

Facts From the Field

ESN® Reduces Nitrogen Loss to the Environment

This 2004 study comes from a potato grower's field which was split in half. Half of the circle was fertilized with ESN at planting; the other half was fertilized with a conventional program consisting of pre-plant urea plus the bulk of the required nitrogen (N) applied through the center pivot with irrigation water on a regular basis (total of eight fertigation applications). Suction lysimeters are devices used to extract the soil solution for the purpose of measuring soluble nutrients and other elements in the soil. When placed at different depths in the root zone, they are useful for monitoring the downward movement of mobile nutrients such as nitrate-nitrogen. The conventional program of spoonfeeding N through irrigation has been demonstrated to be an excellent N management practice as long as irrigation is properly managed. In this case, a single application of ESN with one supplementary fertigation resulted in less leaching loss plus saved the grower time and money, increased yields and improved crop quality, a very attractive value package for the grower.



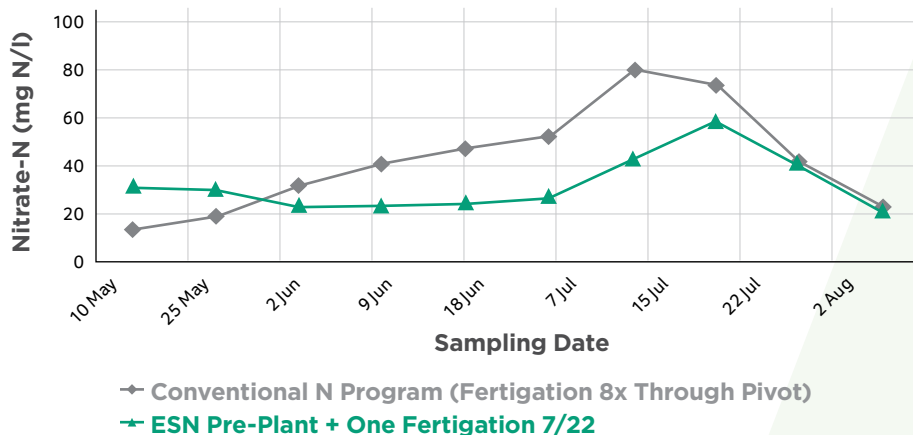
ESN SMART NITROGEN

- Enhances nitrogen use efficiency
- Improves crop yield and quality
- Provides convenience through ease of use
- Environmentally responsible



FIGURE 1.
Nitrate Concentration in Suction Lysimeters

ESN reduced leaching of N in a Minnesota potato field compared with the grower's conventional fertigation program.



Source: Dr. Carl Rosen, University of Minnesota

HOW CAN WE HELP?

To make ESN a part of your nitrogen management program, contact an authorized retailer or ESN representative.

FOR MORE INFORMATION:

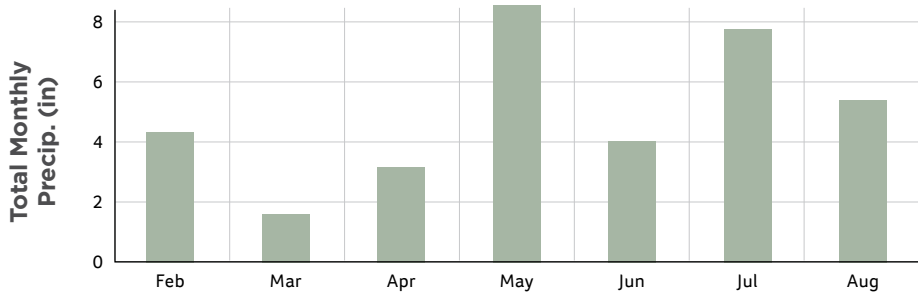
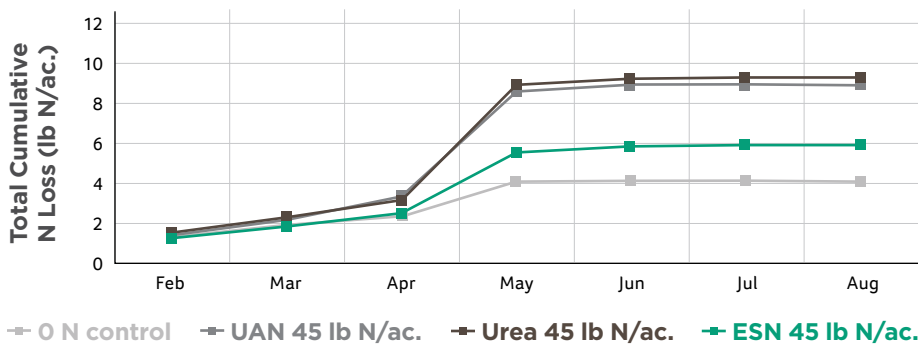
www.SmartNitrogen.com

ESN REPRESENTATIVE:

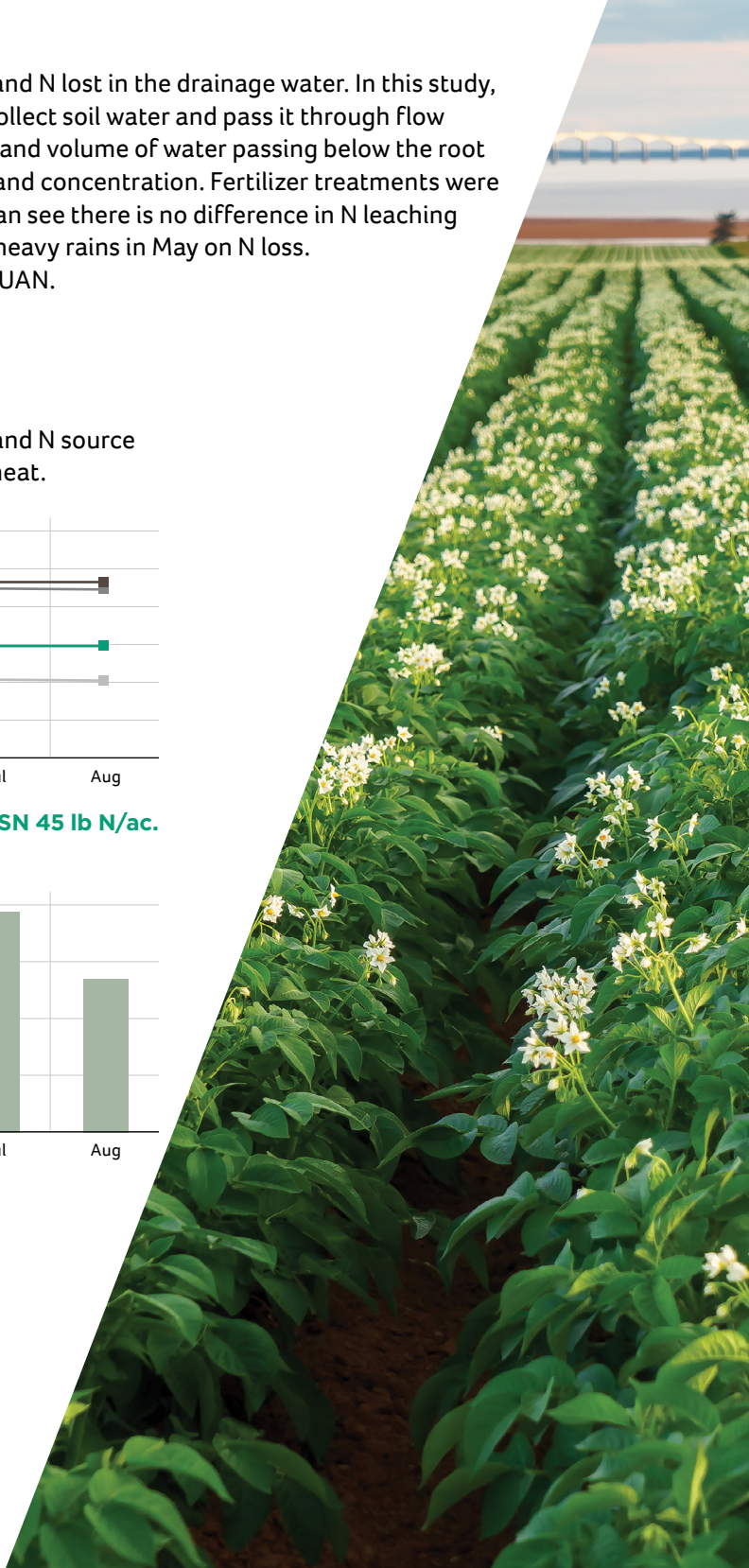
This study measures actual water drainage from the root zone and N lost in the drainage water. In this study, each plot (100 x 30 feet) is drained individually. Drainage tiles collect soil water and pass it through flow meters where samples are taken to measure the concentration and volume of water passing below the root zone. The total amount of N lost is calculated from the volume and concentration. Fertilizer treatments were broadcast on winter wheat in early April. From the graph, one can see there is no difference in N leaching until fertilizer is applied, after which one can see the impact of heavy rains in May on N loss. Note that N leaching from ESN is significantly less than urea or UAN.

FIGURE 2.
Nitrogen Leaching on Winter Wheat, Ohio, 2003

An Ohio drainage study measures shows the impact of rainfall and N source on N lost by leaching from topdress N applications on winter wheat.



Source: Dr. Rafiq Islam, The Ohio State University



Learn more about the industry's leading environmentally smart nitrogen at www.SmartNitrogen.com