



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

*Award-winning innovation bridges gap for small-scale machinery to process flax fibre*

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 – and won! – the 2016 Agriculture Innovation Accelerator Award offered by the Annapolis Valley Chamber of Commerce (AVCC). The prize was \$32,200 in cash and in-kind services.

Since creating the award in 2013, the AVCC has awarded more than \$190,000 in cash and in-kind services to help Valley entrepreneurs advance projects to the next phase development. The prize package comes from local enterprises that are committed to sustaining and growing the agriculture sector in the Annapolis Valley.

***Written by Rachel Brighton,  
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# Agriculture Innovation Accelerator Award



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

**RIGHT:** Patricia Bishop, TapRoot Fibre Lab co-owner, with a machine being developed to connect processed strands of long-line flax fibre into a continuous thread.



## Quick facts

### TapRoot Fibre Lab

- 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](#).

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### 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 annual Agriculture Innovation Accelerator Award helps the successful applicant advance their project to the next phase of development.
- To date, more than \$190,000 in cash and in-kind business services has been awarded.
- In 2018, for the first time, the AVCC offered two awards (\$15,000 each), for outstanding innovators in Agri-Tech and Agri-Food.
- The award ceremony is usually held in December.

### Winners

- 2018:** Barrelling Tide Distillery won the \$15,000 prize in the Agri-Tech category, to assist with the purchase of an alcohol analyzing system. Creation Care Farm won the \$15,000 Agri-Food prize to develop a passive-solar aquaponic greenhouse.
- 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)