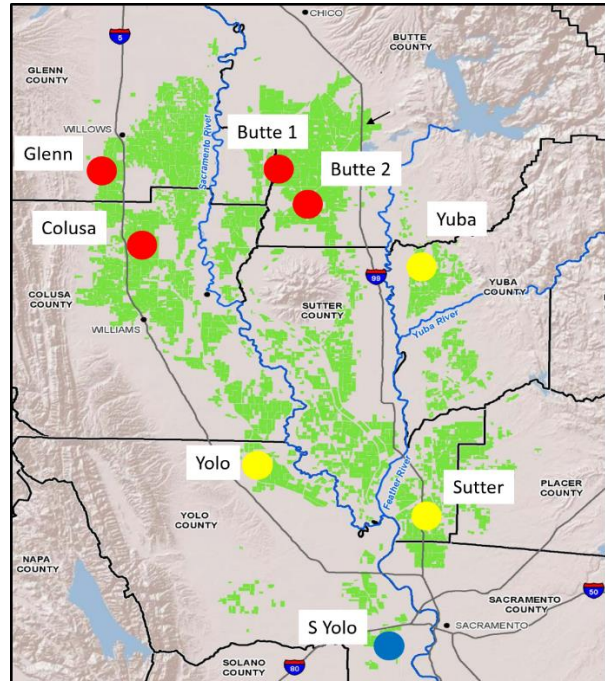


Considerations for choosing the right medium grain rice variety

With planting season coming up, thinking about appropriate variety selection is key, and one of the first steps towards ensuring a good 2021 crop. Each year the California Rice Research Board funds a statewide variety trial testing program. Here I summarize some of that data.

These trails are on grower managed fields in eight locations around the Sacramento Valley as seen in the map. One major difference in the locations selected is nighttime temperatures in mid to late July when most of the rice is booting. Cold temperatures during this period can cause blanking and lower yields. On the map, locations in red are where cold nighttime temperatures are usually not a problem. These locations are generally north of highway 20. In yellow are locations where growers need to be concerned about low nighttime temperatures; while they may not occur every year, they are common. In blue (South Yolo) is a location where cold temperatures occur almost every year. Importantly, in each of these regions may be microclimates where temperatures vary from the “average”.



Map showing variety trial locations in the Sacramento Valley. Dot color refers to nighttime temperatures in the last half of July (during booting). Red dots refer show locations where cold nighttime temperatures are not normally a concern for blanking. Yellow dots are those locations where cold temperatures more common, and the blue dot location is where cold temperatures occur almost every year. Temperatures are a concern when they drop below 58°F.

Location	Year	M105	M206	M209	M210	M211
Butte (1)	2016	10060	10400	10220	10270	11250
	2017	8910	9330	9350	9230	10110
	2018	8350	8270	7990	8290	9270
	2019	9820	9520	9260	10020	10060
	2020	10300	9570	10390	8840	10570
Location Mean		9488	9418	9442	9330	10252
Butte (2)	2016	10090	9600	9010	9890	9650
	2017	8930	9650	8480	9650	9130
	2018	9990	10270	9580	9960	10960
	2019	9220	9120	8740	9820	8930
	2020	9640	9490	9630	9660	9910
Location Mean		9574	9626	9088	9796	9716
Colusa	2016	10390	9960	9600	8270	10190
	2017	7390	7530	7850	7910	8680
	2018	8470	8960	9120	8980	9570
	2019	9430	9320	8960	9100	9830
	2020	8850	8820	9040	8950	8760
Location Mean		8906	8918	8914	8642	9406
Glenn	2016	7340	7860	8520	8060	9030
	2017	7520	7140	8200	6530	6950
	2018	9520	9300	9990	9160	10510
	2019	9940	9310	10080	9490	9460
	2020	9170	9500	9550	10240	8660
Location Mean		8698	8622	9268	8696	8922
Loc/Years Mean		9167	9146	9178	9116	9574

Some varieties are more tolerant of cold than others. Therefore, it is important to select varieties that are suitable for the location you are farming. In the tables below, are yield data from the past five years for each location in the variety trial. Only the main medium grains varieties are shown (M-105, M-206, M-209, M-210 and M-211). This data will allow for a more informed decision when it comes to variety selection.

The warmer locations are north of Hwy 20, in Glenn, Butte and Colusa counties. At these locations, M-211 consistently outperforms the other medium grains

by 4 cwt/ac, on average, over the five years and four locations. Among the other varieties shown, there were no consistent differences among them.

In the cooler locations, M-209 performed the worst in general. In the moderately cool locations (yellow dots on the map), M-105 and M-211 both did consistently well. In the coldest location (South Yolo), M 105 performed the best; while M-209 and M-211 performed poorly. Both M-209 and M-211 have similar days to maturity (about 5-7 days later than M-206). This data suggest that M-211 may have a broader adaptability range than M-209 because it appears to be slightly more cold tolerant. However, in the coolest location even M-211 did not perform well.

M-206 versus M-210: M-206 has been the most broadly adaptable variety available. While it may not always be the highest yielder, it generally does well across all locations. M-210 is a new variety which has blast resistance. It is basically M-206 with genes for blast resistance and has similar time to heading. Based on these data M-206 and M-210 have almost identical yields in both the warm and cooler regions.

Thoughts on M-211: As seen in the data provided, M-211 is a tremendously promising variety in terms of yield potential. Furthermore, its sensory qualities are similar to premium grain varieties such as M-401. However, one draw back is that for good milling quality, M-211 needs to be harvested at 20-22% moisture. Harvesting below this moisture can result in low milling quality. Given this, it may not be a variety that is suitable for large acreage planting and this should be tested by growers.

Location	Year	M105	M206	M209	M210	M211
Yuba	2016	9110	9090	8760	9680	9230
	2017	8370	8770	9060	8830	9100
	2018	9450	9350	8400	9120	9140
	2019	7170	6990	6650	7450	7070
	2020	7820	7920	7630	7800	8580
Location Mean		8384	8424	8100	8576	8624
Sutter	2016	11630	11110	10710	11340	
	2017	9380	9240	8790	9750	10120
	2018	9540	9250	9090	10110	9920
	2019	9770	9370	9300	9300	10160
	2020	9330	9380	8950	9450	9440
Location Mean		9930	9670	9368	9990	9910
Yolo	2016	10420	10980	9580	10080	
	2017	8550	8890	9130	8530	8390
	2018	10010	10090	9790	10020	10710
	2019	9720	9120	9290	9050	10100
	2020	10990	9550	10010	9150	10110
Location Mean		9938	9726	9560	9366	9828
South Yolo	2017	8590	7530	7280	6920	6740
	2018	8210	7640	7580	7830	7170
	2019	8590	7780	7730	8740	8220
Location Mean		8463	7650	7530	7830	7377
Loc/Years Mean		9179	8868	8640	8941	8935