In pursuit of cropping excellence

by Jeff Quinn

Ernie Behn, farmer and author from Boone, Iowa, wonders why it is that not everyone is practicing ridge tillage.

"It's got everything going for it," he says.

Guest speaker at the field day of the Ontario Ridge Tillage and Strip Cropping Club, held in late August at the farm of Doug and Colleen Smith in Tavistock, Behn charmed the crowd of more than one hundred with his great story-telling and common sense arguments.

"It's too simple, it won't work," Behn cited as one of many excuses farmers come up with to avoid confronting the changes which he believes need to be made to the improve bottom line on their farming operations.

Behn challenged the crowd to "look for what is not right and not what is wrong," especially when considering ideas on the innovative front lines. Criticism against ridge tillage are largely based on the lack of informal misinformation and rumour, he says, as well as the natural inclination to resist change largely because of a fear of failure.

Behn says that the first adjustment needs to be one of attitude. He asked the crowd which of 3 classes of people they thought they belonged to:

- those who make things happen

- those who watch things happen

- those who wonder what happened

With 26 years of ridge tilling experience with corn and soybeans, Behn has seen consistently superior performance in economic yields and soil conservation despite the weather and soil limitations. Purdue University supports his claims, citing ridge tilling to be the most profitable cultivation system across all soil types in Indiana, even beating no till.

Even under the soggy conditions of 1993 in central Iowa, where 39 inches of rain has fallen this growing season, the rows of corn and soybean are standing out of the water which lies in the valleys between

the ridges. Behn was able to plant his crops despite a spring when there was never more than 2 days between rains. He lightly worked the ridge tops with a rotary hoe on the first day to speed drying, then planted until the next rain on the following day. Even so, Iowa crops are 3 weeks behind schedule and vulnerable to frost.

Doug Smith, field day host and well-known advocate of the ridge tillage system of cultivation, credits Behn as being the primary inspiration for his switch away from conventional tillage methods.

"Behn's book was about all there was to go on at the time", (in 1983) says Smith, who has demonstrated himself not only to be an apt student, but also an accomplish innovator and teacher in is own right.

Advantages of ridge tillage over conventional tillage

1 - SAVINGS IN TIME

Considering that planting is the first major spring operation and harvesting is the final major fall operation there is an obvious reduction in the number of trips over the field, saving time and avoiding soil compaction.

"Recreational tillage should be a thing of the past," says Behn.

2 - SAVINGS IN POWER

Reduced horsepower requirements and fewer trips over the field translates into reduced fuel consumption, down from 20 litres per acre on average under conventional methods to only 8 litres per acre under ridge tillage.

"Not the least of these savings comes from not having to fill in old dead furrows."

3 - REDUCED MACHINERY COSTS

The same equipment is used for both corn and soybeans and the need for a large tractor to pull the big plow and cultivator is eliminated.

4 - FEWER CROP FAILURES

"The best seedbed in the world is made by doing nothing" states Behn. Conditions in a ridge top provide a firm, moist, mellow and warm environment. In his 26 years of ridge tillage, Behn's conventional till neighbours have suffered through poor stands that have required replanting 4 times due to excessive moisture or dryness or cloddy, compacted conditions. Meantime, Behn's ridge tillage system has not failed yet.

5 - REDUCED INSECT PRESSURE

Contrary to popular belief the bugs have not eaten Behn's crops and, in fact, because of the corn and soybean rotation, insect pressure has actually decreased.

6 - MORE ECONOMICAL WEED CONTROL

Ridge tillage lends itself well to banding herbicides, cutting costs. Combined with high speed, inter-row cultivation, weeds are eradicated at the surface and not buried 6" under only to reappear later when plowed back up. Of course, Behn says, "enough weed seeds are always present to guard against future mistakes".

7 - REDUCED EROSION & TRAFFIC CONTROL

Ridges act like little terraces, even when running with the slope because of all the residue in the valleys. Run-off and erosion is estimated to be reduced by more than 90 percent, which with reduced pesticide usage, is superior environmental stewardship. In addition, inter-row cultivation incorporates crop residues into the decay zone of the ridge where the soil microbes can convert them into soil stabilizing humus. The net effect is soil building, not degradation.

8 - BETTER BOTTOM LINE

With crop production equal to or greater (especially in stress years) than conventional yields, and reduced costs of production, the net result of ridge tillage is increased profit. Coupled with the positive environmental impact of decreased erosion and soil building of humus, it is hard to deny the benefits of ridge tillage.