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From the President's Desk

Greetings LICO Members,

After a very long winter and a very short spring, we may find ourselves buried in tile repair jobs and waiting until the month of June before we can start draining any fields. As I writing this, I am looking forward to the next few weeks. I can see everyone at our company, along with most everyone else in this industry, will have their heads spinning on where to go next as it will all be coming at us at once.

We are looking forward to the contour drainage event coming up this June 15th, although we may need a rainy day in order for everyone to attend! Also, just a heads up if you are interested, our next meeting for LICO will be held on June 17th at Bron.

Jason Van Gorp

Summer Smiles

Dear Winter, I'm breaking up with you. Summer is much hotter!!

An American man asked his Canadian friend if he had a good summer. He replied, "Yes indeed! We had a great picnic that afternoon!"

My summer body is postponed until further notice. Your patience is appreciated.

"A perfect summer day is when the sun is shining, the breeze is blowing, the birds are singing, and the lawn mower is broken."
James Dent

A summer tan may fade, but the memories remain.

Sunshine is the best medicine.

Don't forget your sunscreen!



Where water leaves the farm - Ralph Pearce, Country Guide, September 21, 2015

Improve your productivity by starting where water leaves your farm, and then work backwards

In the chase for higher yields and improved production, farmers have tapped into everything from precision ag systems to a return to cover crops. Now comes a concept that might not only boost yields and enhance soil health, it might also alleviate some of the pressure on farmers that starts with surface run-off heading into the Great Lakes.

Don Lobb, a retired Huron County farmer and long time advocate of soil conservation and tile drainage mentioned this concept at the 2015 annual meeting of the Innovative Farmers Association of Ontario (IFAO).

In Lobb's view, the quality of the water as it leaves our cropland is an obvious measure of our soil management. This means that if we take steps to improve that water's quality, we will also be improving soil management and thus the long-term productivity of our soil.

It may not be a new concept, judging by some farmers who are urging that more must be done to control the amount of sediment and nutrients leaving farms, particularly in southwestern Ontario.

A midsummer editorial in the Windsor Star worried that the algal bloom in western Lake Erie in 2015 could get as bad as in 2011, which in turn sparked a 2012 study by the International Joint Commission (IJC).

What's interesting is that 2015 has seen more severe rain events and less spreading of phosphorus-based fertilizer. And, as one senior agronomist in southwestern Ontario observed in 2014, sales of fertilizers in general are less than half of what used to get sold 20 years ago.

There's also a political angle to consider. According to census figures, 10 million Canadians live in southern and western Ontario. For them, water pollution ranks with bee health and use of transgenic traits in corn and soybean production as key concerns about agriculture.

From the farm community's point of view, those concerns can get labelled as overreactions based on misinformation spread by special interest groups that are often opposed to crop production methods. Yet Lobb believes there's as much to be gained focusing on water quality from an urban viewpoint as there is from a farming perspective.

"The public judges our competence as land managers by what they see in their water, so land management becomes a societal issue," says Lobb.

Most cropland water enters waterways as surface run-off or through subsurface drains. Surface water run-off almost always carries sediment and nutrients. By improving soil aggregation, Lobb says, we can decrease sediment loss and increase water and nutrient infiltration.

The result is clearer water leaving cropland through drains, and healthier, more productive soil.

Farmers are well aware of the benefits of subsurface drainage, but encouraging farmers to look at the link between the quality of the water coming off the farm and how it relates to reduced soil and nutrient loss is taking that concept one step further.

To Lobb, the word "drainage" in an agricultural context can be part of the problem. To an urbanite, the word conjures up images of storm sewers, pollution and algal blooms.

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Tile drainage is an effective tool at managing water quality and subsequently improving management of soil health and related issues.

Where water leaves the farm - (Cont'd. from Pg. 2)

From a farm perspective too, it can encourage producers to think of drainage simply as a means to remove excess water so they can get their crops planted faster.

The real reason for drainage

"The modern role of subsurface cropland drainage (tile drainage) is much different," says Lobb. "It's root-zone soil moisture management.

"We want a favourable balance of air and water in the root zone, while also maintaining water at the base of the root zone to supply water during dry periods."

A well-designed subsurface drainage system allows for this, Lobb says.

At the same time, well-managed fine- and medium-textured soils with good aggregation and little compaction allow precipitation to move down through the soil to subsurface drains and to the subdrain water reserve.

This movement filters and purifies water that would otherwise leave the field as surface run-off, something that's been visible and prevalent in fields across much of southern Ontario in 2015.

"On well-managed soils, the end result of subsurface drainage is cleaner water and reduced peak flows in our waterways," says Lobb.

During storms, a subsurface drainage system combined with no-till practices and the use of check dams can further protect cropland and water quality.

What's at stake, ultimately

Lobb's view is unequivocal. In his experience, tillage is an unnecessary contributor to water degradation.

He knows many farmers still believe that tillage increases profits and that plowing is a valuable contributor to soil productivity. But he maintains this is incorrect.

In fact, argues Lobb, there has never been any conclusive research that indicates plowing increases productivity.

"Tilled soils have little or no soil aggregation, and clay soils are almost always compacted," says Lobb.

"With these conditions, subsurface drains can then contribute little to reduce run-off of water sediment and contaminants," he continues. "When tillage-degraded soil cracks, water easily reaches subsurface drains.

"This does lead to water degradation in drains and outlet channels, and is really the outcome of bad soil management, not the use of subsurface drains."

Lobb makes five key recommendations for reducing run-off contamination, and he believes these recommendations will also work backwards to help boost productivity through healthier soils:

1. Stop compacting, the sooner, the better. Tillage is the primary contributor.
2. Add organic matter, be it from manure or cover crops. Tillage destroys organic matter.
3. Protect soil biota, which is linked to recommendations #1 and #2. Tillage destroys biota.
4. Improve soil aggregation, which is linked to all three above. Tillage destroys aggregates.
5. Use nutrients wisely. Test for the need for supplemental nutrients, and do not surface apply.

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Where water leaves the farm - (Cont'd. from Pg. 3)

With these five practices, however, another dimension has to be factored in. That is time. It takes time to see the benefits from these measures, but the sooner they're implemented, the sooner the benefits will become visible.

To continue to ignore the issue of water pollution and surface run-off is to invite urbanites and other non-farming special interests to become involved, usually to the detriment of primary producers. Even if Lake Erie pollution is found to originate primarily from livestock farming along the Maumee River watershed in Ohio, or from sewage discharges by the cities of London, Windsor and Detroit, farmers in Eastern Canada are under increasing scrutiny. Degraded water will bring regulation because the public sees algae in our waterways.

"Reduced compaction and improved soil aggregation will reduce run-off contamination," says Lobb. "We can see dirty water or soil erosion, and through regulation we can attach monetary penalties to degraded water, or treat water degradation as disgraceful and irresponsible. This is no longer an 'ag issue.' This is a public issue as it affects sustainable soil production, air quality and water quality."

The public and policy-makers are growing impatient, Lobb says. "They can impose rules for soil management. Farmers need to figure out now how they're going to reduce negative soil management outcomes, or the public can simply look at their water and say, 'Fix it!'"



LICO is working with Huron Soil & Crop Improvement Association, the County of Huron and Ausable Bayfield Conservation Authority to install the most innovative drainage systems Ontario has ever seen in Clinton. On June 15, come and watch 4 contractors install various systems that will be used for demonstration and research. Williams Drainage, Roth Drainage, Parker & Parker and KMM Drainage will be installing contoured laterals with control gates on a slope in a side-by-side trial with a conventional system. Another section of the field will be a contoured terrace offering increased surface drainage to a grassed waterway and wetland. Saturday June 15 will be a live demonstration, along with workshops, an industry trade show and great food vendors.

More information at www.huronview.net

How Close is Close Enough? - Peter Johnson

Determining the right tile spacing for your farm is not as easy as it sounds.

The movement to narrower and narrower tile spacing continues! We started with tile spacing at one chain: 66'. When I grew up, 40' spacing was considered "crazy close". Today, more and more tile gets installed at 20 or 25 foot spacing, and 30' is almost considered wide. Growers are looking at 15, 12.5 and even 10' spacing. Where does it stop? Surely there is an economic breakpoint?

But why? Why are we splitting tile, and moving ever closer together? The 50' spacing on my farms used to drain really well, but slowly, over time, it started staying wet between the tile. So now the tile are at 25', and with the way my wheat crop looks this spring, that isn't close enough. Something is happening on our farms: compaction, loss of organic matter, loss of water stable aggregates. Farmers need to address these, and many both realize this and are looking for ways to do so. Rotation, cover crops, big tires and tracks. We haven't found the answer yet, and that's on the agronomic side. Still, how close should tile be?

I went digging. Surely, in the science of drainage, there would be studies that would look at different spacing, and how that related to yield. It costs roughly \$30/acre for every foot that I move drains closer together. If you assume 5% interest and a 20 year payback, that's \$4.50 per acre per foot you need in added yield to pay for moving tiles closer together. \$4.50 is about 1 bushel of corn (0.4 bushel of soybeans) more from that acre, every year. Sounds pretty cheap, and when you compare it to \$20,000+ per acre land values, it is. So there is answer number one: tiling is, in relative terms, cheap.

Still, does it pay? There is HORRENDOUSLY little data out there! Plus the data that is there is quite suspect, because they don't plant the 10' spaced tile when that plot is ready, and the 40' plot when it is ready. They plant them all at the same time, which makes perfect sense as a researcher, but totally skews the data as a farmer. Earlier planting makes more yield. Use the data below with this in mind.

Many studies that are out there show very little yield gain as tile comes closer together. The big boost comes from installing tile to begin with. But these studies are often from further south in the US, or in drier climates.

One of the most recent studies, from a northern climate, comes from Dr. Aaron Daigh of North Dakota State university (https://www.researchgate.net/publication/332446852_Effect_of_Subsurface_Drainage_Spacing_and_Depth_on_Crop_Yield). They looked at corn, soybean and sugar beet yields for 3 years with tile at 30', 40', and 50' spacing. I compared the 30' vs 50' yields (maximum difference). I will save you the math: On average, over the 3 years, corn yield gains indicate a 1.3 bu/ft increase. Beats the 1 bu we need, MOVE 'EM CLOSER, BABY! But soybeans yield gains equate to only 0.2 bu/ft, only half of the 0.4 bu we need. And a big fat zero on sugar beets. So why move closer?

Here is the kicker: 2015 was an extremely wet spring. Corn gained almost 6 bu/ft, far surpassing that 1 bushel threshold. Soybeans almost made the 0.4 bu threshold. Sugar beets still at zero. But that corn yield number: WOW! It certainly shows the value of close tile on a wet spring. Just like my wheat crop in the spring of 2019....

Where do we end up? Did it pay me to split my tile? There really isn't good data. Part of what is driving this is simply land prices. Improve the acres you own when it is too expensive to buy more acres. The other part: growers know what pays: they are going closer because it works. The trend to closer spacing will continue, but we should get some research underway to investigate where the breakpoint falls. The law of diminishing returns has to kick in at some point. In the meantime, growers need to keep working to improve their soils, and the internal water movement. But how close is close enough? Every farmer will have to make that decision for themselves.

CALENDAR OF EVENTS

January 21 - 23, 2020

LICO Conference

Best Western Lamplighter Inn

591 Wellington Rd,

London, Ontario N6C 4R3

June 15, 2019 10:00 AM - 3:00 PM

Huron County Drainage Day, \$5 admission

Huron Demonstration Farm

77733 London Road, Clinton, Ontario



Passings

INGLIS, Brian - Brian Inglis was born in Wingham, Ontario on Thursday, September 2nd 1948 and died Friday, May 10th 2019. He moved throughout many small southern Ontario communities growing up. He attended elementary school in Warwick Village and Watford and, for a short time, Watford District High School. As a teenager, he worked for the Basket Factory in Forest and the Holmes Foundry in Sarnia but was keen to follow in his fathers footsteps, creating prosperous land by putting in tile drainage systems.

He moved north and built a life for his family out of hard work, dedication and careful planning. Brian, along with his brother Doug adopted their father's tile drainage business in 1970. Together, they operated the family business, along with Brian's youngest son Mike, and have drained over 120,000 acres in the Temiskaming District. In the off-season, starting in 1972, Brian traded in his rubber boots for a lined pair as he worked many pipeline jobs in the winter months as a ditching machine operator in Western Canada and into the United States. There, he made many lifelong friendships.

Brian enjoyed nature, a crackling campfire, the sounds of a gas engine firing, historical research, antique collectables, sitting in his shop listening to Willies Roadhouse and of course, Bird. He was known for his sharp one liners, sarcasm, stubbornness, strong leadership, unprecedented work ethic, his participation in the Rod Inglis Memorial Steam Show and big heart. A gentler more loyal soul would be hard to find.

Brian was the devoted husband of Karen for just shy of 52 years. He was a loving father to Teresea (George), John (Nikki), Kevin (Tanya) and Mike (Maija). He took extreme pride in his grandchildren; Jesse, Chloe, Josh, Hunter, Brady, Benjamin, Brealey and Nora.

Also left to mourn are his siblings Doug (Pat), Heather (Stuart), Laurie (Maurice), Chrissy (Wayne) and sisters-in-law Marilyn, Shirley and Bonnie and brother-in-law, Ron. He will be missed by many nieces, nephews, friends, employees, neighbours, and the farming, pipeline and drainage communities.