



Energy-Saving Tips: On-Farm Irrigation

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The following information is supplied by the [California Energy Commission](#).

If I am a farmer irrigating crops, what should I do?

- Test your well pumps and improve overall pumping plant efficiency—that is, the combined efficiency of the pump and motor or engine.
- Pumps between 55% and 60% efficiency consider adjusting impeller.
- Pumps between 50% and 55% efficiency consider adjusting impeller first; consider repairing or replacing pump if adjusting impeller has no effect on efficiency.
- Pumps with less than 50% efficiency consider repairing or replacing.
- When replacing standard motors, buy new energy efficient electric motors.
- Reduce the total dynamic head of pumps (power consumption) by installing variable speed drive controllers. These systems work best in Time of Use rate schedules on deep wells with frequent startups.
- Use energy efficient water-conserving irrigation practices. Adopt irrigation scheduling methods and deficit irrigation practices to conserve water.
- Sign for Time of Use rate schedules with the utility company. By using TOU schedules you can reduce total costs as well as possibly avoid power interruptions. The likelihood of power interruptions occurring during peak times is higher than during off peak times. By already being prepared to use power off peak, it is possible to avoid interruptions.
 - Call your utility company and sign-up for a Time of Use (TOU) rate schedule that works for you.
 - Calculate if your current pump and irrigation system can deliver, in 18 rather than 24 hours, the water your crops need.
 - If you need to make changes to the pump and/or the irrigation system, calculate the cost and figure out how to implement the project. Talk with the utility company about financing options.
 - Adjust your work schedule to meet the new TOU hours.
- If you are a dairy farmer irrigating crops and milking cows, do all the above recommendations but don't forget to also install variable speed drive controllers in the vacuum and milking pumps

For additional information on pumping equipment, purchase the University of California, Davis "Irrigation Pumping Plants" publication, at (530) 752-1130.

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