

Facts From the Field

ESN[®] Is the Smart Nitrogen for Optimum Dry Bean Production

Research trials conducted in Southern Alberta by Alberta Agriculture and Rural Development scientists have shown that optimum bean production, as a row crop, occurs when soil test nitrogen (N) plus applied fertilizer N in the 0-12 inch depth is between 80 and 100 lb N/ac. When grown as a solid seeded crop, soil N plus fertilizer N in the same test depth should be between 100 and 120 lb N/ac. to maximize production.

The difficulty is that dry beans are not good N “fixers.” Readily available early season N is known to reduce nodule formation and, ultimately, the plant’s ability to make its own N. Past work in Manitoba with soybeans (data not shown) showed that ESN application did not reduce nodule formation nor did it affect a soybean’s ability to fix its own N.

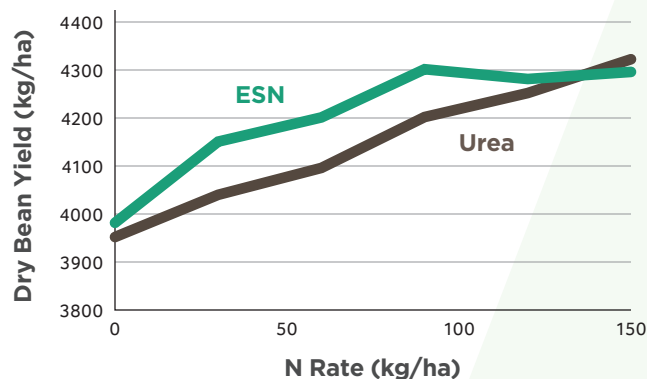
In this study that compared ESN N and urea N, it is shown that ESN N provided a yield benefit over that of urea N, presumably because it does not flood the soil with early season available N and does not reduce nodule formation.

Additionally, when comparing the N response curves for ESN and urea, it is shown that ESN provides maximum yield at lower N application rates as compared to urea (i.e. 90 kg N/ha ESN-N versus 150 kg N/ha urea-N), and that ESN improves N-use efficiency (NUE) at the lower, mid and plateau phases of the yield-response curve.

This is what to expect of ESN – an enhanced efficiency N product that protects against N loss, while at the same time supplying plant available N. Increasing NUE means more can be done with less or more can be produced for the same application rate.

ESN Increases Dry Bean Yields

Means are averages of 12 site years in 2010-2013. Significant N yield response in eight of 12 site years (AARD)



ESN SMART NITROGEN

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



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:



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