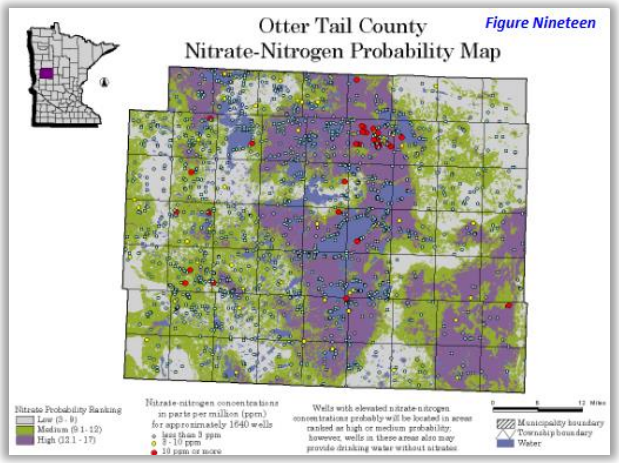
Balancing Production and Resource Needs

January 2017 Snapshots

Irrigation is a common management practice for farming in the sandy soils of Otter Tail, Wadena, Hubbard, and Todd counties. Those sandy soils are closely tied to ground water quality and quantity concerns. The local priority concerns of elevated nitrate levels, expanding agricultural irrigation, susceptible soils and groundwater aquifers, and local wellhead protection resulted in the local water plans identifying groundwater protection as a high priority, a priority shared by the State.

The East Otter Tail Soil and Water Conservation District (EOT SWCD) has had an irrigation scheduler program since the mid 1990's. The program charts soil moisture depletion (soil that's too dry stresses the crop, soil that's too saturated leaches nitrates) to determine the best conditions for irrigation. The program has been adopted in five additional counties with others considering implementing similar strategies.



Concerns for the Central Sands Region Aquifers, an important source of drinking water for the county, and expanding agricultural irrigation in the region prompted EOT SWCD and the Minnesota Department of Agriculture to develop a partnership to address groundwater protection. The district has also received BWSR Clean Water Funds to support this important work.

One of the first steps was hosting an irrigation forum which highlighted the need for increased education and outreach, the use of technology and weather stations, and the need to collect evapotranspiration data. Participants included irrigation producers, irrigation associates, and state agencies.

Producers meet with presenters at an irrigation forum to learn more about best practices.

Outcomes from the forum included the need for increased local assistance and tools available to producers to help them find ways to minimize the amount of nitrogen lost to ground water, additional irrigation workshops, the expansion of weather stations, and the development of an on-farm adaptive nitrogen management program.

As a result, the district and landowners have adopted such a program to provide good in-season and in-field data to empower producers to make better decisions, including increasing nitrogen use efficiency and decreasing nitrogen losses to groundwater.

In total, ten irrigation workshops have been held in the region. Those attending irrigation workshops indicated the information provided will help them more efficiently manage irrigation water with 40% indicating they rely on their local SWCD for irrigation management information.