



Lessons: UCCE Rice Yield Contest

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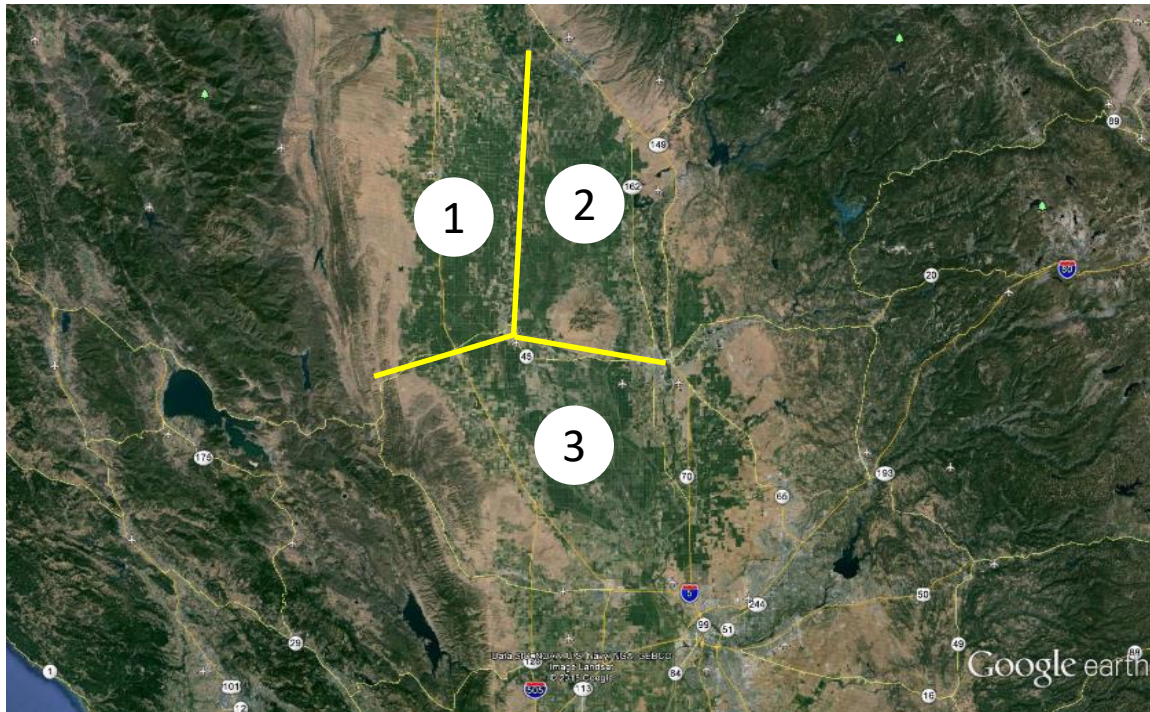
Winter Grower meetings: Jan 9-11, 2024





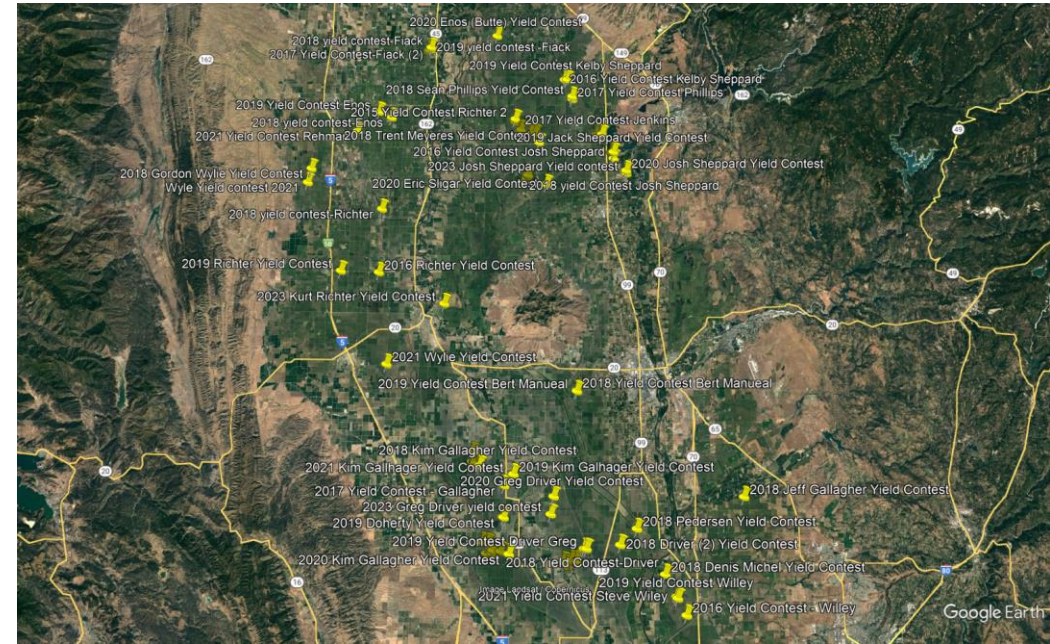
2023 Yield Contest

- Range: 107.2 – 132.5 cwt/ac
- Winners
 - Region 1: Seth Fiack
 - 111.6 cwt/ac; M-211
 - Region 2: Kurt Richter
 - 132.5 cwt/ac; M-105
 - Region 3: Ethan Driver
 - 125.9 cwt/ac; M:211



Overall data

- 8 years:
 - 2015-2023 (except 2022)
 - 2015 was a pilot
- 22 winners
- Varieties:
 - M-105, M-205, M-206, M-209, M-210, M-211, M-401
- Yields
 - 91.9 to 137.3 cwt/ac

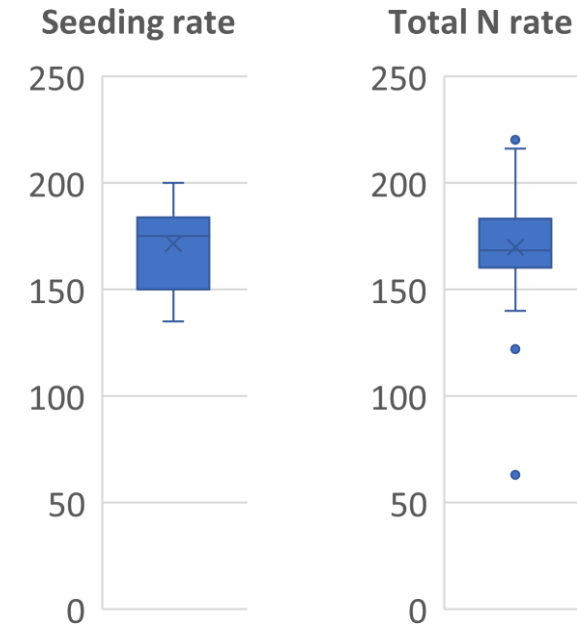


Limitations to analyzing study

- This study is looking only at fields where things turned out well.
 - Weeds were controlled
 - Practices were **timely**
 - Water well managed
 - Fertility management not a problem
- Things change over time
 - Butte herbicide not available until 2017
 - M-211 not widely available until 2021. Limited in 2020
- Can't look at everything
 - Timeliness is huge
 - Some practices just about everyone did
 - i.e Quadris

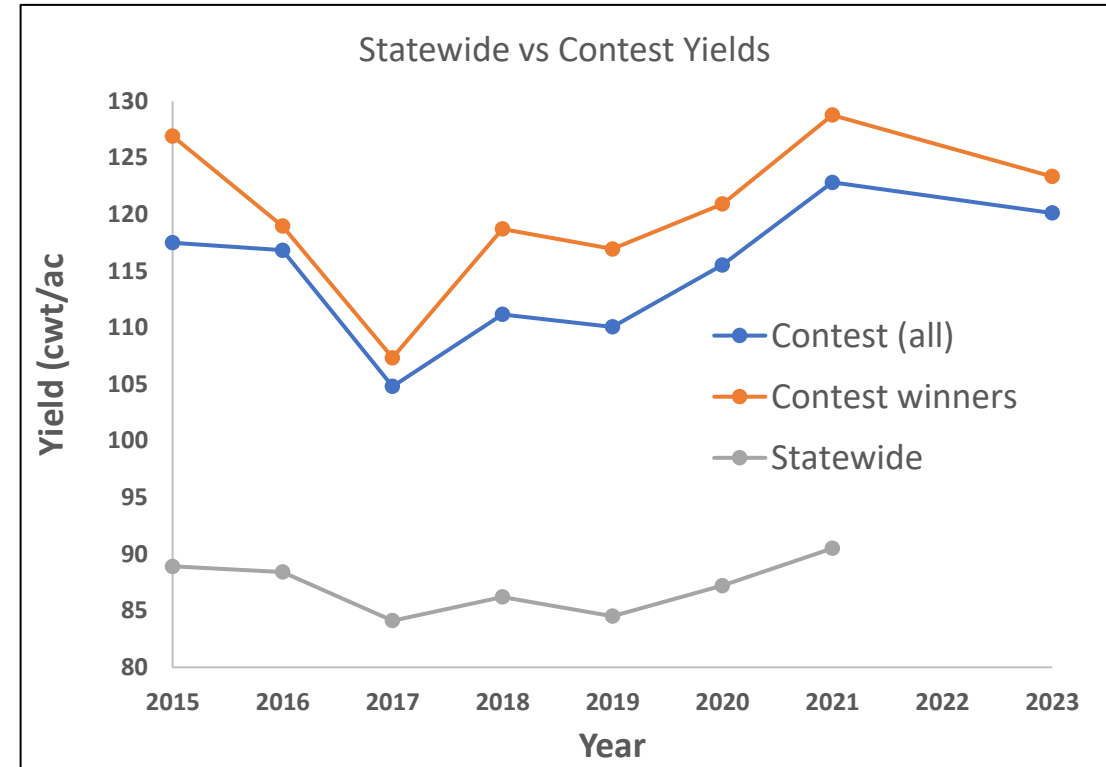
What did not come out as important?

- **Seeding rate:** average = 171 lb/ac
- **N rate:** average = 168 lb N/ac
- **Fertility management**
 - Delayed starter application
 - 23 (1/3) contestants delayed their starter
 - 4 won
 - Top-dress N
 - 39 (46%) applied top-dress
 - 11 winners applied top-dress
- **Continuous rice vs rice after fallow or other crop**
 - Winners
 - 11 continuous rice
 - 8 fallow
 - 3 other crop
 - Yields > 130 cwt/ac
 - 4 continuous rice
 - 2 after a fallow
 - 2 other crop
- **Water-seeding vs dry-seeding**
 - Only 5 dry-seeded fields: one a winner/record (135.8 cwt)



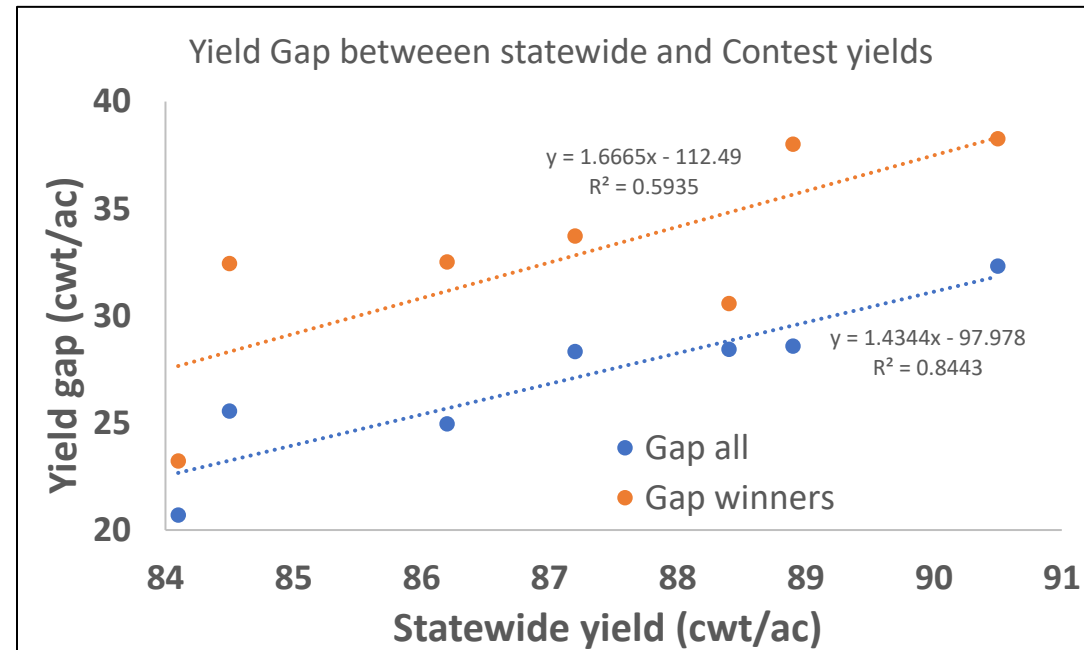
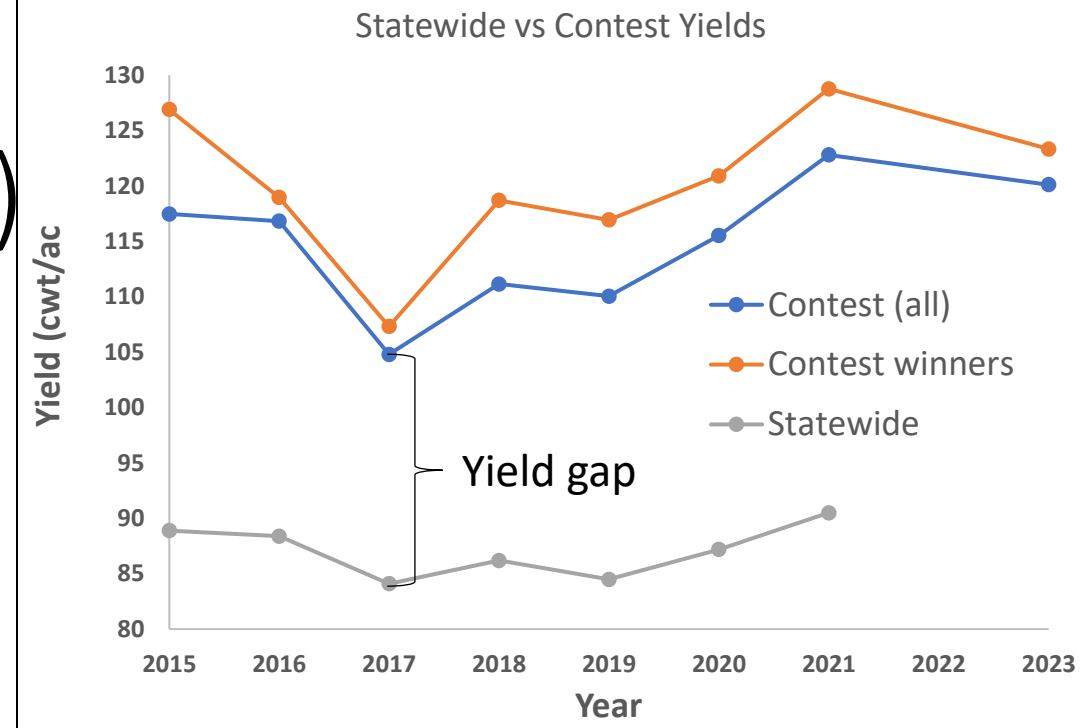
The year is important

- Winner is the average of three regions
- Contest yields track statewide yields



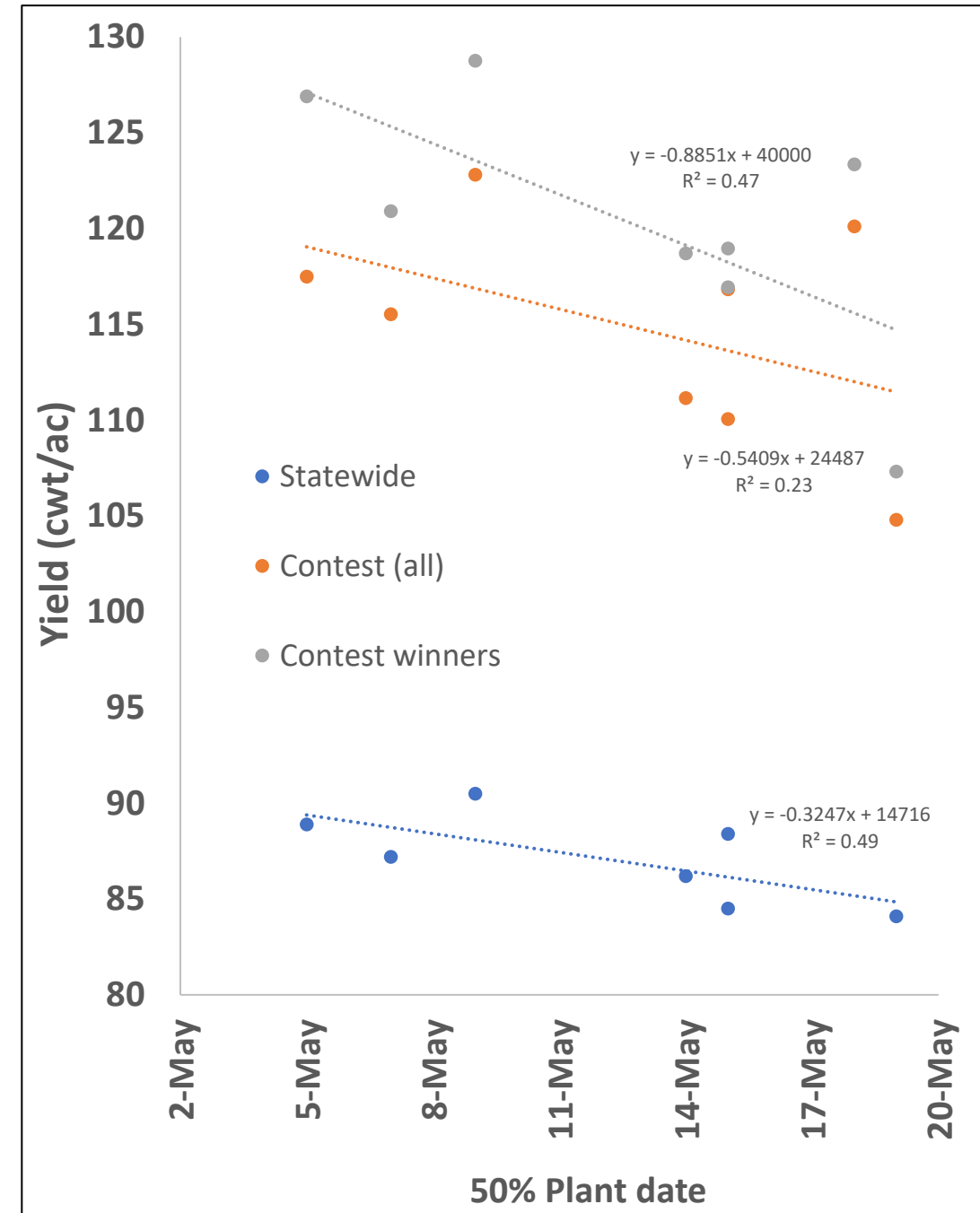
The year is important (cont)

- Yield Gap: difference between statewide and contest yields
- In low yielding years (i.e. 2017) the difference between the contest and statewide yields is smaller
 - 21-23 cwt/ac
- In high yielding years (i.e. 2021) the difference is larger
 - 32-38 cwt/ac
- *Good practices and timeliness payoff in all years, BUT more so in good years*



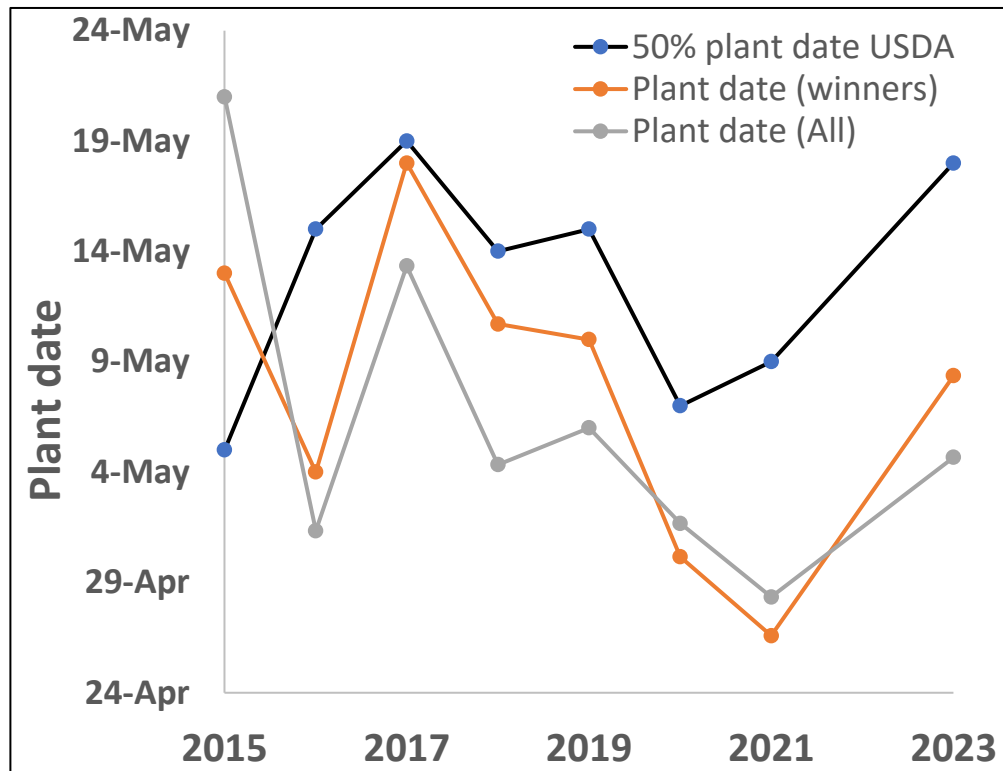
What makes a good year?

- **The ability to plant early**
- **Why?**
 - Missing out on longest days of year
 - Pushing booting stage later
 - into early August when nighttime temps are cooler and greater chance of blanking.
 - Late planting leads to rushing
 - Skip steps/rush

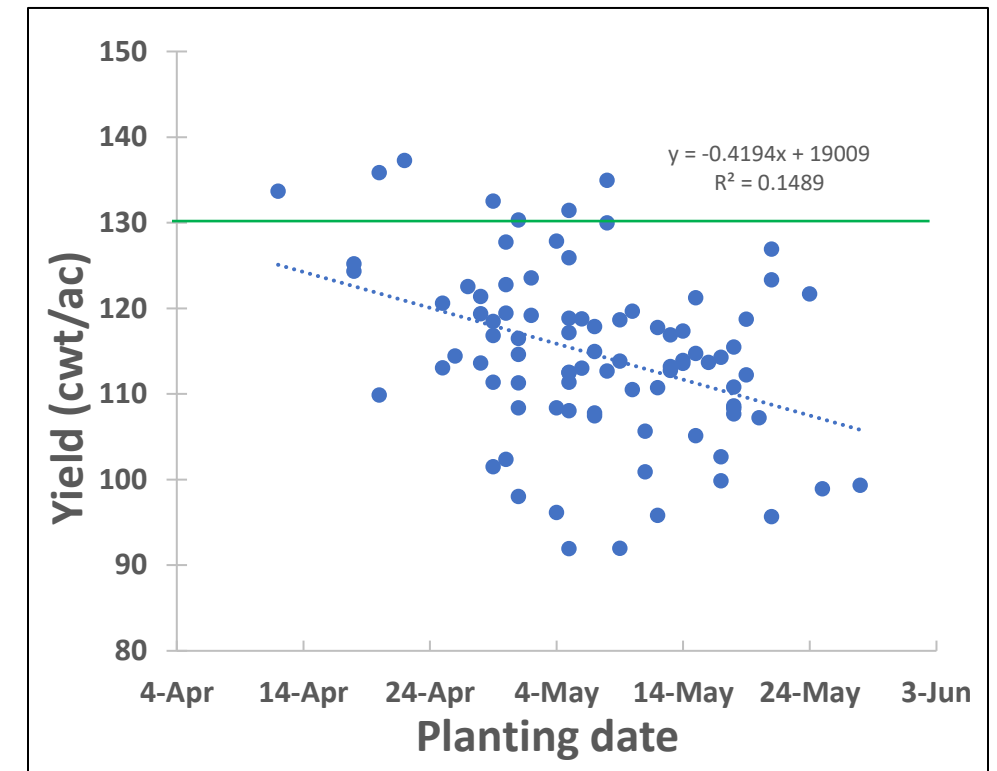


Planting date versus yield

- Contestant fields were planted earlier than most (50% planting date)

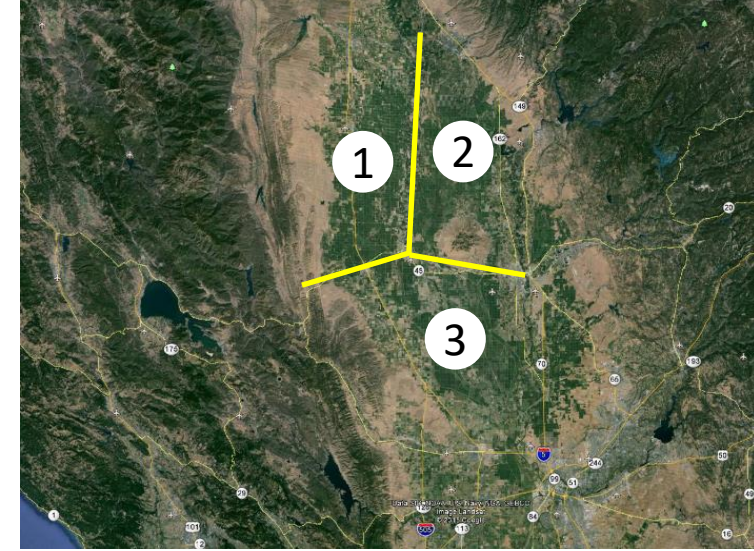


- All 8 contestants with yields of 130 or above were planted on or before May 8



Regional differences

- Record yields for each region
 - NW (Willows): 117.8 cwt (Gary Enos)
 - NE (Biggs): 135.8 cwt (Jack Sheppard)
 - South of hwy 20: 137.3 cwt (Gordon Wylie-Baker Creek Farming)
- Why?
 - Night time temperatures are higher
 - NW>NE>South
 - Increased night time reseparation
 - Salinity more common
 - Disease is more prevalent



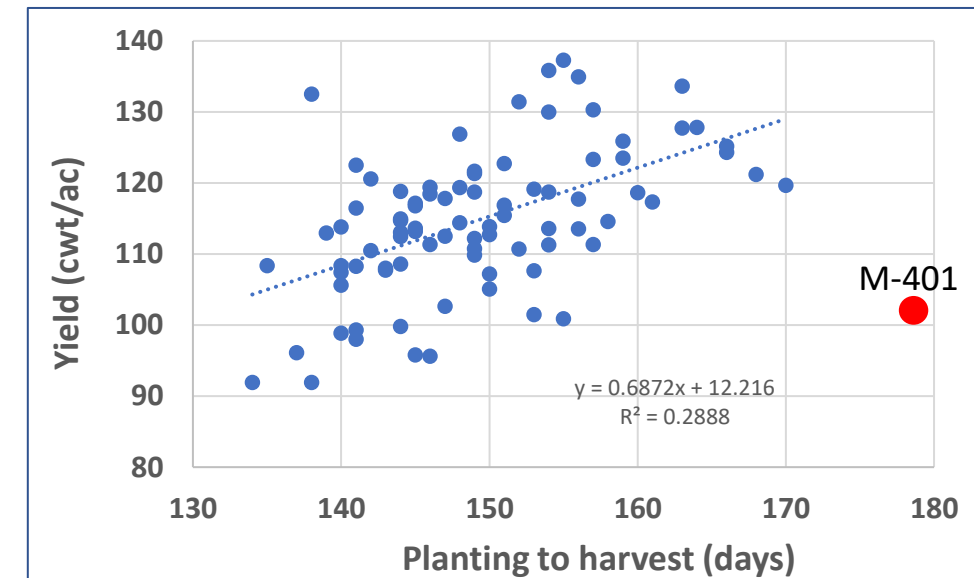
Varieties

- Longer duration varieties had higher yields
 - M-205, M-209, M-211
- All varieties had good yield potential.
Three highest yields (rounded to whole number):

- **M-105:** 123, 123, 133
- **M-206:** 119, 119, 123
- **M-205:** 124, 125, 127
- **M-209:** 130, 131, 135
- **M-211:** 134, 136, 137

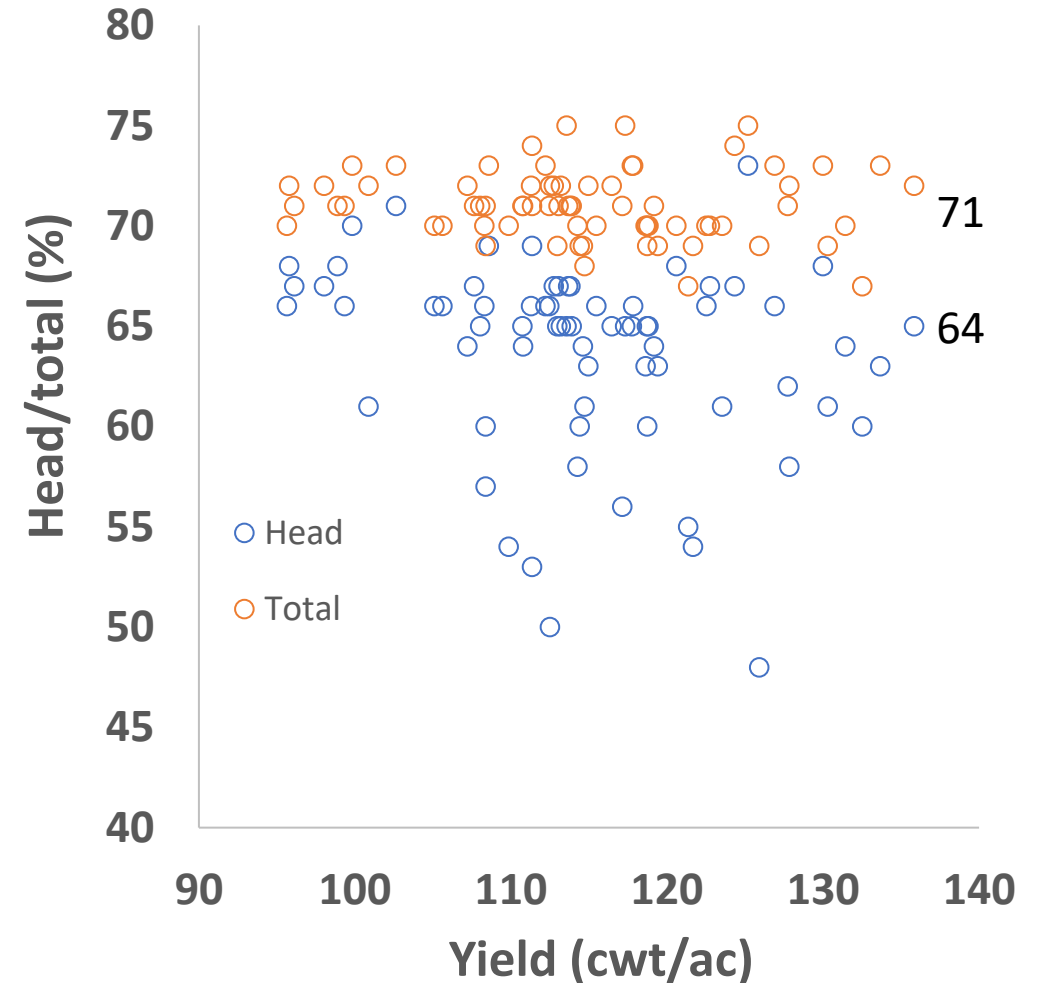
} Longer duration

Variety	Entered	Won
M-105	11	4
M-205	6	2
M-206	23	1
M-209	32	8
M-210	1	1
M-211	13	5
M-401	1	1
M-521	1	0



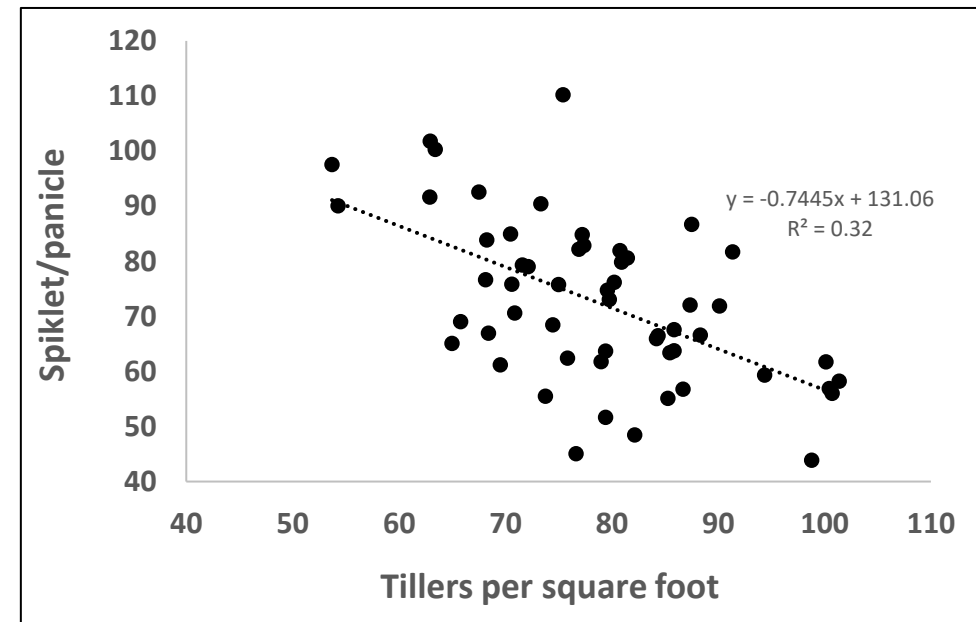
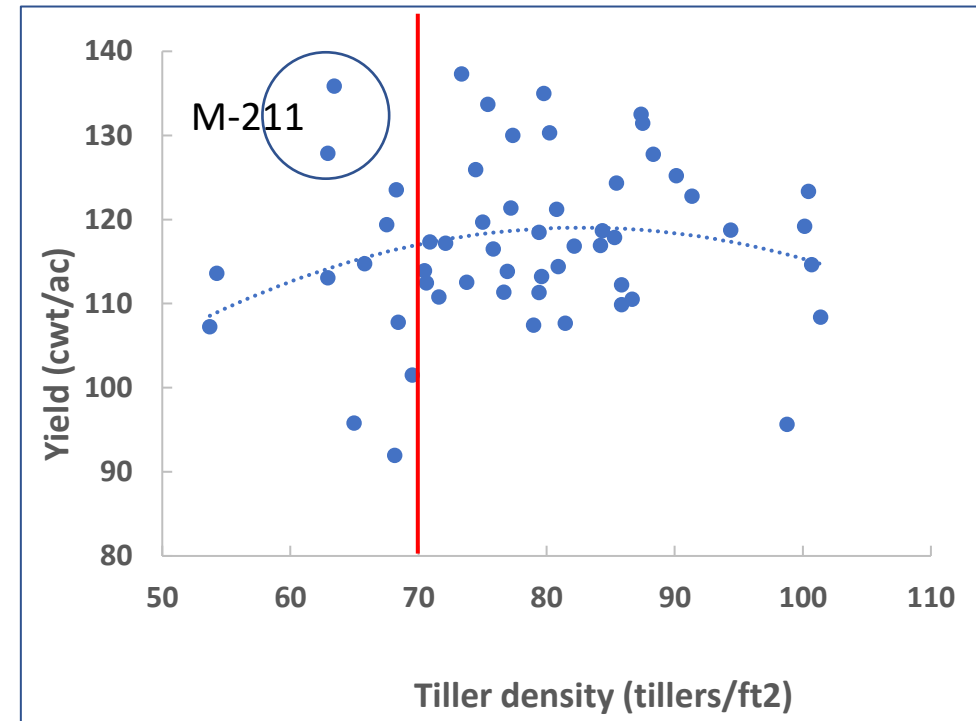
Yields do not affect quality

- Mean: 64/71
- Varietal means:
 - **M-105:** 64/70
 - **M-205:** 65/72
 - **M-206:** 65/71
 - **M-209:** 63/71
 - **M-211:** 60/71



Yield components

- Tiller density variety widely.
 - Ideally 70 tillers or more per ft²
 - A lot of tillers does not mean high yields
- Panicle size varies with tiller density
 - MORE tillers = SMALLER panicles



Herbicide programs

- Many different herbicide programs
- Categorized the base program
- All produced winning entries except Clincher
- **This is not an endorsement of any herbicide.**
 - Rotating herbicides is key to long term weed control and sustainability
 - Certain herbicides are key to controlling certain problem weeds

Base programs (AI)	Common name(s)	# entered	# won
Cyhalofop	Clincher	6	0
Clomazone	Cerano	16	2
Benzobicyclon + Halosulfuron	Butte	16	6
Thiobencarb	Bolero, Abolish, League MVP	33	13
Pendimethalin	Prowl (dry seeding)	5	1

Conclusion

- Good practices always pay off BUT more so in good years
- Plant early and be timely in operations
- Ensure good plant establishment (plant density)
- Higher yields possible with longer duration varieties BUT
 - These require more irrigation
 - Harder to achieve good milling quality
- A lot of practices can produce winning yields
 - Crop establishment (water- and dry seeding)
 - N management programs (delayed starter, top-dress)
 - A variety of good base herbicide programs
- Be timely



Thank you



Blanking

- No measurable difference in blanking across years (2019-2023)
 - Averaged 15.5%
- Contest winners tended to have lower blanking
 - Averaged 12.5%
- Varietal difference in blanking
 - M-105, M-206: 11.3%
 - M-209, M-211: 15.7%
 - These are the higher yielding varieties

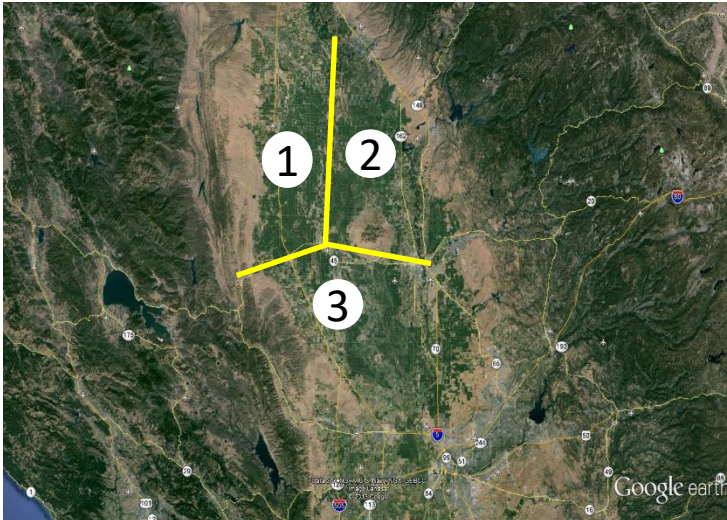
Dry vs water seeding

- Only 4 dry seeded fields
 - 2018, 2021, 2023
 - one a winner/record (135.8 cwt)
- Average yield comparison for years when both were present
 - Water seeded: 116 cwt/ac
 - Dry seeded: 124 cwt/ac



Yield Contest

- Minimum of 3 continuous acres
- Yield: 14% moisture minus dockage



CA rice yields 1990-2019

