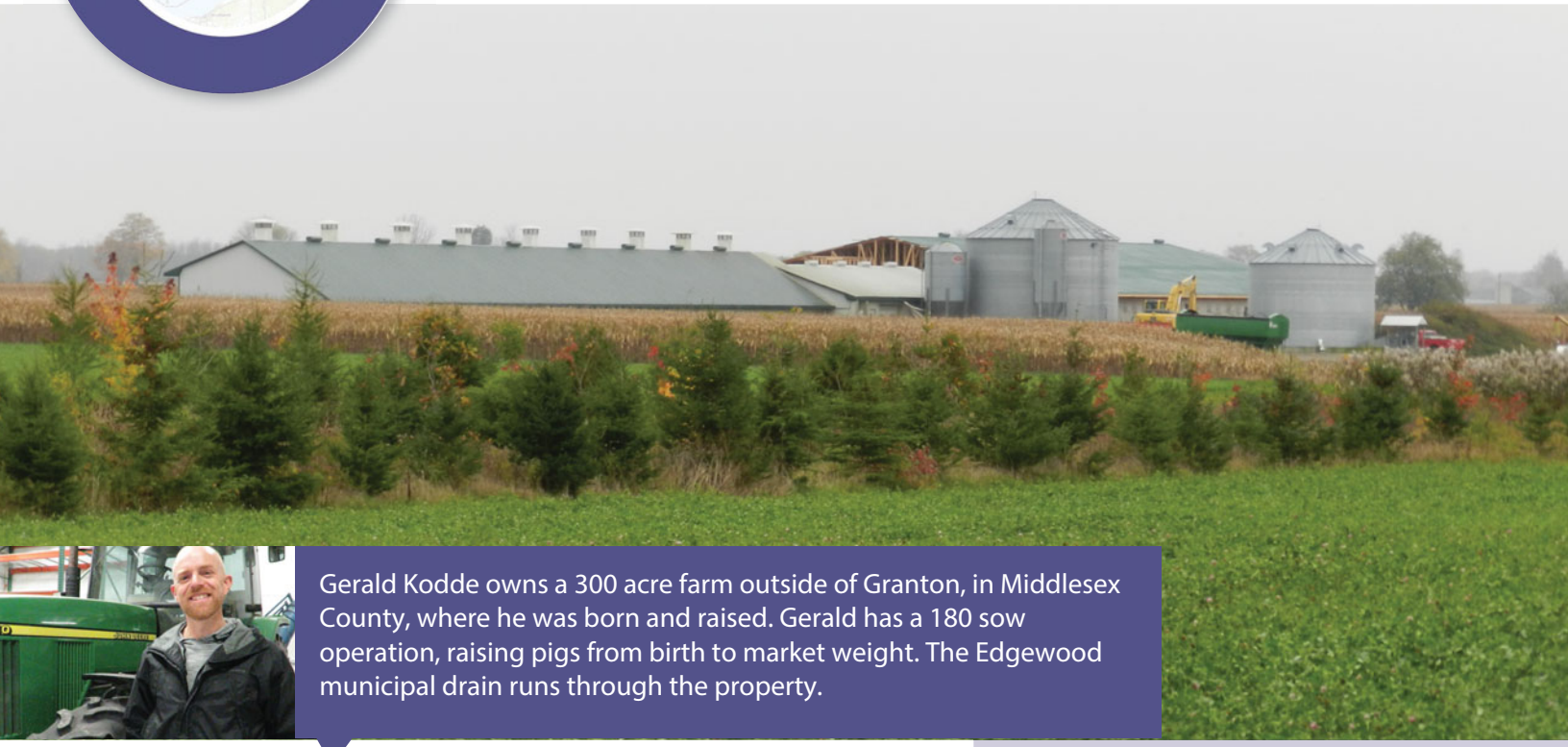
Case Study:
Buffer Strip along Agricultural Drain



Gerald Kodde owns a 300 acre farm outside of Granton, in Middlesex County, where he was born and raised. Gerald has a 180 sow operation, raising pigs from birth to market weight. The Edgewood municipal drain runs through the property.

Concerns:

An irregularly shaped parcel of land next to the municipal drain was becoming less efficient to farm due to the increasing size of farm equipment. The soil in this parcel of land was often wet, resulting in equipment getting stuck.

Solution:

Gerald squared off the irregularly shaped parcel by planting a treed buffer along the municipal drain. Approximately 4 acres of land were retired.

Benefits:

The buffer helps to improve the water quality of the municipal drain and reduces the frequency of drain cleanouts.

- Gerald is no longer farming right next to the watercourse, which reduces the risk of herbicide and fertilizer spray drift entering the waterway.
- The trees reduce runoff and keep sediment out of the drain. They also provide wind protection to the arable land around the buffered area.

"Soil health and maintaining soil is so important. Over the years, we've been really encouraged to be productive. And I think we have to take a step back and say, for the longevity of agriculture and for society, really, we have to take care of what we've got. And so a buffer provides some wind protection certainly for arable land around it. Water courses running through it are more protected because you're not farming right next to it."

Project Timeline:

Early Spring 2005 - Gerald tilled the area to be retired for the buffer and planted white clover

Mid-Spring 2005 - UTRCA machine planted tree seedlings

The site was prepared by tilling the soil and planting a cover crop of white clover.

After three years, the trees can outcompete other vegetation and maintenance is no longer required.

Trees in the buffer 8 years after planting.

Maintenance:

In spring 2005, Upper Thames River Conservation Authority (UTRCA) **sprayed herbicide** around the seedlings to reduce competition from weeds and grass. Additional herbicide applications were done in fall 2005 and 2006. Gerald also **mowed** between the trees to further reduce competition from surrounding vegetation. For the first two summers, Gerald **watered** the trees using a homemade watering apparatus because the trees were having a difficult time getting established.

Tree species used in Gerald's buffer:

- White Cedar
- European Larch
- Burr Oak
- Red Oak
- White Pine
- White Spruce
- Tamarack
- Black Walnut

By the numbers:

Buffer strip **415 m long x 68 m wide**

2200 seedlings planted

$3516.29 cost of seedlings (in 2005)

Additional BMPs:

Gerald worked with a neighbour to plant a windbreak on the west end of his farm. A row of cedars was planted in 2009. Gerald has noticed that, even at 8 ft tall, the trees are providing wind protection quite a distance out into the field.

Contact your Municipal Drainage Superintendent before planting a buffer strip along a municipal drain, to ensure that planting will not interfere with future drain maintenance.

Five years after planting, these European Larch reached a height of approximately 15 feet.

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