

# Facts From the Field

## ESN® Reduces Nitrate Leaching in Minnesota Potato Production

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.



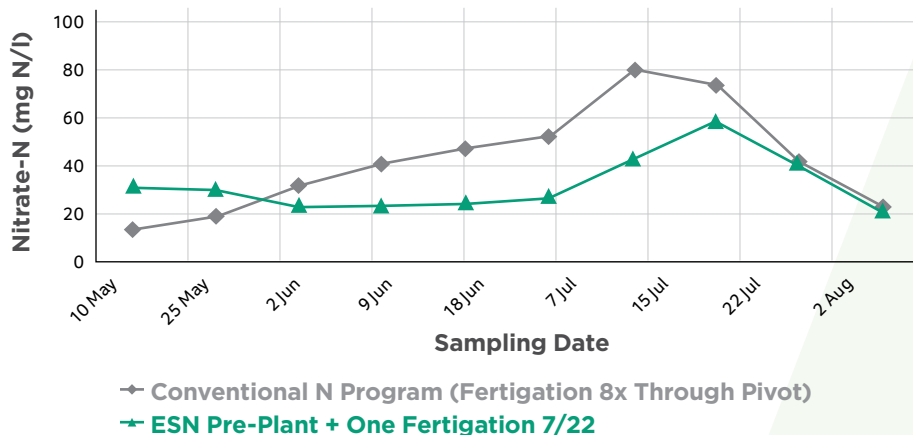
### ESN SMART NITROGEN

- 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](http://www.SmartNitrogen.com)

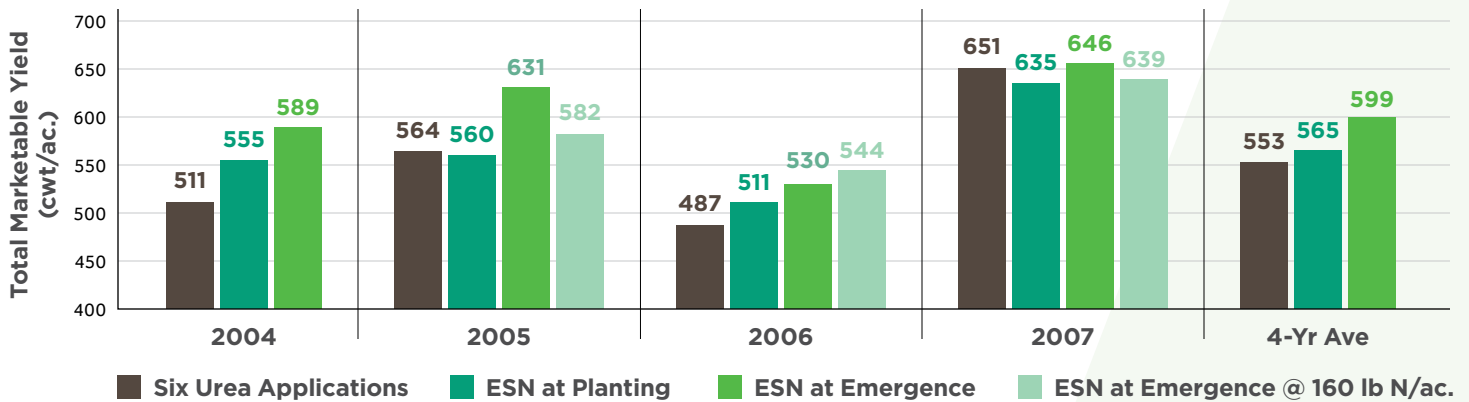
### ESN REPRESENTATIVE:

This Minnesota study compared ESN applied at emergence or at planting with multiple applications of conventional urea. ESN produced significant increases in marketable yield in three out of four years. Split urea application included 100 lb N/ac. at emergence, 20 lb N/ac. at hilling, and four post-hilling applications of 20 lb N/ac. at approximately two week intervals. ESN was broadcast and incorporated. N rate shown includes 40 lb N/ac. at planting from DAP.

**FIGURE 2.**

## ESN Increased Russet Burbank Yields Over Conventional Split Applications This Multi-Year Minnesota Study

N treatments applied at 200 lb N/ac.



Source: Dr. Carl Rosen, University of Minnesota



Learn more about the industry's leading environmentally smart nitrogen at [www.SmartNitrogen.com](http://www.SmartNitrogen.com)