

## Conservation Tips for Agricultural Operations

Here are some of the conservation practices in irrigation that you can implement to cope with water shortages this year.

1. Be realistic. Adjust the planted acreage to the projected water supply, both as to its quality and quantity.
2. Be efficient. Runoff from the lower end of an irrigated field is usually reusable because its quality is only slightly degraded. If the irrigation water is usable, the runoff water should be usable. Tailwater return flow systems will allow recovery of runoff for increased efficiency of irrigation.
3. Careful land grading or smoothing of irrigation checks aids in uniform water application, thus preventing percolation losses below the root zone.
4. Long irrigation runs may cause excessive water application at the upper end and runoff at the lower end. Water can be spread more rapidly and evenly by maintaining and constructing short and narrow irrigation checks and short furrows, combined with return flow systems.
5. Plug leaks in canals, ditches, pipelines, distribution systems, etc. Replace worn orifices in nozzles or sprinkler heads.
6. If present irrigation system is inefficient, consider advantages of upgrading the present system, or changing to a more efficient system.
7. Better uniformity of distribution can be obtained when irrigating by sprinklers if high wind conditions are avoided. In some locations, this can be accomplished by irrigating during night hours.
8. Be especially careful at critical germination period on annual crops. Pre-plant irrigation is probably more essential in a dry year to reduce salinity in the seed area and store water for later use by crops than in more normal years. But, do not overdo pre-plant irrigations. Use a soil auger or other moisture meter to check for soil water supply and depth of wetting after an irrigation.

9. Match water applications closely to crop needs. Find out the amount of water to be applied to refill the soil just to the depth of rooting. In some areas, potential evapotranspiration data will be available. These can be used to estimate the rate of water use by any particular crop. Also, the soil capacity for water storage can be estimated. Then, a simplified budget procedure can be followed to determine approximate time of irrigation and amount to be applied without wasting water. Consult your Farm Advisor for specific information on your crop and soil.
10. Control weeds and cover crops. Weeds use water, too, but don't add to income or efficiency of water use.
11. Keep leaching for salinity control to the minimum dictated by crop tolerance and a realistic yield expectation for the supply of water available. Seldom does average soil salinity of a root zone build up to damaging concentrations during a one- or even two-year period.
12. Select crops and growing seasons that use less water, where possible. By combining planting dates with selected varieties, it is possible to save some water by shortening the growing season and/or avoiding high evaporative demand periods. Small grains and, to some extent, safflower will use significantly less water than summer season field crops.
13. Most crops, if supplied with less than full evapotranspiration requirements will produce less than maximum yields, although in some crops the reduction in yield is less marked than in others. Cotton, sorghum, olives, and wine or raisin grapes are crops relatively insensitive to reduced water supply. Alfalfa, corn, and pasture are examples of crops sensitive to water deficiency.
14. On tree crops and deep-rooted annuals, start the growing season with a fully wet root zone, if at all possible. Use the remaining water supply as needed to maintain crop until the supply is exhausted.
15. Plant the best land. Do not plant marginal land. If future abandonment or pulling of permanent crop acreage is being considered, perhaps now is the time to make the change.

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