Production Case Study:
John Bennett.

In the prairies of Western Canada, sustainability has become a way of life

John Bennett and his wife, Shirley, farm in the Bear Hills south of Biggar, Saskatchewan.

"I farm 1600 acres and I'm the fourth generation of my family to look after this land. I grow wheat, canola, flax, mustards and canary seed. More especially, I grow peas and lentils. Over the last twenty years I've dramatically changed the way I farm, I had no choice because we had a big problem with wind erosion and something had to be done.

"First of all, I was looking to create a good crop rotation. I needed diversity. Pulses are a wonderful fit, in part because of their natural nitrogen fix where the value comes twice, once into the actual crop and again into the one that follows. That means I use less 'manufactured' nitrogen[3]. There's more to their importance for soil health but it's difficult to put a figure on this. The scientists say the pulses give a certain amount of extra nitrogen, we know about that and can see it as well. But I think it's just a part of the story. Around here we talk about something we call 'pea magic'. What we see is yield advantages that are difficult to explain. There are countless microbes in the soil and they all have different needs for nutrients. The pulse crop seems to provide a microbial boost – it's all to do with making nutrients available. I believe that the disease pathogens are reduced as well.

"My other main innovation was to be one of the first farmers to put away my ploughs and harrows and try something different. Now I guess that over 90% of the farmers do the same. We call it "direct seeding" around here but others talk about "zero till". I believe there are now over 24M acres (10M hectares) in Western Canada alone of land farmed in this way. This has transformed prairie agriculture and, for me, the pulses are the key enabler. Their contribution to soil health on my farm is very significant.

John has been active in the Saskatchewan Soil Conservation Association since its foundation and is a past President. The 800 active members share best practice and look to build understanding of soil health. They also work to influence national policy. Part of their work has been to look at the issues around 'carbon sequestration' in the soil. Put simply, in agriculture there is a natural process that sees carbon transferred from the atmosphere and stored in the soil, as long as the soil remains undisturbed. Canadian cropland can sequester about 22 million tonnes of atmospheric CO_2 per year[4] by using current best management practices[5].

John says "*To start with, our conservation effort was about stopping problems like erosion, organic matter depletion and soil salinity. We stopped the soil blowing away, made better use of our rainfall, improved the wildlife habitat and stored a lot of carbon in the soil. The business win, which often seems to be the case with sustainability, was unexpected. Our productivity has improved. My returns for the pulses are variable; overall in money they are probably less than wheat. But their value to me is more than dollars – they enable the way I farm. I see them as a part of a sustainable agricultural system.*

I love the soil. If you get down to the real fundamentals, soil health represents the future of the planet."


Flowering field with lentils, Saskatchewan, Canada