Ridge-tillage cuts costs ... and teaches practices

by

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AndrŽ Dubois believes farmers are not out in the field for a good time, but have to operate with a view to being around for a long time. He's opted for ridge tillage as the sustainable strategy to carry his cash crop enterprise into the 21st century.

Two decades of continuous corn were beginning to take their toll, and a lack of snow cover during the winter months was compounding the problem. Adding wheat and soybeans in rotation was a start, but evidently not enough to halt the soil degradation that was afflicting the clay-loam fields AndrŽ Dubois had purchased in south-west Quebec's Chateauguay Valley in 1985.

After examining a range of soil conservation options, Dubois invested in ridge tillage equipment in the fall of 1990, a planter and cultivator along with a four-wheel drive tractor to pull the heavier load in one pass.

After harvest, he made one pass to establish the ridges, but only on half the fields. This was to make sure that in case he ran into any trouble the following spring, he would still have some land ploughed and ready to plant in a conventional manner. During the winter, Dubois made one pass over the ridged fields, trailing a bar with tires to break open the tops of the ridges, flattening any crop trash in order to make seeding easier. Springtime awaited.

Anxious

"The corn got off to a shaky start. I was a bit too eager, a bit early with planting," says Dubois in reflection of his first season with ridges. Different clay types, even within the same field, results in

variable drainage. "You've got to control yourself a bit and wait a day more."

Despite the dry summer that followed, the corn picked up and by harvest type time Dubois estimates that yields were average for the region. Top yields were in the range of 150 bushels per acre for the area.

"The soybeans, though, they never looked back. They were nice looking from the start," he added, noting that the 1.2 tonnes per acre yield was above what many other producers were reporting.

He believes that an early rising corn variety, "one that doesn't mind cold feet in the spring", works best with the ridge system. For soybeans, a later variety that grows tall and fills in the spaces between rows is a good choice. Both should be able to mature in 2800 to 2900 heat units.

"Beside that (the beginning), I was very happy" says Dubois, even with some initial weed problems in the corn fields. Milkweed proliferated very fast and was unchecked by cultivation.

Dubois used a "Wick-whacker", a 15-foot wide, 3" PVC tube that dispensed a 50/50 mixture of Roundup and water onto the milkweed by direct contact. "You stroll along, up and down the rows. It's very slow, taking all day, but it does a good job," he remarks.

He noted that weeds were a lot easier to control with soybeans, applying a 10" band of MPCA to keep horsetail and quackgrass in check in the rows, and cultivation to clean up between rows.

Better timing

Dubois likes the redistribution of time devoted to field operations with ridge tillage. The two most critical field operations are completed with only two passes - planting in the spring and harvesting in the fall. The remainder, mostly cultivation, are spread out through June and July.

"I didn't work at night very much and seemed to have all the time in the world. I could have done twice the surface," he says. The same amount of time was spent working the fields, but is less bunched up in the weather sensitive periods of spring and late fall.

He cautions that cultivation is still a critical and time-consuming operation for weed control and ridge formation that has to take place between mid-June and mid-July. "You've got to be there, you can take a holiday afterwards," Dubois remarks.

The first pass with the cultivator mixes earth with the trash from the previous year's crop. That starts the decomposition process which produces a mulch rich in organic matter that the second pass reforms into the ridges for the following year. "I was surprised that there were no stalks left in the mulch. It rots in no time," he says.

Patience is obviously a necessary virtue with ridge tillage. Despite the urge to get an early start with cultivating each day, Dubois found that it was better to wait until mid-morning when the dew had evaporated. With clay soils, the cultivator quickly becomes clogged with even the slightest amount of surface moisture.

"These are the things you learn. They don't tell you that when you buy the cultivator," Dubois joked.

Good investment

Dubois considers the investment in ridge tillage equipment to be a worthwhile expenditure. Despite the $5,000 price tag for the heavy-duty cultivator, nearly twice the price of a regular one, it was a saving when operating costs are taken into account, which were lower than the year before.

In addition, the equipment does a much more effective job. "Even if you never make ridges, some farmers still use it for cultivating - nothing escapes, " Dubois says.

He also notes that ploughing 50 acres of rented land had cost nearly $400 in parts, while the only expense for ridge tilling and cultivating 200 acres was $100 to change the sweeps on the cultivator.

"I see only good points."