

FARMING IN A CHANGING CLIMATE



Farmers are always at the whim of Mother Nature and what she has in store for us. But facing a changing climate, we will need to play more of an intervening role going forward. We'll have to use all the tools we have in order to keep farming.

Amy Ouchterlony
Fiddle Foot Farm

While farmers have always had to adapt to the changing weather year to year, global shifts in climate patterns are predicted to have significant consequences for our local and global food systems. Timing of rainfall and access to water will be critical. Around the world, many of our fruit and vegetable producing regions, such as California, are facing major droughts and dwindling water supplies for crop irrigation. Because California supplies a large portion of Canada's fruits, nuts and vegetables, we will feel the impact, too.

Here in Ontario, we will be facing more variable and wetter conditions in the spring and fall, more freeze-thaw cycles in the winter, and hotter, drier summers punctuated with more powerful storms. While warmer weather might allow for new farming opportunities, wet spring conditions can delay planting, drought and hail reduce crop yields, and without deep freezes in the winter, pests and diseases become more rampant. Hotter summers put livestock and farm workers at risk, seasonal disruptions impact native pollinators, and flash storms or flooding wash away soil, which also creates water quality concerns.

Technology will be critical to meeting the challenges of the future, but farmers can also adapt to and mitigate these changes through regenerative agriculture, age-old farming practices that sequester carbon in the soil, and improve the soil's ability to store water. In order to understand climate impacts and the ways we might support food and farming in Ontario, let's meet four farmers from around the Greenbelt.

Cathy and Marvin McKay Nature's Bounty Farm (Port Perry)

Nature's Bounty Farm is a pick-your-own orchard producing a variety of apples for local customers. Much of southern Ontario has a great climate for apple production, but as the weather changes, so does apple production. Heat makes delicious apples and tender fruit, but drought stresses the trees and reduces yields. Apple blossoms are also sensitive to frost, and unpredictable hail can destroy a crop within minutes. Apple farmers like Cathy and Marvin are making major investments to adapt, such as irrigation to relieve drought, frost fans that protect apple blossoms, and netting to protect trees from hail.



Manager Rob Alexander and Cathy McKay

Brad and Carrie Nimijohn Braelane Farms (Milgrove)

Brad and Carrie grow corn, soybeans, hay, wheat, and other small grains, as well as raise beef cattle. As these field crops are susceptible to drought, Brad and Carrie are building the organic matter (carbon) levels in their sandy soils to increase its ability to hold water. They are improving the soil with no-till planting, increasing the diversity of their crop rotation with wheat and hay, planting cover crops in the fall, and applying organic amendments, as well as cattle manure. Brad and Carrie have also invested in irrigation equipment.



Amy Ouchterlony and Graham Corbett

Fiddle Foot Farm (Mulmur)

Amy and Graham grow over 60 varieties of fruits and vegetables on an organic and biodynamic market garden. They use regenerative agriculture practices, like planting cover crops, rotating a diversity of vegetables, minimizing tillage, and applying the composted manure of their animals to improve their soil. They have made several modifications to adapt to variable spring seasons and hot, dry summers. They use hoop houses to manage temperature and soil moisture conditions and install drip tape irrigation to help drought-stressed plants. By growing a diversity of crops and managing soil and water more effectively, the couple hopes to mitigate risk.



Isaac Crosby

Evergreen Brick Works (Toronto)

Isaac grew up farming with his family in unceded territory south of Windsor and is now the lead grower at the Brick Works, a community hub in Toronto's Don Valley. Here, Isaac demonstrates and teaches Indigenous farming techniques, such as the 'three sisters'. In a symbiotic relationship, sunflowers or corn provide a trellis, beans provide nitrogen, and squash provide soil cover. He also irrigates through a clay pot technique that conserves water, composts food waste to turn it into a soil amendment, starts plants indoors, and looks into new crops that might do well in our changing climate, especially native and perennial plants.



WHAT YOU CAN DO

If there are common take-aways from these four farmers, they are the importance of soil health, access to water, and the value of supporting our local farmers. We must support the people and practices that we'll need for tomorrow, today.

Here are some things you can do to support food and farmers in the face of a changing climate.

- **Learn and share information** about solutions for climate change in agriculture.
- **Support local farmers** by eating Ontario produce when it is in season.
- **Support research and incentives** for practices that help farmers adapt to a changing climate.
- **Cultivate your relationship with food** at home and in your community.



ABOUT THIS SERIES:

The Greenbelt Foundation partnered with experts to understand how climate change is affecting our daily lives, and ways that we can individually and collectively respond to these challenges. For other installments in the series, visit www.greenbelt.ca/in_a_changing_climate