



Six ways to conserve irrigation water & pumping costs

www.dtn.com • 888.350.0972

Copyright © 2019 DTN

DTN^o

Table of contents

Don't pump more than you need.....	3
Conserve rain & snow moisture.....	4
Reduce evaporation when pumping	5
Consider variable-rate irrigation.....	6
Upgrade to mobile control	7
Include "days to maturity" in your plan	8

Don't pump more than you need

Producers in the semi-arid southwest plains are able to support actively-growing corn with less water by using soil-moisture probes. Distributed throughout irrigated fields, they can monitor soil moisture content down to four feet.

In the Texas Panhandle, real-time soil moisture monitoring research has helped growers track crop moisture use. Some have been able to stop their sprinklers several weeks before the end of the season, knowing sufficient moisture was available to finish off the crop.



Testing soil moisture helps improve irrigation planning



Conserve rain & snow moisture

Across much of the Great Plains there is a rule of thumb: it takes an inch of water to produce 10 bushels of corn.

Every inch of water from rain or snow that is maintained in the topsoil, is an inch of water that doesn't have to be pumped from local aquifers.

Reduced tillage and the use of field residue to conserve soil moisture are two practices that can positively impact your energy costs at the end of the season.



Field residue can help conserve moisture from rain & snow



Reduce evaporation when pumping

Sprinklers that spray the canopy or into the wind result in high energy and yield costs. Conventional systems lose nearly half of the water to evaporation.

Low Energy Precision Application (LEPA) nozzles placed about a foot above the soil or Subsurface Drip Irrigation (SDI) equipment can reduce evaporation to less than 10 percent. Both upgrades are expensive. SDI costs \$1,500-\$3,000 per acre; LEPA \$10,000 for a quarter-mile pivot. Still, many North American producers face regulations that reduce the use of groundwater. These solutions can help.



Equipment upgrades can greatly reduce evaporation-related loss



Consider variable-rate irrigation

As digital farming becomes more precise, it is possible to identify areas of irrigated fields that need less water.

Visit with your irrigation equipment supplier for ways to irrigate by zones. Or, you can equip your sprinklers with controllers to match application rates and speed to your soil's ability to take in water.



Zone irrigation & controllers can improve precision



Upgrade to mobile control

If you can turn center-pivot machines on and off from your smartphone, you can take advantage of local showers and thunderstorms to supplement your irrigation — particularly if you know your fields' soil moisture at the root zone.



Mobile technology can give you greater control over irrigation



Include “days to maturity” in your plan

By planting hybrids that mature before the hottest part of the season, many producers in drier climates find they can coast through the final weeks to harvest with reduced pumping costs.



Plants that mature faster can reduce irrigation needs later



www.dtn.com • 888.350.0972

© 2019 DTN, LLC, all rights reserved. "DTN" and the degree symbol logo are trademarks of DTN, LLC

