



Agriculture Innovation  
Accelerator Award

## TapRoot Fibre Lab aims for “seed to skirt”

*Award-winning innovation aims to bridge a gap for small-scale machinery to process long-line flax fibre.*



Patricia Bishop shows a machine being developed to connect processed long-line flax fibre into a continuous thread.

In a world of throw-away fast fashion, Patricia Bishop, with her husband and business partner Josh Oulton, are slowly realizing their vision for making linen clothing from flax grown on their Port Williams farm in the Annapolis Valley. TapRoot Farms is a recognized pioneer in the direct marketing model known as Community Shared Agriculture (CSA), in which members buy annual shares of a farm’s produce before the growing season. With her natural entrepreneurial flair, however, Bishop was not content with only *feeding* the community with produce from their organic farm. The eighth-generation Annapolis Valley farmer wanted to *clothe* people with fabric made from farm-grown fibre.

To achieve this vision of a completely local, integrated value chain — from “seed to skirt” or “seed to shirt” — the husband-and-wife team had to learn how to grow the quality flax that would be harvested, retted, processed and spun, then woven into fabric or knitted, and made into clothing. TapRoot Fibre Lab was spun off from the farming enterprise to develop this new business line, which has split into two further lines. Using a combination of acquired and prototype machinery, TapRoot Fibre Lab is processing and spinning blended wool and short-line linen yarn for knitting and weaving. Bishop is also testing the application of the CSA model with linen clothing to help bring clothing to market.

But their award-winning innovation is driven by a determination to bridge a market gap for small-scale machinery to process the higher-quality, long-line flax fibre into yarn. It is a problem of scale. “There is no way” to go through this process, said Bishop, “unless I were willing to set up a very large operation.” The available alternatives are simple, hand-operated machines or large-scale industrial systems.

Early in this ambitious journey, the pair worked with engineers to develop a set of three prototype machines – a breaker, a scutcher and a hackler. These work in sequence to crush, scrape, beat, shake and separate the fibres into different components, then comb, smooth and clean the long-line fibres into straight lines, ready to be processed into yarn. “We’re the only ones with small-scale machines to break and scutch fibres,” said Bishop.

The first set of machines was sold to a technical institute in France in 2017, but further development is needed. The team is also designing a machine to connect long fibres into a continuous thread for spinning and devising a solution for small-scale spinning of long-line fibre.

To help in this critical stage of their business development, TapRoot Fibre Lab applied to the Agriculture Innovation Accelerator Award in 2016 and won \$32,200 in cash and in-kind services. Now in its sixth year, the award was created by the Annapolis Valley Chamber of Commerce (AVCC) to help the successful applicant advance their project to the next phase of development.



## Agriculture Innovation Accelerator Award

### Quick facts

#### TapRoot Fibre Lab

- TapRoot Fibre Lab in Port Williams, Nova Scotia, won the fourth annual Agriculture Innovation Accelerator Award in 2016. The prize package was valued at \$32,200 in cash and in-kind services.
- TapRoot Fibre Lab is owned by Patricia Bishop and Josh Oulton, who also operate TapRoot Farms.
- Flax grown on the farm is processed and spun into blended short-line yarn and made into garments.
- Bishop and Oulton and their team are also developing machines for small-scale production of yarn from long bast fibre.
- Their vision is to enable small-scale flax-to-linen production, from “seed to skirt” or “seed to shirt.”

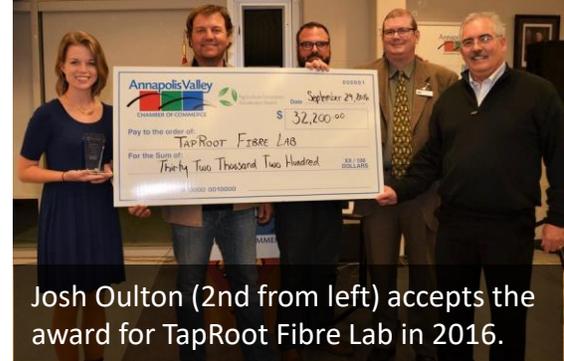
#### Award-winning innovation

Developing a line of machinery to process retted flax straw into fine linen yarn and a wet-spinning machine for long-line linen.

You can watch the production process [here](#).

**Award benefits** “The award has been so great,” said Patricia Bishop, a co-owner of TapRoot Fibre Lab. “When we shared what we were doing it really validated the vision of what we are trying to accomplish. That was a powerful and necessary experience.” The direct support, in terms of cash and expert services, was also very significant, says Bishop, because “it can be very challenging for start-ups to access resources.” The Agriculture Innovation Accelerator Award provides “a substantial amount of money and it’s a community-building process,” Bishop explained. Applying for and pitching for the award helped build her skills, while connecting with professional and expert advisors helped build business networks and expertise. As a bonus, said Bishop, applying for the award and going through the judging process was “fun, not heavy and cumbersome.”

*Written by Rachel Brighton, research analyst at the Valley Regional Enterprise Network, which is supporting the 2018 Agriculture Innovation Accelerator Award.*



Josh Oulton (2nd from left) accepts the award for TapRoot Fibre Lab in 2016.

#### Agriculture Innovation Accelerator Award

- The Annapolis Valley Chamber of Commerce (AVCC) created this unique community-sponsored award in 2013 to recognize outstanding agri-business innovators, producers, processors, suppliers and organizations in the Annapolis Valley.
- The Agriculture Innovation Accelerator Award helps the successful applicant advance their project to the next phase of development.
- To date, more than \$160,000 in cash and in-kind services has been awarded.
- Starting in 2018, the AVCC is **offering two awards**, each in the amount of \$20,000, for outstanding innovators in Agri-tech and in Agri-food.
- The 2018 award ceremony will be held on December 4 in Berwick at the Berwick and District Lions Club.

#### Past winners

**2017:** Integrated HACCP Solutions / renamed FoodByte (food safety software platform); **2016:** TapRoot Fibre Lab (machinery development); **2015:** Frostbyte Interactive Inc. / Aerhyve Division (aerial imaging); **2014:** Hillcreek Family Farm in Grafton (pumpkin seed processing); **2013:** HarvestHand New Media Communities (sales platform)