



East Otter Tail Groundwater Protection



Clean Water Funds: 2011

Clean Water Grant	\$87,371
Leveraged Funds*	\$29,125
Total Project Budget	\$116,496

* Leveraged Funds include required 25% local match

Targeted Water:
County/Watershed Wide

Project Sponsor:
East Otter Tail Soil and Water Conservation District

Partners:
University of Minnesota Extension, the Minnesota Dept of Ag, and the Natural Resources Conservation Service, the Central Minnesota Irrigators Corporation and the Irrigators Association of Minnesota

Grant Period:
January 2011 - December 2012

Project Contact:
Darren Newville, District Manager
(218) 346-4260 x3
darren.newville@mn.nacdnet.net
www.eotswcd.org

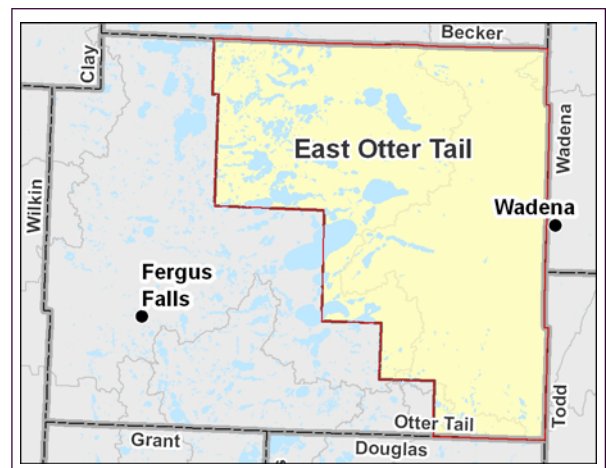


Project Narrative

Many of the aquifers that are located under Otter Tail County are susceptible to contamination from nitrates and other water soluble contaminants due to the coarse grained soils of the area. These aquifers are used by municipalities and rural residents. One of the common agricultural practices in the area that can have an effect on these aquifers is agricultural irrigation. Over application of irrigation can directly lead to leaching of nutrients that can contaminate our groundwater resources.

This project will provide cost-share and incentives to ag producers to convert irrigation systems to low pressure systems and manage the application of their irrigation to prevent potential groundwater contamination due to overwatering. The conversion from a high or medium pressure irrigation system to a low pressure system improves the efficiency of water use through the system. This reduces the draw on the groundwater resource by an estimated 25% to 30%. The reduced pumping also reduces energy use by an estimated 10% - 35%.

Cooperating producers will also be able to use the East Otter Tail SWCD's Irrigation Scheduler Program. This is a service that provides producers with "in the field" soil moisture status to assist them with the decision of when to irrigate. Weather conditions, rain events, irrigation events, crop type and crop development stage are all used to determine the amount of water being used by the plant. This information is used to provide a weekly soil moisture graph to the producer. When used properly this program prevents crop loss due to insufficient moisture, reduces ground water contamination due to over application of water resulting in leaching of nutrients and chemicals, reduces energy use, and reduces the amount of water pumped from the aquifer.



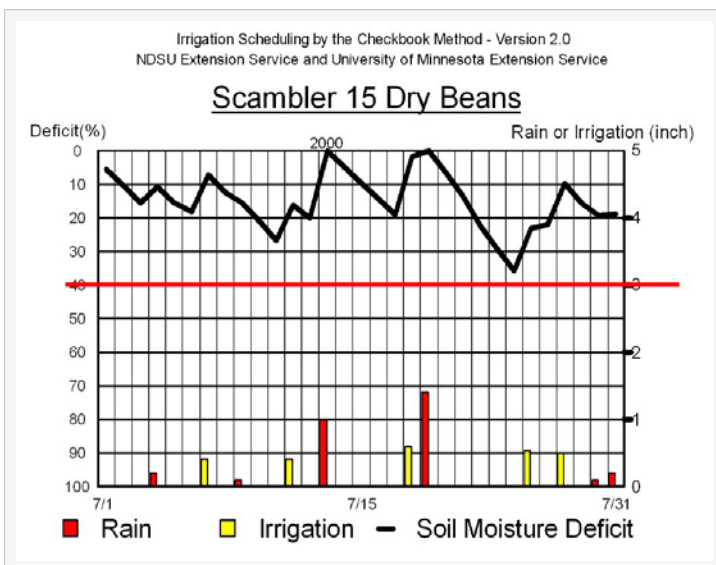
East Otter Tail Groundwater Protection



Pivot irrigator in operation in East Otter Tail County



East Otter Tail SWCD Irrigation Technician verifying soil mois-



Left: Weekly soil moisture chart showing rainfall and irrigation events reported by the producer and soil moisture use of the specific crop being grown. Producers using the EOT SWCD's Irrigation Scheduler Program use these charts to help them determine if and when to irrigate their fields to maintain a healthy crop, but not over irrigate causing leaching of nutrients.