

# Scorched Earth



In January, Gov. Jerry Brown declared a state of emergency for California as it faced water shortfalls in the driest year in recorded state history. Among

other issues, drought conditions mean compromised water quality and quantity, increased risk of wildfires, and dramatically less water available for farms and agricultural production.

Water is essential to agriculture, and its security and quality are directly tied to crop production. In California, growers in the Westlands Water District, located along the western side of the San Joaquin Valley—the backbone of the state’s agricultural industry—expect to fallow one-third of their 600,000 acres in the coming year because water is unavailable; growers in other areas of the state are experiencing similar hardships.

There was a time when it seemed like clean water was an endless resource and always would be, but this kind of naïveté is no longer acceptable among even the most deluded. Even so, according to a new report from Circle of Blue, “Choke Point: Index”—which assessed water supply and consumption in three American agricultural areas—“U.S. growers and elected officials cannot agree [on], or choose to overlook, the urgency of changing conditions, or the potential for real solutions. Instead American agriculture ... pursue[s] the business and marketing strategies that led to the precarious condition of national freshwater reserves in the first place: Produce more grain and protein. Use more water. Apply more fertilizer and farm chemicals. Consume more energy.”

Water’s indelible link to soil health and food production means that while clean

water is needed to irrigate crops, water that is not so clean can be a byproduct of those same crops; additionally, huge quantities of water and fossil fuels are used to operate water works and process and transport food. What we have been doing, the report says, is no longer working; we need to figure out better and more sustainable ways to produce crops, control agricultural pollution and conserve water in light of increasing water scarcity.

California’s latest drought is nothing new; growers have faced back-to-back water shortages in recent years. University of California (UC) farm specialists have offered ways to help growers use water to its maximum potential during dry years. UC almond farm adviser David Doll cautions almond growers from aggressively pruning trees, because too much pruning can increase water use and evapotranspiration rates as new growth develops. UC cotton specialist Bob Hutmacher recommends drip irrigation for cotton growing. About a quarter of all Pima and Acala cotton is now grown with drip irrigation, and Hutmacher’s research indicates growers can decrease overall water use by 15% to 25% using drip irrigation without a significant reduction in cotton yield and quality.

These are not sweeping reforms or earth-shattering innovations, but they are examples of small ways that farming and agricultural practices can be updated to be successful in a world where water is not a given. The agricultural industry needs to move forward with an open mind and a willingness to change, and remember that sometimes it is possible to have a big impact with small changes. **SWS**

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