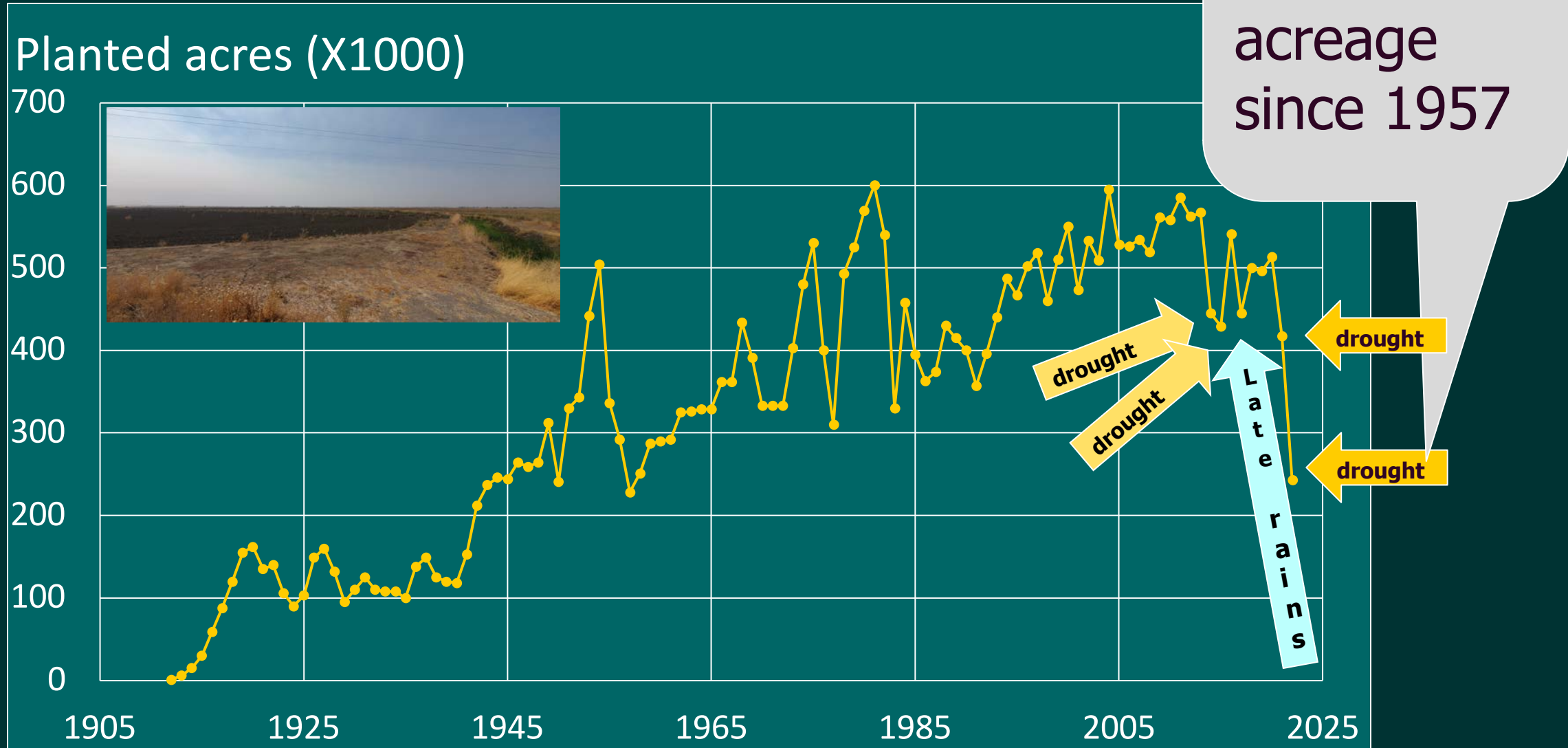


2022 year in review

Bruce Linquist
January 23, 24 and 25 2023

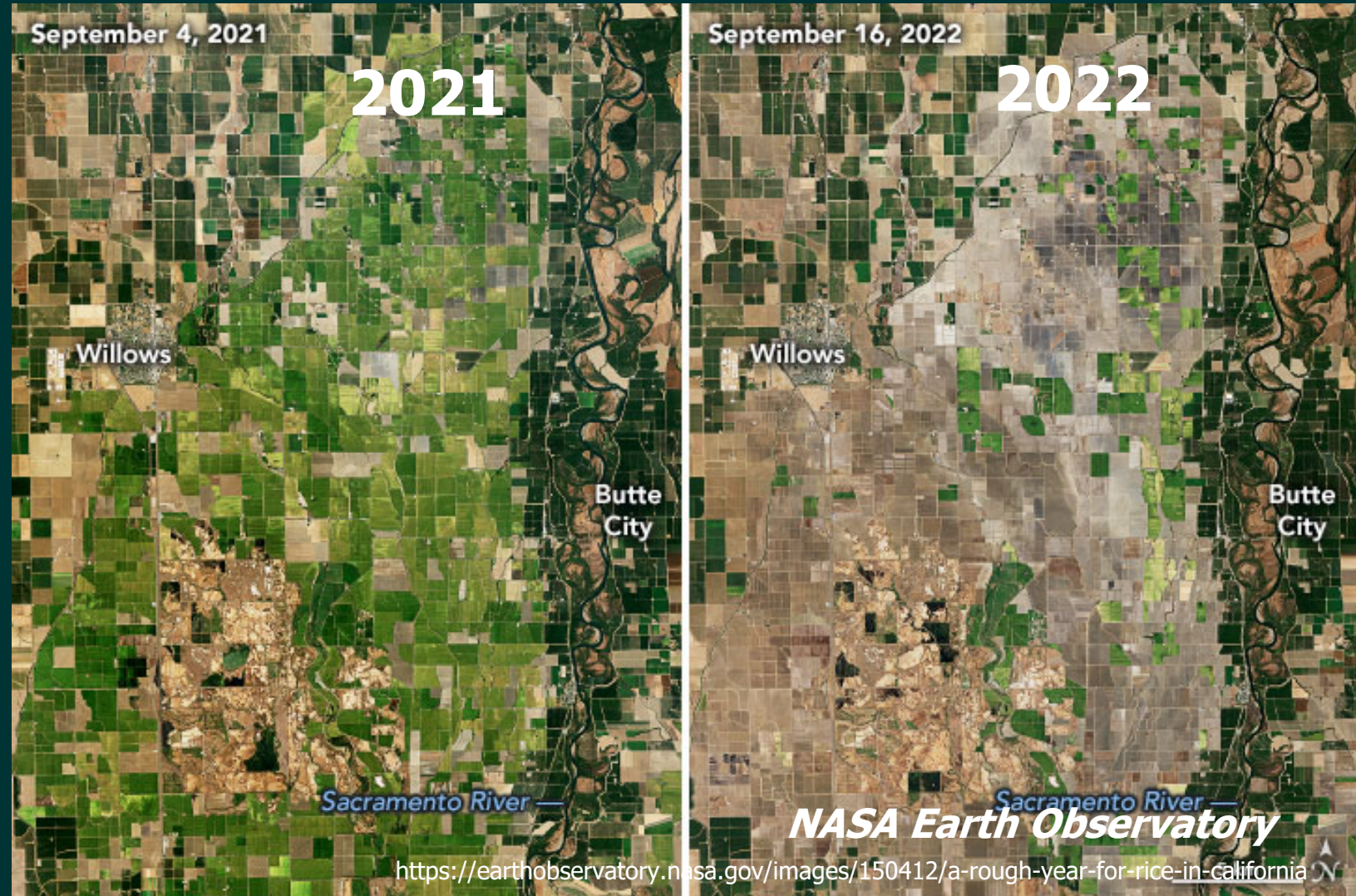
Planted acres



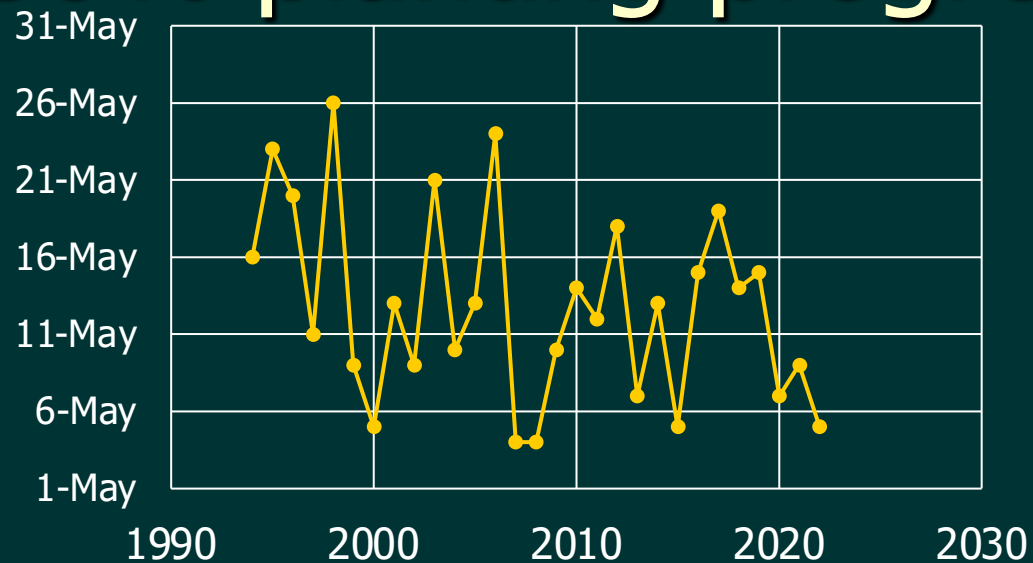
Worst loss of acreage on west side of valley

- Prevent planting reduced acres by 55%
- Most on west side
 - Glenn 75%
 - Colusa 84%
 - Butte 17%

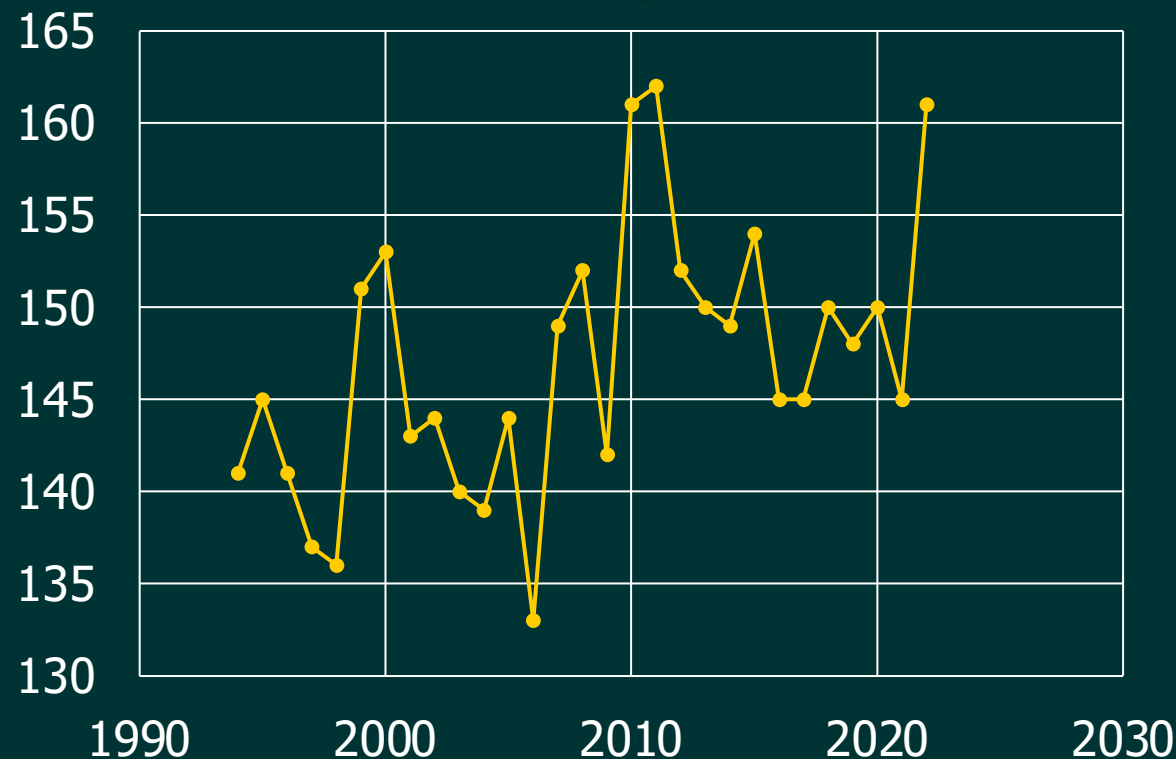
<https://asmith.ucdavis.edu/news/big-drop-california-rice-acres>



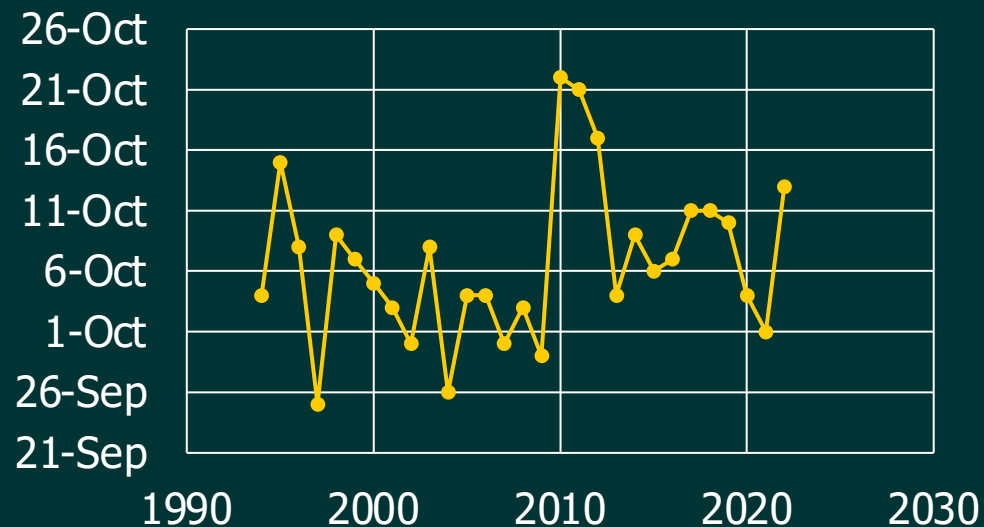
50% planting progress



Season length (days)



50% harvest



Why longer?

- Sept 20 rainfall
- More M-211
- Cool early May

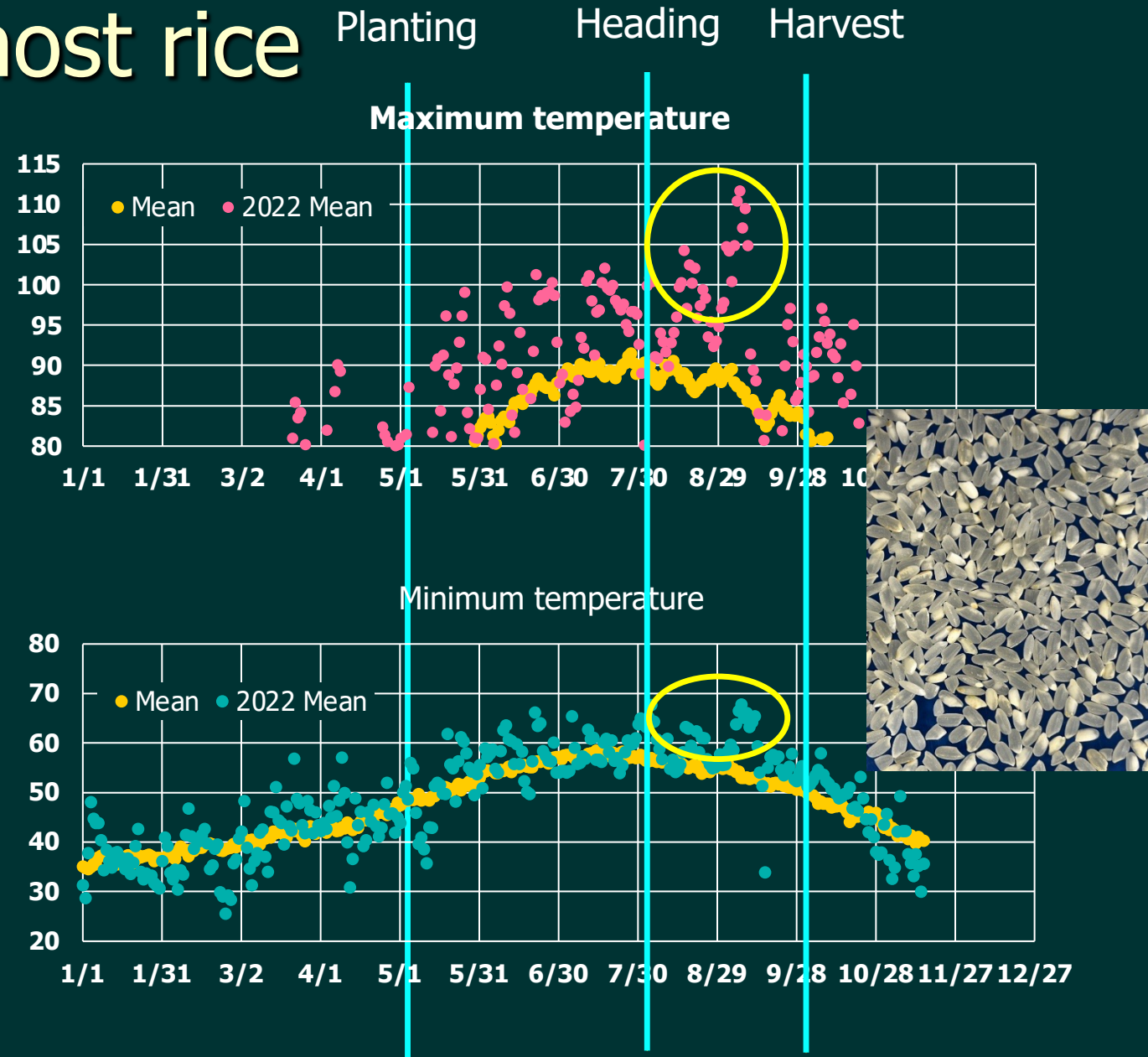
2022 Season (cont)

- Dry spring lead to earlier than normal planting (about 1 week earlier)
- Early season issues with water delivery
- Weed pressure high for some due to difficulty in water management
- Disease:
 - Blast pressure low
 - tiller diseases-average
 - Kernel smut-low
- Insect pest
 - Some rice seed midge pressure (seems to be on increase)
 - armyworm-moderate in NE portion of valley
 - tadpole shrimp-average
- Wildfires and smoke
 - Despite drought and high temperatures – relatively few wildfires
- **High September temperatures**



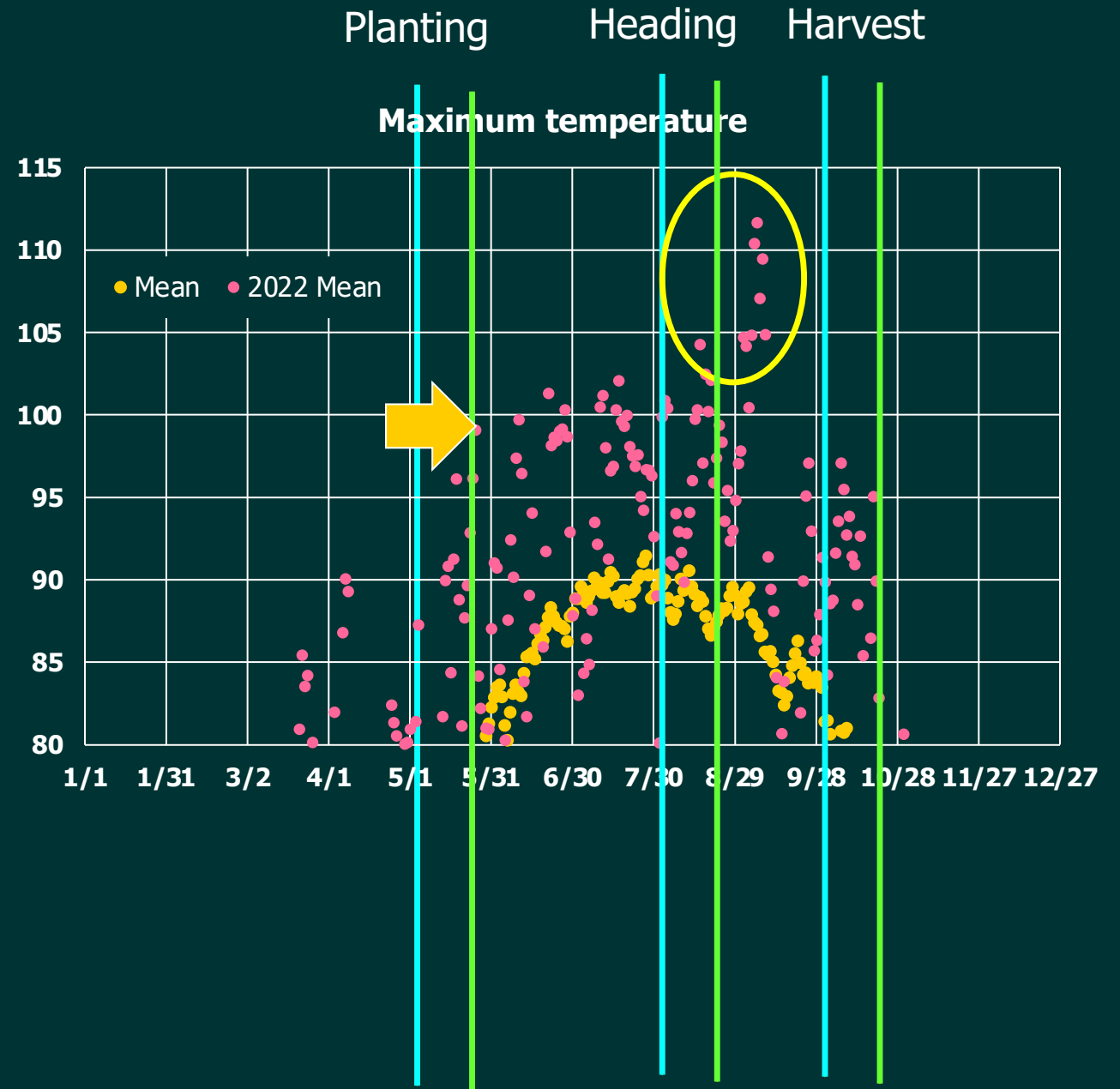
Grain quality lower for most rice

- Chalkiness & milling quality
- Early Sept for 9 days
 - Max temps 17° above average
 - Min temps 11° above average
- Many more grade 2, 3 and 4s than previous years



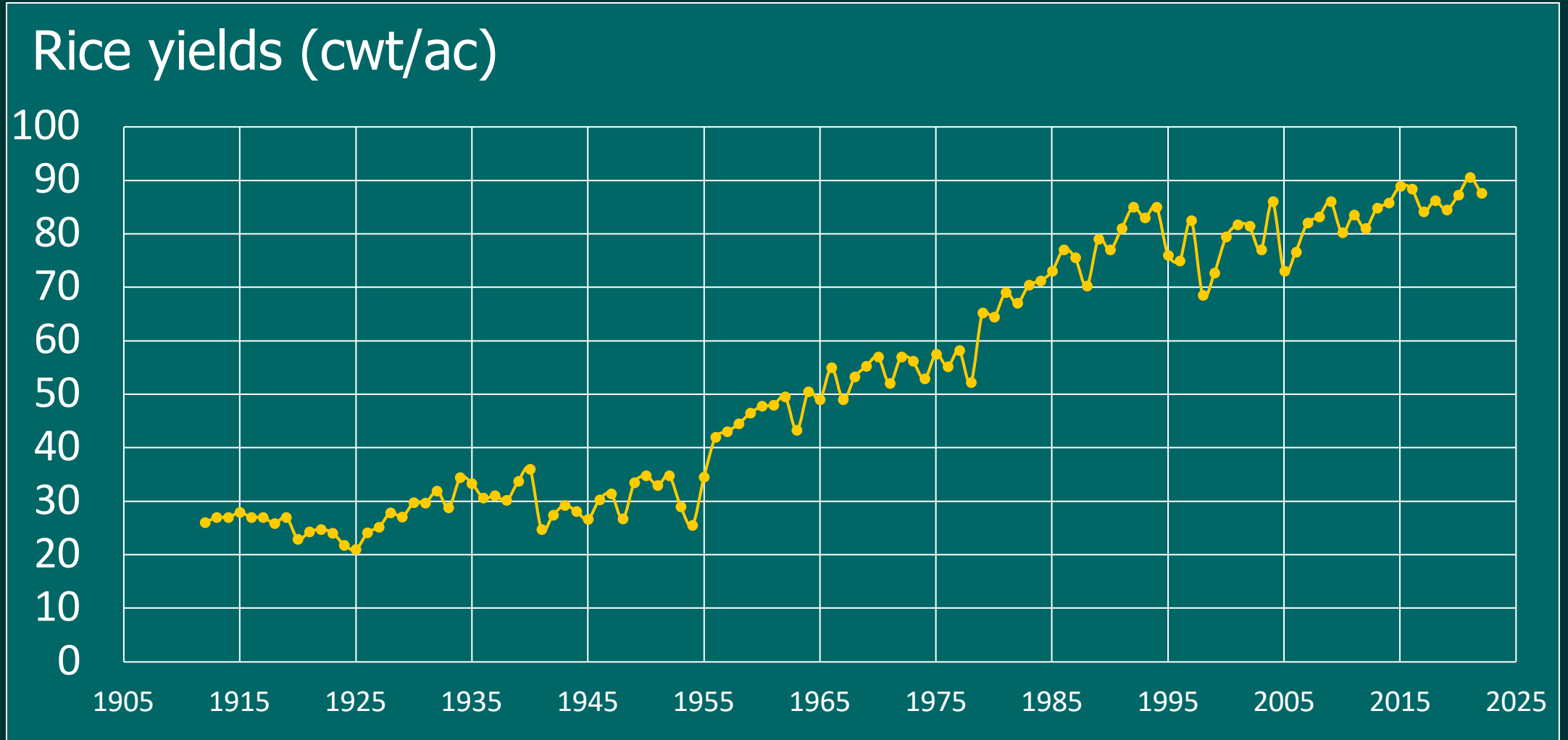
Lower yields for later planted rice

- Temperature $>104^{\circ}\text{F}$ at flowering causes blanking
- Quality may have been better



California rice yields (1912 to 2022)

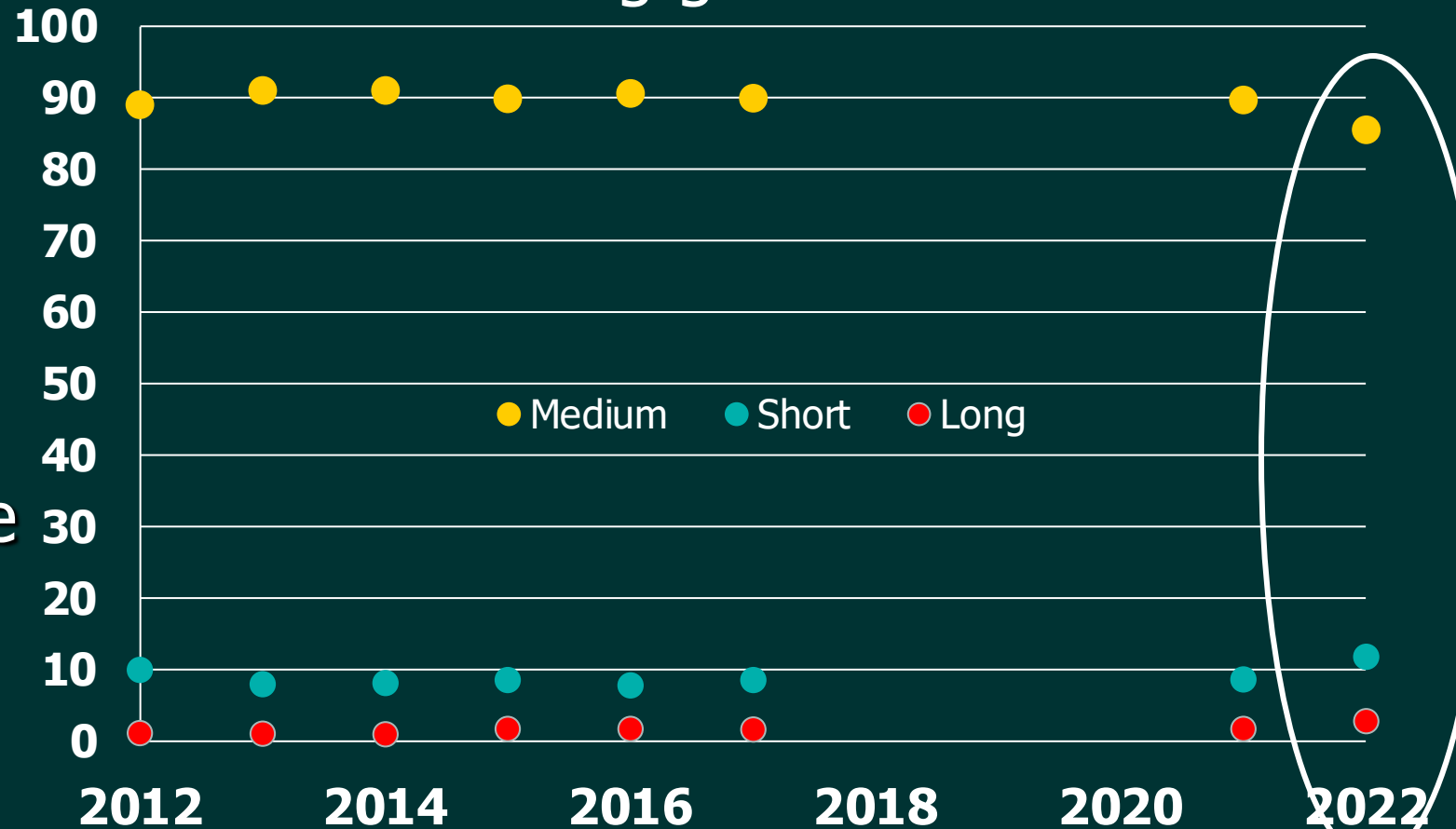
2022 was 87.6
cwt/ac – down
3cwt/ac from 2021



Rice variety usage over time

- Planted acreage changes a lot over time
- Most years
 - Medium 90%
 - Short 8%
 - Long 2%
- In 2022, the percentage of medium grain decreased

Relative proportion of short, medium and long grain varieties



Rice variety usage over time

■ Generally

■ Steady

- M105 (13%)
- M206 (40%)
- M401 (6%)

■ Increasing

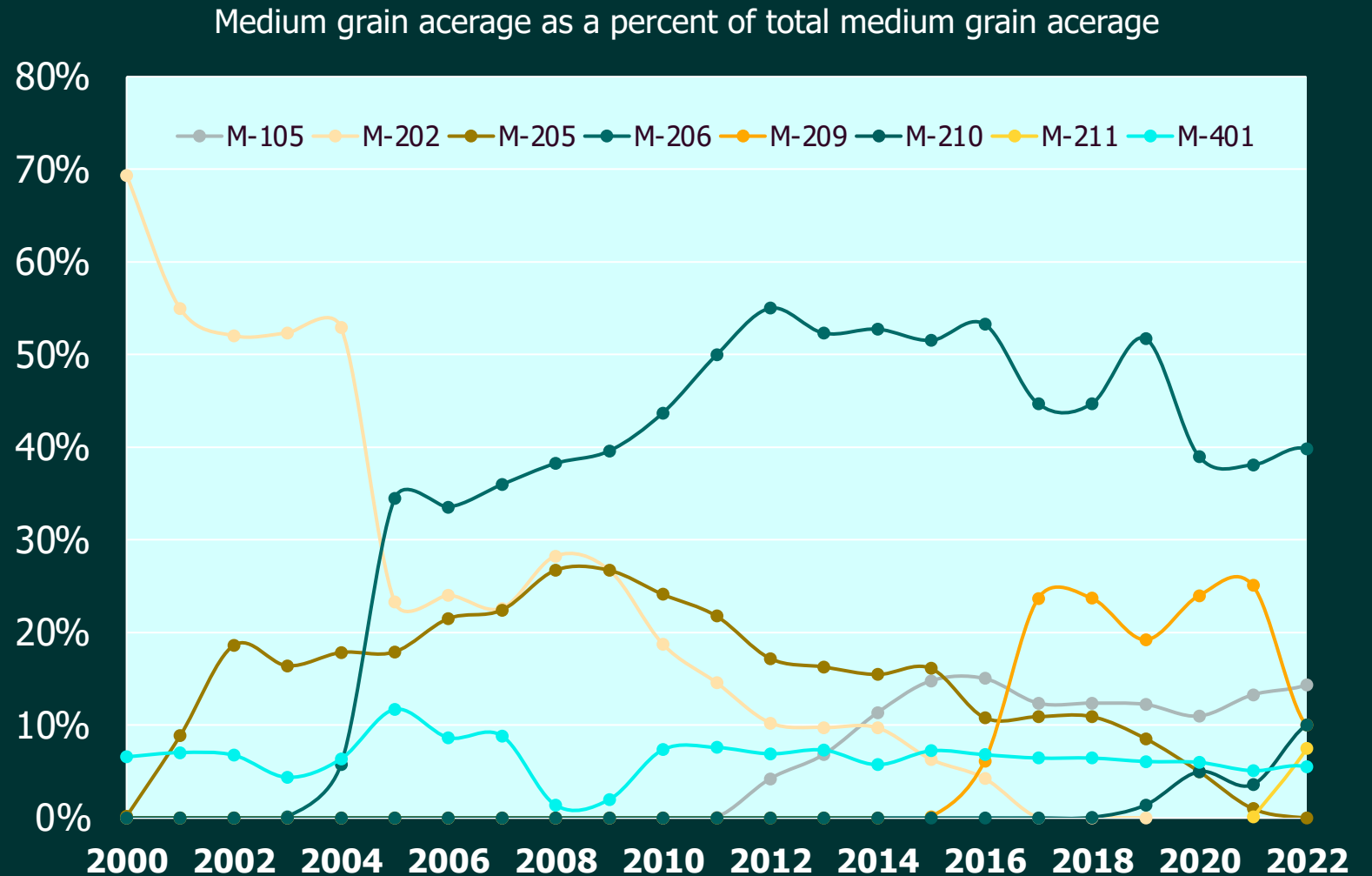
- M210 and M211

■ Decreasing

- M205 (0%)
- M209 (?)

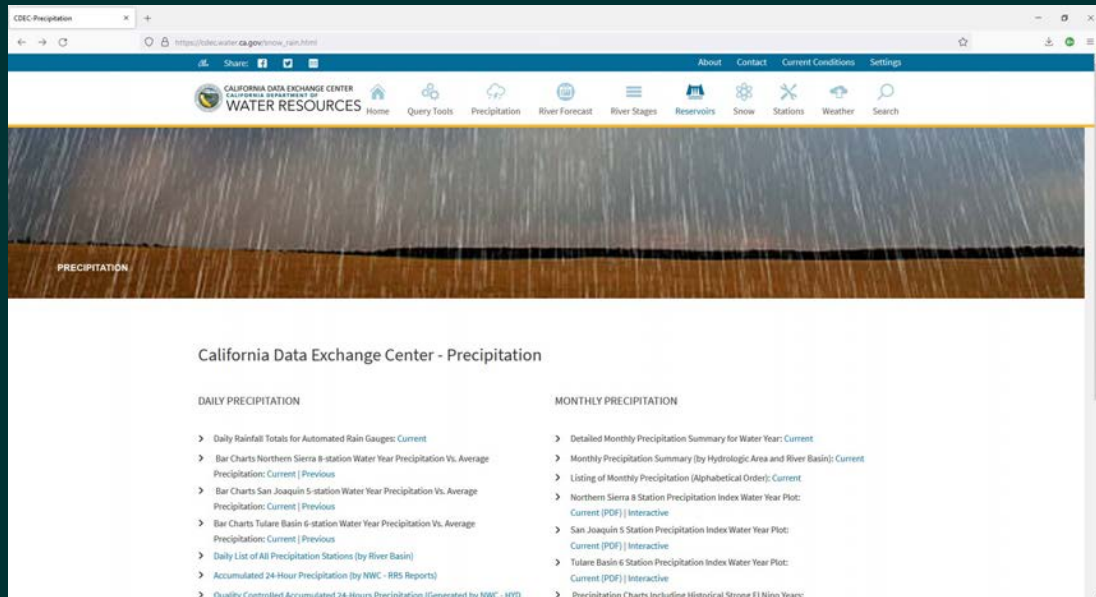
■ 2022

- Increase in M211, M210 and M105
- Decrease in M209

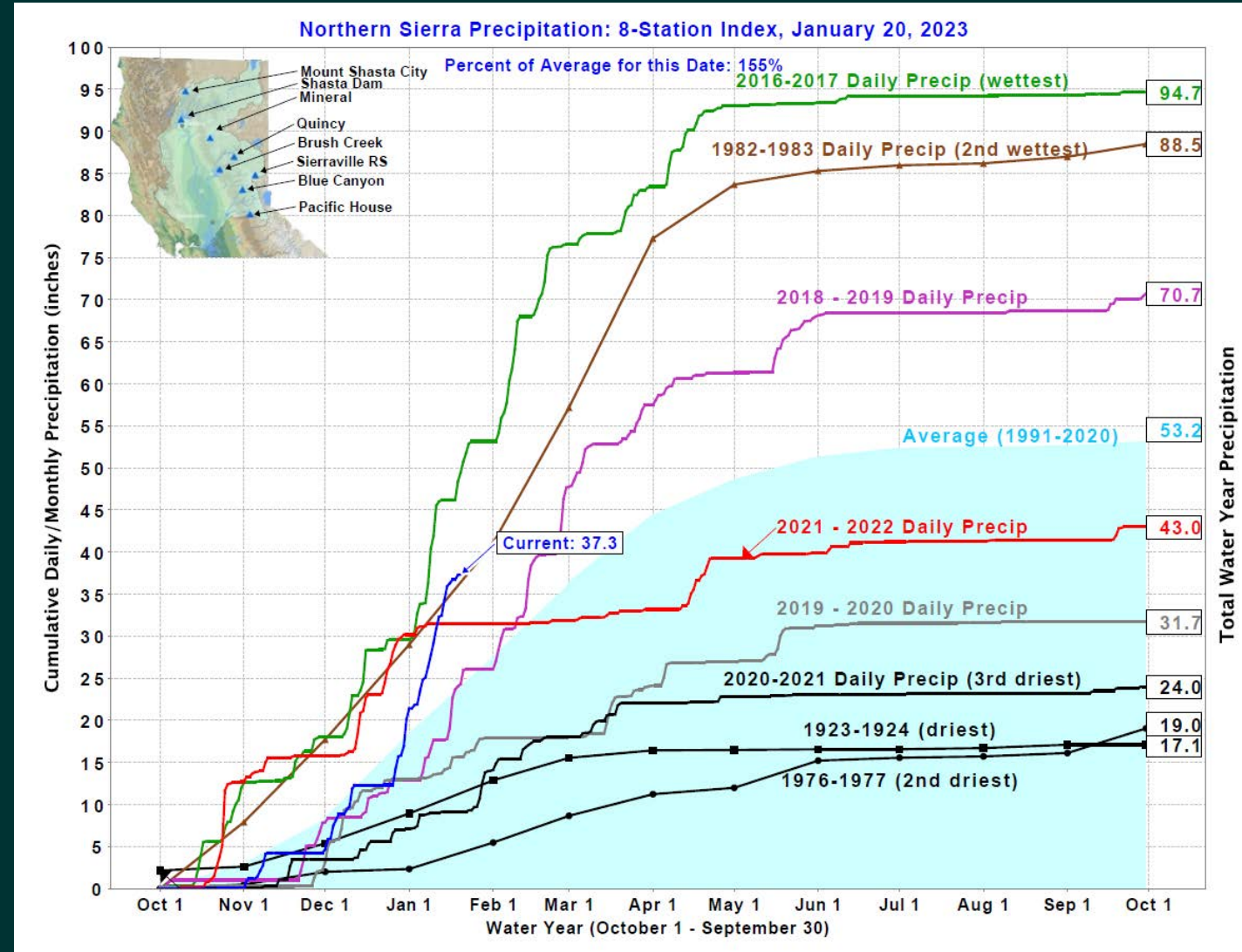


2023 Water Outlook

As of Jan 20: Rainfall
155% of normal



cdec.water.ca.gov



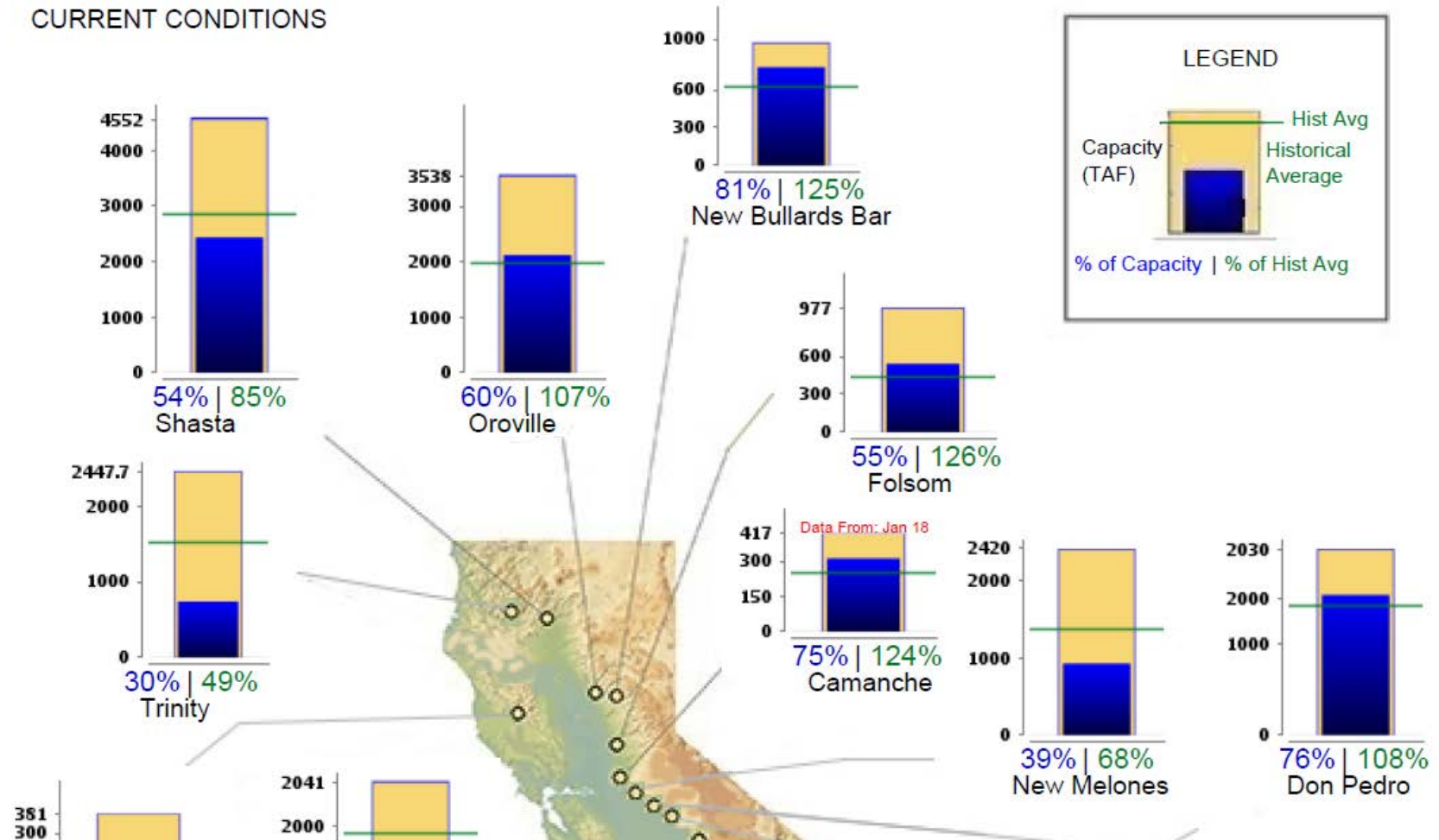
2023 Water Outlook

As of Jan 19:
Reservoirs near normal capacity for this time of year



CALIFORNIA MAJOR WATER SUPPLY RESERVOIRS CURRENT CONDITIONS

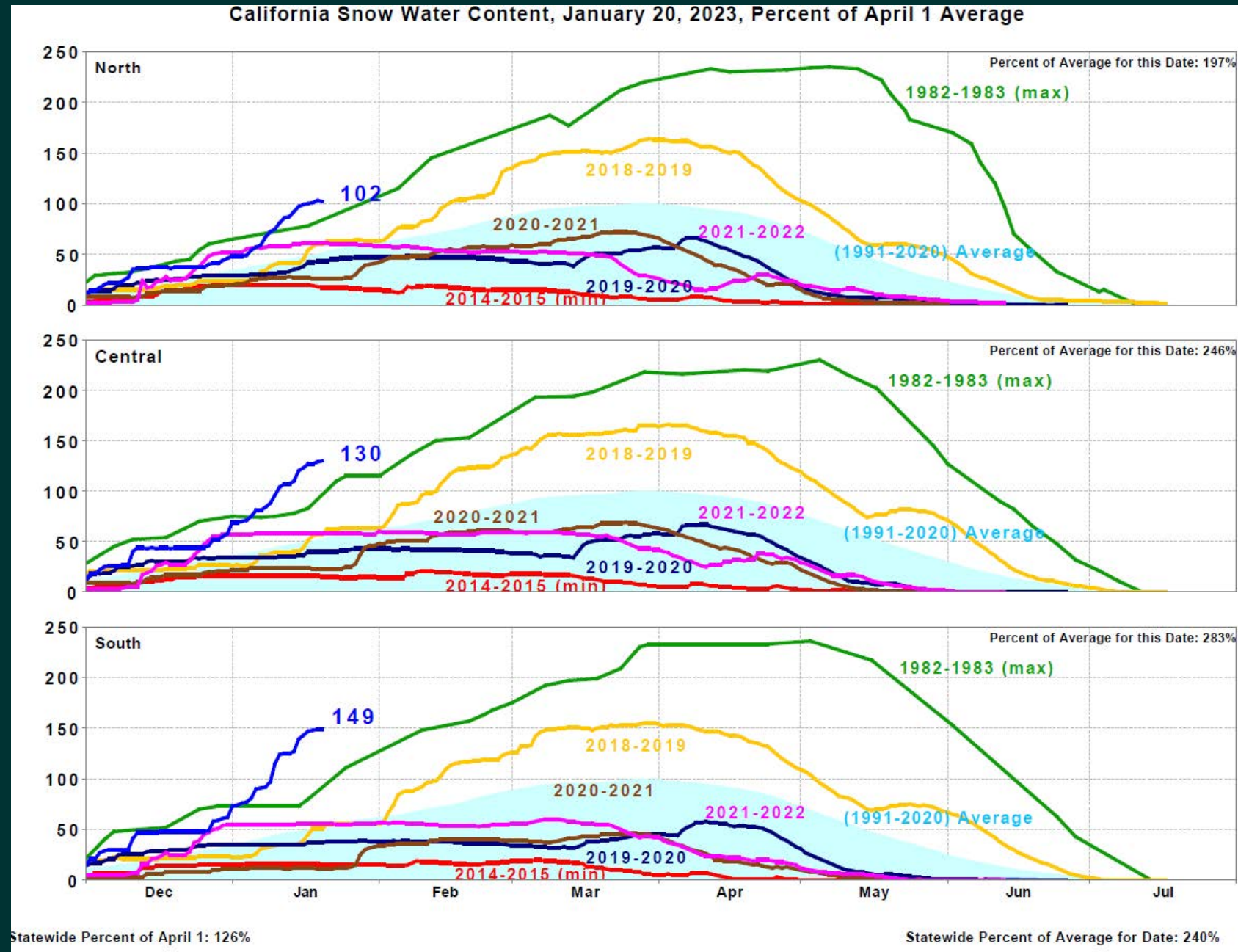
Midnight - January 19, 2023



2023 Water Outlook

As of Jan 20: Snow pack

- 200% + above normal across the state
- Has reached average snow pack already



Introducing alternative water management practices into rice systems

- A lot of talk about this now.
- First, what are they?
 - Alternate wetting and drying (AWD)
 - Intermittent flooding
 - Midseason drain
 - Row rice (mostly southern US on sloping ground)

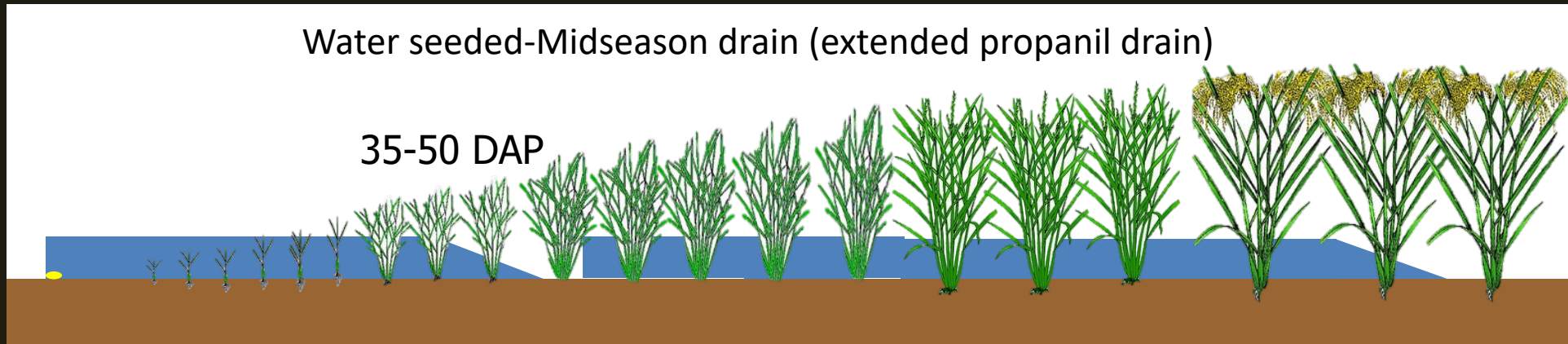
What is the benefit?

- Greenhouse gas emissions (40-60% reduction)
- Reduce heavy metal uptake (30-50% reduction)
 - Arsenic, mercury, lead
- Reduce water (?)
 - In a normal acreage year
 - very little savings - maybe 1 inch
 - Low acreage year (little other rice around field)
 - savings could be substantial but hard to quantify

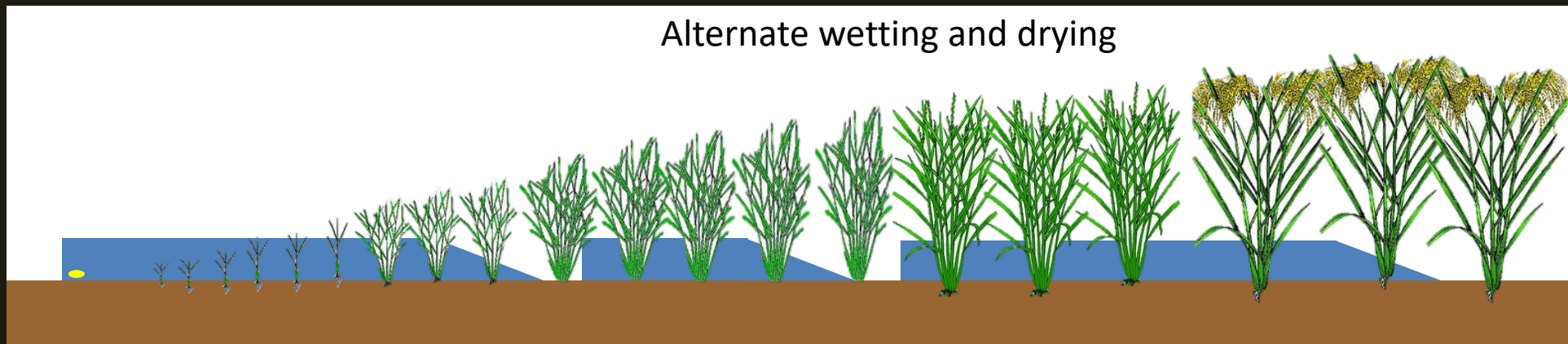
Due to variation
in water table.

High water table
reduces seepage
and percolation
losses.

Definitions (they are pretty loose)

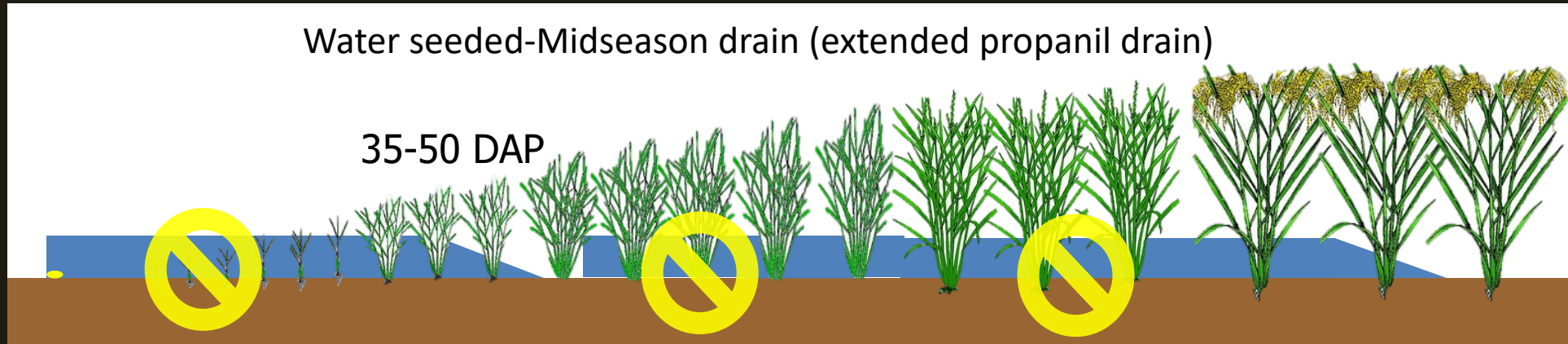


Mid-season drain (dry down) is letting the soil dry out in middle of season for a period. An extended propanil dry down is an example. Very little guidance on how long or when the drains occur.



AWD and Intermittent drain are very similar. Usually involving two or more dry down periods during the growing season. Very little guidance on how long or when the drains occur.

Alternate wetting and drying and midseason drain



- **AWD** hard to achieve
 - Early season - weed mgmt and N control.
 - Cold temps during booting
 - Grain fill drains can result in poor grain quality
- **Midseason drain:** Similar GHG emission outcomes can be achieved with an extended (7-10 d) propanil drain
 - Do not want to do too early in season
 - Loose N fertilizer
 - Ideally start between 35 and 40 DAP.

Thank you



Loss of acreage – worst on west side

