



## Fuel efficiency on the farm

High fuel costs can erode the bottom line for California farmers and ranchers.

Here are suggestions to reduce on-farm fuel use.

- Inflate tires to proper pressure. A [University of California study](#) shows that over-inflated tractor tires waste fuel and reduce productivity. In one case, the study showed that a tractor using "low/correct" tire pressure required 20 percent less diesel fuel and improved productivity more than 5 percent. Under-inflated tires increase sidewall wear and can undermine tires in other ways. Check your equipment owner's manual or consult your tire distributor for information on proper tire inflation.
- Consider reduced tillage. University engineers recommend that farmers carefully evaluate their tillage plans and reduce tillage or the intensity of tillage wherever possible, and change to a no-till planting system where field conditions permit.
- Modify equipment, where applicable, to perform multiple operations in one pass. This allows farmers to reduce the number of trips across a field.
- Use the appropriate-sized tractor for the load. Engineers say fuel efficiency declines dramatically if you're using excess tractor horsepower for a job. Fuel efficiency also suffers if a tractor is too small for the job and becomes overloaded.
- Gear up and throttle down. If you find yourself using a high-horsepower tractor to pull a light load, you can save fuel by running in a higher gear but at a lower engine speed.
- Stay on top of general tractor maintenance. Keeping air and fuel systems clean and performing regular maintenance can help fuel efficiency.
- Paint on-farm fuel tanks a light color, to reduce evaporation losses. To discourage thieves, mark tanks with the words "Red Diesel." Diesel fuel for off-road use is dyed red to indicate it is exempt from highway tax. Further discourage thieves by installing motion-sensor lights and quality locks.
- Minimize the time spent driving tractors or other field equipment on the road. Use lighter, more fuel-efficient vehicles to carry crops to storage or to service vehicles in the field.
- Think about how you use your pickup truck. Heavy-duty pickups and trucks perform crucial roles on farms, but are sometimes used for trips to town that don't require their power and hauling capacity. No matter what vehicle you drive to town, consider combining trips for errands such as purchasing farm supplies, arranging for services, etc.
- Remember these general driving tips to enhance fuel efficiency:
  - Keep tires inflated to recommended pressure
  - Use air conditioning selectively
  - Observe posted speed limits

- For diesel-powered irrigation pumps, be sure to match the engine output horsepower with the horsepower demanded by the pump. University of California research shows that matching the designed rpm of both pump and engine results in the most efficiency in gallons of water per gallon of fuel. The UC study measured pump flow rate and fuel consumption at different rpms, with 1600 as the design rpm. [See results here.](#)

## Sources

[University of California](#)

[University of Minnesota](#)

[University of Illinois](#)

[Agtech Innovator \(Province of Alberta\)](#)

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