



WATER CONSERVATION IRRIGATION PRACTICES

Water conservation practices in irrigation are crucial to achieve sustainable agriculture. Implementing effective water conservation strategies can help maximize water efficiency and optimize crop health. Here are key practices to consider:

1 Irrigation scheduling

Develop an irrigation schedule based on factors like plant water requirements, soil moisture levels and weather conditions. Use tools such as soil moisture sensors or evapotranspiration (ET) data to ensure water is applied only when needed. It is important to consider that crops often require less water early and late in the irrigation season.

2 Irrigation system upgrade

Consider using drip irrigation systems (if suitable for the operation), which deliver water directly to the plant root zone. Drip irrigation minimizes water loss due to evaporation or runoff, providing targeted irrigation while reducing overall water usage. If a drip system is not a good fit, perhaps a center pivot or linear system may be suitable. Pivots and linears can apply water very efficiently and with lower pressure requirements compared to alternative systems. Consider upgrading to low elevation spray application (LESA) or low energy precision application (LEPA) sprinklers on pivots or linears.

3 Mulching

Apply mulch around plants to reduce evaporation from soil, suppress weed growth and maintain soil moisture levels. Mulching helps retain water in the root zone, reducing the frequency and amount of irrigation required.

4 Zone-based irrigation

Divide the landscape or fields into irrigation zones based on crop types, water needs and soil characteristics. This allows tailored irrigation, applying water precisely where it is needed and avoiding over-watering or under-watering in different areas.

5 Maintenance and repairs

Regularly inspect the irrigation system for leaks, damaged sprinkler heads or other malfunctions. Fixing issues promptly prevents energy and water waste and ensures efficient water distribution.



6 Soil management

Improve soil health and water retention capacity through practices like adding matter, using cover crops and practicing reduced tillage techniques. Healthy soils retain water better, reducing irrigation requirements.

7 Pressure regulation

Install pressure regulators in your irrigation system to maintain optimal water pressure. Proper pressure regulation minimizes water loss due to overspray, misting or uneven distribution.

8 Smart irrigation technology

Utilize modern technologies like soil moisture sensors, weather-based controllers or remote monitoring systems. These tools provide real-time data and control, enabling more precise irrigation scheduling and water management.

9 Education and training

Stay informed about the latest water conservation practices, advancements in irrigation technology, and local regulations. Attend workshops, consult agricultural experts, or join farmer networks to learn from peers and share experiences. Soil and Water Conservation Districts and USDA Farm Service centers can be excellent resources.



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