

Yolo County Farmers' Perspectives on Water Management and the Sustainable Groundwater Management Act (SGMA)

Research Briefing 3 of 3: Farmer Current and Future Groundwater Management Practices

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Background

Yolo County is largely rural and agricultural. Farmer concerns, experiences, practices, and perceptions play an important role in our basin's groundwater sustainability. In 2017, a mail survey was sent out to 638 farmers and landowners in Yolo County. The survey included questions about farm characteristics, perceptions of change in the county, water scarcity and management practices, the SGMA policy, groundwater sustainability, and demographics. The survey received 137 responses – a response rate of 22%. This briefing summarizes farmer current and future groundwater management practices in the Yolo Subbasin.

Key Findings

1. Yolo County farmers use diverse and often multiple irrigation techniques on a farm. The most popular is drip irrigation, followed by furrow or flood irrigation, sprinklers, and microsprinklers.
2. There is a substantial variability in use of surface water, groundwater, or both sources for irrigation, which is primarily driven by water year type: dry, normal, or wet.
3. The three top water management practices currently used by farmers are drip irrigation, water monitoring technology, and soil moisture sensors.
4. These same three practices were also mentioned by farmers as the most likely water management practices that they will implement in the future in response to water scarcity.

Details

Farmers were asked about the water practices they currently use in response to water scarcity, as shown in **Figure 1**. The most popular water scarcity practices currently in use were: 1) drip irrigation (45%), 2) water monitoring technology (36%), and 3) soil moisture sensors (28%). Conversely, the least common water practices in use were: 1) reduce livestock stocking rates (1%), 2) purchase additional water

Currently Adopted Water Management Practices

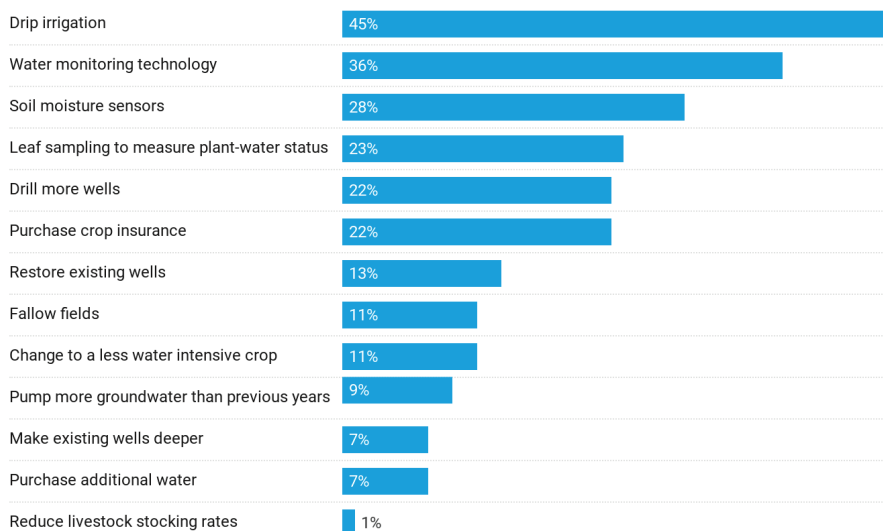


Figure 1. Current level of water management practice adoption in response to water scarcity by Yolo County farmers.

(7%), and 3) deepen existing wells deeper (7%). Additionally, farmers were asked about the likelihood of using the same set of water management practices in response to water scarcity in the future. As shown in **Figure 2**, the top three practices most likely to be adopted in the future in response to water scarcity were water monitoring technology (79%), drip irrigation (75%), and soil moisture sensors (69%). These most likely future practices are the same as the top three current practices mentioned above.

The least likely future water management practices are reduce livestock stocking rates (12% of farmers likely), purchase additional water (21% of farmers likely), and change to a less water-intensive crop (22% of farmers likely).

Likely Future Water Management Practices

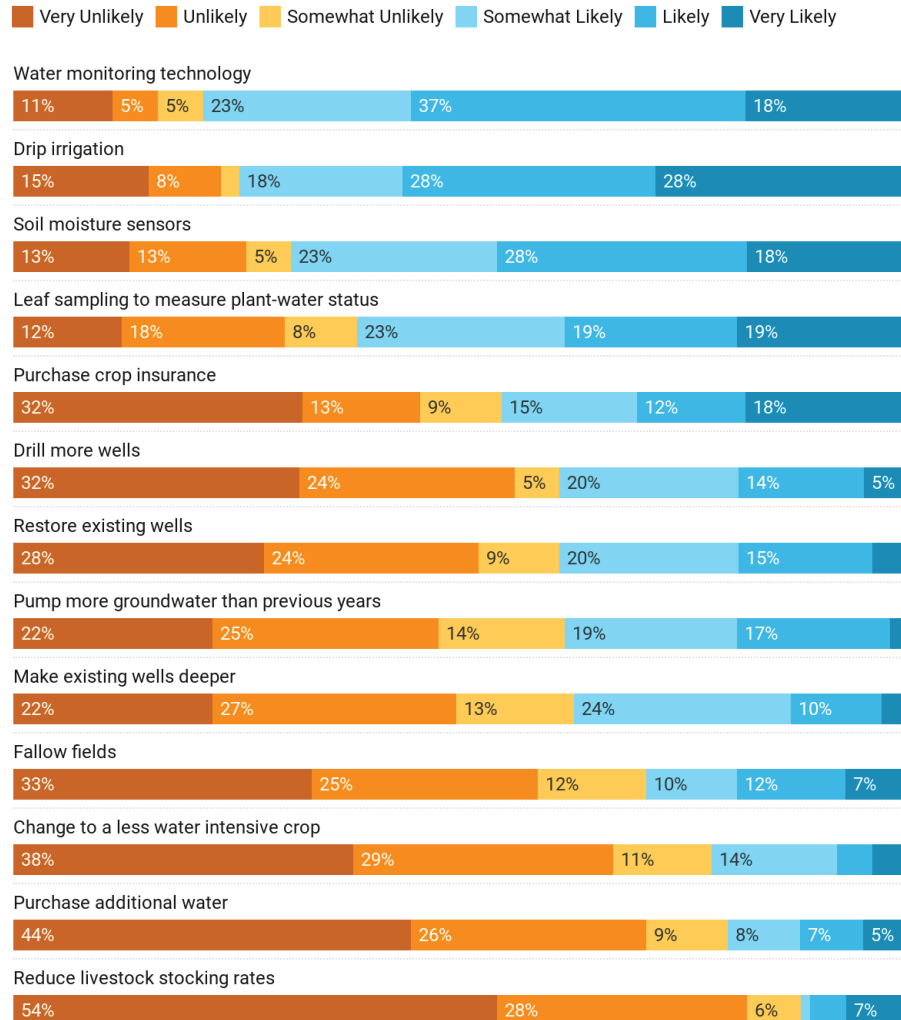


Figure 2. Likelihood of future water management practice adoption in response to water scarcity by Yolo County farmers.

Importance and Next Steps

It is likely that the YSGA will consider water management practices on farms as potential pathways for achieving groundwater sustainability under SGMA. Here we see that Yolo County farmers are currently implementing several water management practices in varying degrees. Importantly, the practices farmers consider most likely to be adopted in the future in

response to water scarcity align with the most popular current practices. Least popular current water management practices also match the least likely future water management practices. Therefore, the YSGA could consider current practice and implementation as an indicator of the likelihood of future application. If the YSGA explores practices that may be less popular, there should be consideration of overcoming barriers to adoption. In the other two briefings, we report on Farmer Concerns and Perceptions of Groundwater Conditions; and Farmer Participation and Policy Preferences for SGMA. These insights are informing Yolo Sustainable Groundwater Agency's (YSGA) development of local management strategies.

Acknowledgements

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