

# CROPLAND NEWSLETTER

10 WAYS TO INCREASE WATER EFFICIENCY IN CROPS.  
APRIL, 2024

*Increasing water use efficiency in plants is crucial for sustainable agriculture and the conservation of water resources. Here are several strategies and techniques that can be employed to enhance water use efficiency in plants:*

## 10 WAYS TO INCREASE WATER EFFICIENCY IN CROPS.

MOISTURE RETENTION

PRECISION IRRIGATION

RDI

WATER-SAVING TECH

APPROPRIATE TIMING

COVER AND INTERCROPPING

OPTIMIZING FERTILIZER

CROP ROTATION

PHOTOSYNTHETIC EFFICIENCY

MANAGING SALINITY

### 1. IMPROVING SOIL STRUCTURE AND MOISTURE RETENTION:

Enhancing soil organic matter and structure can help the soil retain moisture for longer periods. Techniques like adding compost, mulching, or adopting no-till farming practices can improve water infiltration and reduce water loss through evaporation.

### 2. PRECISION IRRIGATION: IMPLEMENTING MODERN IRRIGATION TECHNIQUES, SUCH AS DRIP

irrigation and sprinkler systems, can target water delivery to the root zones of plants more efficiently, minimizing water wastage.

### 3. REGULATED DEFICIT IRRIGATION (RDI):

RDI involves providing plants with less water than they require at certain growth stages. This controlled stress can improve water use efficiency without significantly impacting crop yield.

### 4. WATER-SAVING TECHNOLOGIES:

Utilizing technologies like soil moisture sensors and automated irrigation systems can ensure that plants receive water only when needed, preventing overwatering and water wastage.



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**5. APPROPRIATE TIMING OF IRRIGATION:** Watering plants during cooler parts of the day, such as early morning or late evening, reduces evaporation losses and ensures more water reaches the plants roots.

**6. COVER CROPPING AND INTERCROPPING:** Planting cover crops between rows or alongside main crops can help reduce evaporation, control weeds, and improve soil health, thus contributing to better water use efficiency.

**7. OPTIMIZING FERTILIZER APPLICATION:** Properly managing fertilizers helps prevent excessive vegetative growth, reducing the plant water demand.

**8. CROP ROTATION AND DIVERSIFICATION:** Rotating crops and introducing drought-tolerant species can help break pest and disease cycles while making more efficient use of available water. Reducing or eliminating tillage helps maintain soil structure and organic matter, leading to better water retention and less soil water evaporation.

**9. ENHANCING PHOTOSYNTHETIC EFFICIENCY:**

Research efforts to improve the photosynthetic process in plants can lead to increased biomass production with less water consumption.

**10. MANAGING SALINITY:** High soil salinity can reduce water availability to plants. Implementing strategies to manage salinity, such as leaching excess salts, can improve water uptake by plants.



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