

Water Quantity Enhancement Activity – WQT09 – High level irrigation water management



Enhancement Description

This enhancement entails using high level irrigation water management (IWM) methods and other innovative technologies to evaluate precise soil and crop conditions. These will then be used to schedule irrigation water application based on variable site conditions within a field.

Land Use Applicability

Cropland, Pastureland

Benefits

High level irrigation water management and other innovative technologies reduce water use and runoff from irrigation allowing for the conservation of water resources and energy.

Conditions Where Enhancement Applies

This enhancement applies only to the irrigated acres in the crop or pasture land use.

Criteria

1. Comply with the requirements of Conservation Practice Standard, Irrigation Water Management, Code 449 (check with your local NRCS Field Office for a copy of the practice standard).
2. Install remote soil moisture sensors. Sensors placement shall be based on soil characteristics, topography, or crops.
3. Acquire and log daily data readings from the installed soil moisture sensors.
4. Record each irrigation water application, each rainfall event, and the daily soil moisture throughout the growing season.
5. Apply irrigation water based on the collected data.

Adoption Requirements

This enhancement is considered adopted when all 5 criteria have been implemented during the irrigation season on the scheduled acres.

Documentation Requirements

1. Documentation showing the installation of the remote soil moisture probes.
2. Copy of the irrigation, rainfall, and soil moisture data.
3. Map delineating the location(s) where the enhancement was implemented.



United States Department of Agriculture
Natural Resources Conservation Service

2015 Ranking Period 1

References

Hoffman, G.J., 2010. Water Quality Criteria for Irrigation. UNL NebGuide EC782. February.
<http://www.ianrpubs.unl.edu/epublic/live/ec782/build/ec782.pdf>

Irmak, S., 2014. Plant Growth and Yield as Affected by Wet Soil Conditions Due to Flooding or Over-Irrigation. UNL NebGuide G1904. April. <http://www.ianrpubs.unl.edu/epublic/live/g1904/build/g1904.pdf>

Irmak, S., J.O. Payero, B. VanDeWalle, J. Rees, and G. Zoubek, 2014. Principles and Operational Characteristics of Watermark Granular Matrix Sensors to Measure Soil Water Status and its Practical Applications for Irrigation Management in Various Soil Textures. UNL NebGuide EC783. May 2014.
<http://www.ianrpubs.unl.edu/epublic/live/ec783/build/ec783.pdf>

Yonts, D.C., S.R. Melvin, and D.E. Eisenhauer, 2008. Predicting the Last Irrigation of the Season. NebGuide G1871. June. <http://www.ianrpubs.unl.edu/epublic/live/g1871/build/g1871.pdf>