425	1,189	807 ab	5,776	1,224	338 c	2,421	937	223 b	1,510		84-99%

**TABLE 1.** Cumulative marketable yields for two newly-released short-day cultivars: UC Surflin and UC Monarch compared to commercial checks (UCD Victor, San Andreas and Fronteras) tested in Oxnard, CA in 2020-2024 from January/February to May (for 2024 we are only presenting data collected up to the end of March). Early season calculations were made based on the yield obtained until the end of February (columns highlighted in yellow)

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

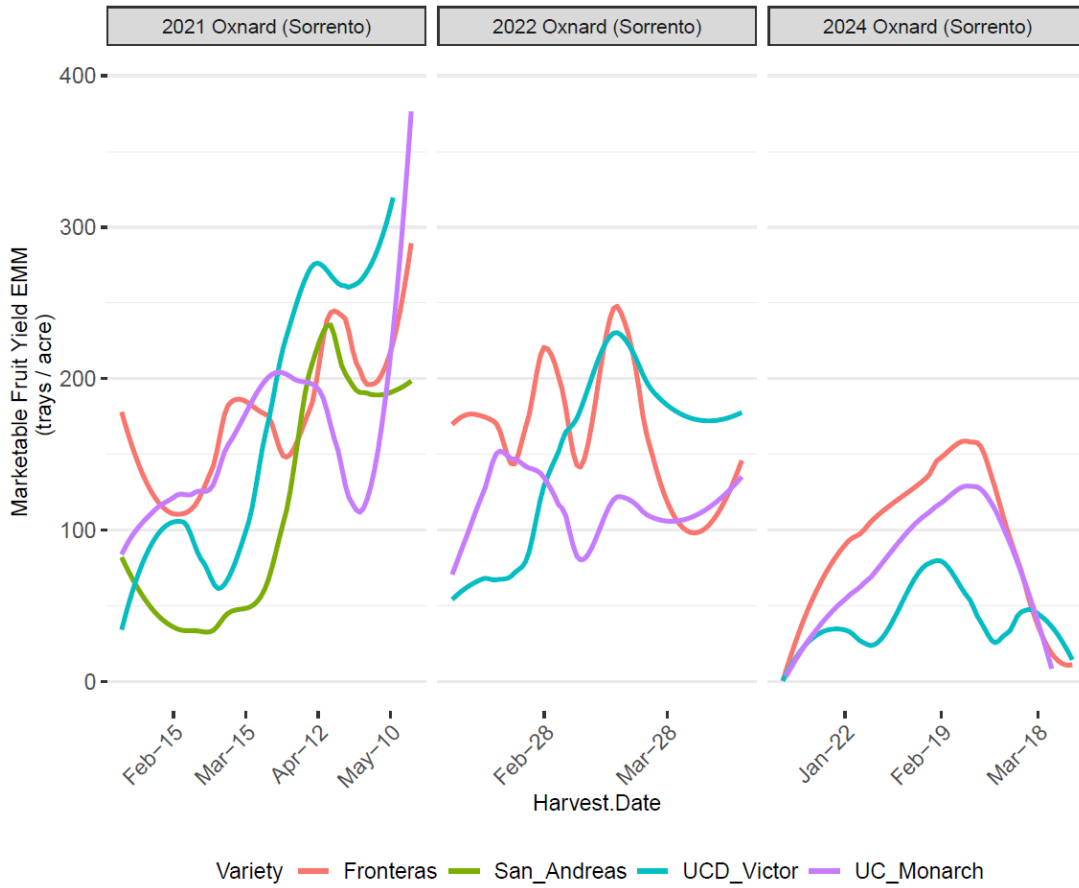
\*Calculations made based on a planting density of 26,000 plants/acre in 2020-2023 and 24,600 plants/acre in 2024.

## UC SURFLINE

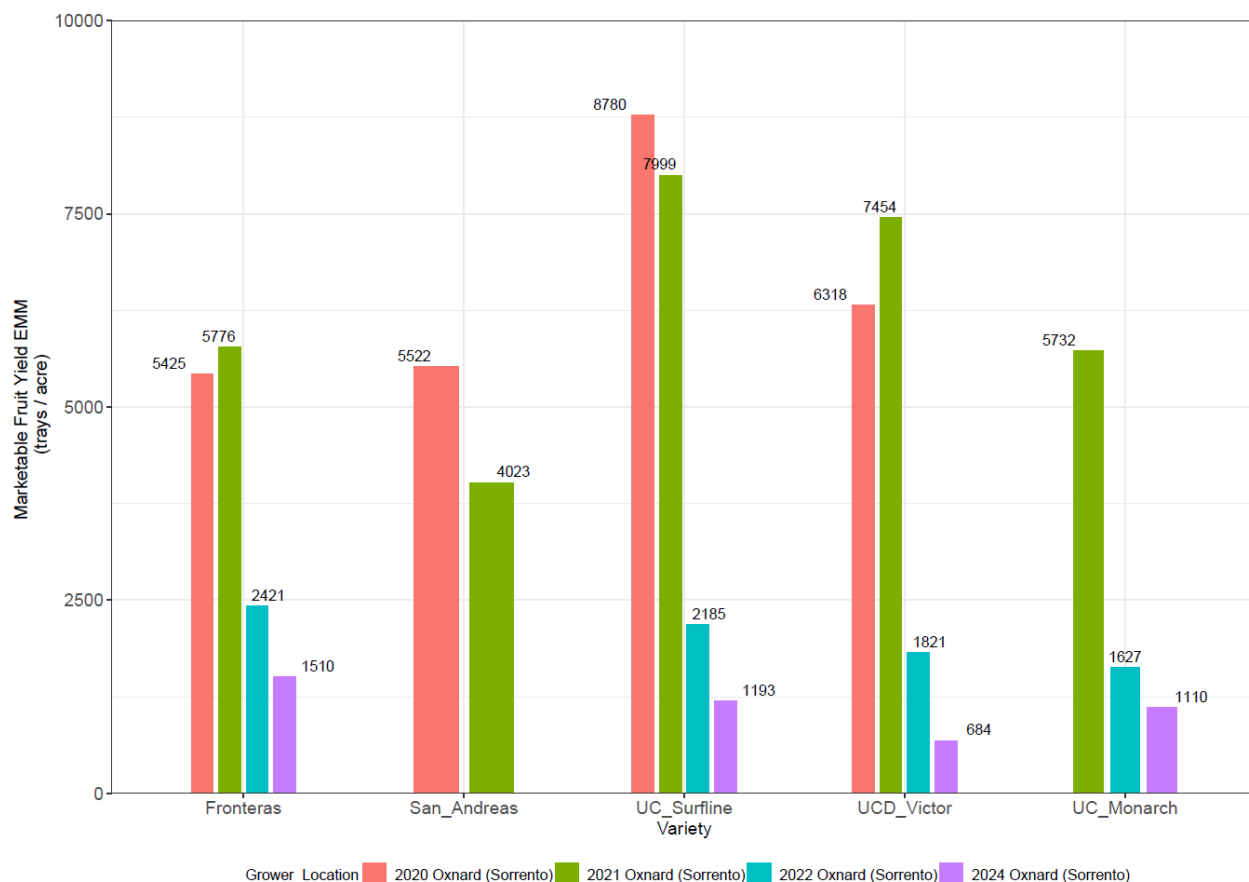


**FIGURE 1.** Marketable yields in trays/acre of UC Surfline compared to Fronteras, San Andreas and UCD Victor tested in Oxnard, CA during the harvesting seasons of 2020-2024.

## UC MONARCH



**FIGURE 2.** Marketable yields in trays/acre of UC Monarch compared to Fronteras, San Andreas and UCD Victor tested in Oxnard, CA during the harvesting seasons of 2021-2024.



**FIGURE 3.** End of season cumulative yield (trays/acre) of UC Surflin and UC Monarch compared to Fronteras, San Andreas and UCD Victor tested in Oxnard, CA during the harvesting seasons of 2020-2024.

Cultivar	Fusarium Resistance	Verticillium Resistance	Phytophthora Resistance	Macrophomina Resistance	Firm. (gf)	Brix (%)	Brix/Acid	Fruit Size (g)
Fronteras (SD)	1	3	2	3	226	8.6	10.4	33
San Andreas (DN)	1	2	3	4	297	8.8	9.3	28
UCD Warrior (SD)	1	3	2	2	213	8.5	11.8	24
UCD Victor (SD)	1	3	2	3	297	7.9	10.5	30
UC Surflin (SD)	1	2	1	3	339	8.2	9.8	30
UC Monarch (SD)	1	2	2	3	319	7.7	10.7	25

For additional information about UC released cultivars visit: <https://www.calstrawberry.com/en-us/>

**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 2020-2024 seasons in Oxnard, CA. Evaluations were made in peak (April) and late (May) seasons.

1	Resistant
2	Moderately Resistant
3	Moderately Susceptible
4	Susceptible