

Trial and error

by Hugh Maynard

Ron McRae's farm sits a stone's throw from the Quebec border in Bainesville, Ontario. When he left dairying some years ago, he took up continuous cropping of corn. After losing a lot of his organic matter and creating a few dust storms, he decided something had to be done.

“The main culprits were the mouldboard plow and monoculture” McRae says. His income was eroding in the face of increasing costs, lower prices and yields that just wouldn't go any higher.

So he went through a process of trial and error to improve the situation.

Different methods

The first was the chisel plow. It worked well to control erosion and improve the filth of the soil. But it also caused problems with secondary tillage, plugging up the cultivator and resulting in poor population stands for three years.

"My father wanted to disown me" McRae exclaimed about the aggravated yield losses.

From there he moved to no-till, trying a variety of different equipment to get things back on track. Trash whippers, shredding stalks and specialized coulters all had their benefits and their drawbacks, with no combination seeming entirely satisfactory.

In the end he concluded that with his land base being made up of heavy soil and on the banks of the St-Lawrence River, no-till was not a viable option.

Ridge Till

In order to get away from planter blockage, he next tried ridge till, with the addition of a rotation plan which awed soybeans.

He followed a similar strategy to other ridge till pioneers in Ontario -opening up the ridges, burn down herbicide application, banding of fertilizer and early top-dressing phosphorus to boost the emerging plants.

McRae says that counter to popular belief, his drainage has improved with no-till. “We haven't made a rut. The drainage has improved so much that its hard to believe”, he says.

He attributes the change to increased earthworm populations: "They make pores and that's where the water is going." In addition, the machinery is only moving up and down two of the six rows, limiting any compaction damage.

McRae's yields have gone up, from the 6700 kg/ha average before ridge till, to better than 8000 kg/ha. Soybean yields are as high as 3400 kg/ ha.

Milkweed is the major weed problem because it manages to get in the rows, avoiding the cultivator. He has been spot spraying from a 4-wheel ATV, but control seems to be the only solution rather than elimination.

McRae feels that there have been enough advantages to switch: increased organic matter, less run-off into waterways, lower input costs and higher yields.

"The last few years I've started to think about nature more; nature has a pretty good system. Now I stop and think how nature would do it -nature doesn't use tillage, so why should I?" he says.

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