

Water Quantity Enhancement Activity – WQT11 – Low energy precision application (LEPA) irrigation



Enhancement Description

This enhancement consists of converting existing conventional sprinkler irrigation systems to a low energy precision application (LEPA) irrigation system.

Land Use Applicability

Cropland

Benefits

LEPA irrigation systems place irrigation water directly into the furrows of the growing crops with nozzles placed very close to the soil surface. Utilizing this type of water placement reduces water losses by minimizing evaporation from leaf surfaces and wind drift. The results of improved placement and lower evaporative losses are conservation of water resources and energy.

Conditions Where Enhancement Applies

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

Criteria

1. Convert conventional center pivot sprinkler irrigation system(s) to a LEPA system.
2. Crop rows must be planted in a manner that allows for the irrigation system to apply irrigation water in the same rows throughout the field.
3. Comply with the requirements of the Conservation Practice Standard, Irrigation System Sprinkler, Code 442 (check with your local NRCS Field Office for a copy of the practice standard).

Adoption Requirements

This enhancement is considered adopted when the LEPA system has been installed on the center pivot sprinkler irrigation system.

Documentation Requirements

1. Photographs showing the operation of LEPA irrigation system.
2. Map delineating the location(s) where the irrigation system was converted to the LEPA system.



United States Department of Agriculture
Natural Resources Conservation Service

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References

Lamm, F.R., 2004. Comparison of SDI and Simulated LEPA Sprinkler Irrigation for Corn.
<http://www.ksre.ksu.edu/sdi/Reports/2004/LS100104.pdf>

Yonts, C.D., W.L. Kranz and D.L. Martin, 2007. Application Uniformity of In-Canopy Sprinklers. UNL NebGuide G1712. June. <http://www.ianrpubs.unl.edu/epublic/live/g1712/build/g1712.pdf>

Yonts, C.D., W.L. Kranz and D.L. Martin, 2007. Water Loss from Above-Canopy and In-Canopy Sprinklers. UNL NebGuide G1328. June. <http://ianrpubs.unl.edu/epublic/live/g1328/build/g1328.pdf>