



WHITHER NORTH AMERICAN WOOLEN MILLS?

BY CHARLES CAPALDI

When the market insists that the commercial value of wool is less than the cost to produce it, small farmers are caught between a rock and a hard place. But there is a point where the interests of small farmers and that of mill owners intersect. I headed to Harrisville, a mill town nestled in the Monadnock Highlands on the southwestern side of New Hampshire, in the hope of finding out exactly where that point was.

Why Harrisville? Because it is the only 19th century textile village that still exists in its original form. While it figures on the Department of the Interior's register of

National Historic Landmarks, it is an operating mill town where wool has been spun since 1794. In every respect, it is a small village that harkens back to a bygone era where draft horses worked the surrounding hill farms, and 12,000 sheep grazed its green pastures. People still greet you in the street, and while the village can boast of little more than a small public library, a general store and a post office, the 213 year old tradition of wool continues unabated.

In 1970, when the fashion world fixated on synthetic double-knit fabrics, the only surviving woolen mill in the village closed its doors. That same year, John Colony III, commonly referred to as “Chick” to distinguish him from his father, returned to his roots and opened Harrisville Designs which spins a full palette of yarn for weavers and knitters, and also builds looms.

“*The idea was to make the cheapest loom possible so that people could weave on a real loom without paying an arm and a leg for it.*” he explained. From a business perspective, it makes perfect sense ... sell the looms and people will buy the fiber. When it comes to consuming large quantities of fiber, few things compare with weaving.

But the face of today’s weaver (or knitter, for that matter) is very different from the face of a weaver/knitter/spinner of 100 years ago.

In the early 1900’s, you were likely to wear a pair of hand knit woolen socks. Given the time it takes to knit a pair, you’d have carefully selected the wool for them. Today, most of us wear manufactured socks that promise the latest advances in thermal pile knitting, highly durable fibers and machine washable ease of care. To the average consumer, these two pairs of socks appear comparable. In reality, they couldn’t be more different.

If the measure of a sock is how comfortable it is, and how warm it keeps my feet, Wal-Mart can keep that pair right on the shelves. Knitted in a factory with robotically-controlled knitting machines funded by the World Bank, chances are they don’t have a single strand of wool in them. The package tries to reassure me that they have been made out of long-lasting, machine washable, *intelligent* polyester fibers, specially knit with

a thermal pile to help keep my feet warm. But in my mind, the only thing they offer is convenience.

I knitted a pair of hunting socks to help pass the time on my recent trip to Prince Edward Island. I made them from a 2-ply yarn that I spun myself from the fleece of a Corriedale-Romney ewe my kids called Miss Sasha. Sasha was a lousy milker, a lousy mother, and would have become Easter dinner long before had it not been for her chocolate brown fleece and a flash-in-the-pan modeling career. At one point in her life, she was the understudy for a commercial. The star of the show, a sheep from a local petting zoo, played the part to a hilt. Miss Sasha never actually made her screen debut. Nevertheless, those five hours waiting in the studio resulted in a paycheck far exceeding her projected lifetime production of lambs, fleece and milk. Thus, Miss Sasha got a free pass and lived out her life on our farm.

More important than Sasha’s rise to stardom, however, is the warmth and softness of her wool. Knitted to fit the dimensions of *my* feet rather than the dimensions of the average size 10 ½ foot - they fit like a glove. They are also much more durable for the third ply of Lincoln yarn I added to reinforce the heel and toe. Unlike the factory socks which get thrown away when worn out, I can simply pick up the stitches and knit a new heel, or a new toe, or both. In much the same way that wood heat warms you three times - I had the simple pleasure of making these socks, the anticipation of wearing them, and the satisfaction of putting them on. Those Wal-Mart socks – they may be convenient, but that’s all I’ll concede.

Harrisville Designs, while not specifically trying to revive the lost textile arts as a way of life, has certainly committed a lot of resources to keeping them alive as art forms. The Weaving Center hosts an impressive array of national and internationally renowned designers and instructors in knitting, weaving, spinning, felting, and sewing clothes from hand woven fabric. Students, who come from all over, have the option of staying in the old mill Boarding house complete with creaky wooden floors and the rumor of a resident ghost.

They also produce the only comprehensive curriculum I found for school children and home schoolers alike, that provides an introduction to fiber arts. It's a program that helps kids make the connection between sheep and the advantages they provided to mankind in the form of a portable food and fiber source. It also puts fiber and tools directly into the hands of children – helping to grow the next generation of fiber folks and teaching busy little hands how to remain occupied and productive.

Chick Colony follows in the footsteps of his forebears who operated these mills, but shoulders a greater responsibility than they ever anticipated. His mill must not only produce high quality knitting and weaving yarns, but also help keep the tradition and culture of textiles alive in the community - no small task. There's a lot at risk, as he is quick to point out, *"It's not just a business that can go away if it doesn't work. If the mill closes, the whole preservation project goes away with it. What's the sense in saving a textile village if there are no textiles being produced in it?"* I like the way he thinks and from the minute I arrived, I expected to find answers here.

The small mills I visited were all family-owned for multiple generations. As I got to know them, one by one, the same issues and obstacles to their survival surfaced again and again:

1. The ability to scour their own wool;
2. The availability of a consistent clip, in steady supply, and at a competitive price;
3. Competition from abroad;

The first question Chick asked me was, *"Did you know that it's illegal to scour wool in New England?"* I did not, but he was anxious to set the record straight. He had originally hoped to be able to pump scouring water into the local sewer main. But the EPA mandated less than 30 ppm of lanolin, suint and plain old dirt at the mill. Since the typical scouring bath has 600 ppm, the sewer main is not an option. Until a solution is found, Harrisville Designs is not allowed to wash its own wool.

Depending on which agency you contact, the environmental concerns are different. Some are concerned with the build up of lanolin in the sewer lines. Others raise the issue of anaerobic bacteria that resides in wool and could inhibit the digestion of other wastes flushed down the toilet and through garbage disposals. But as Chick points out, wool is washed with detergent which dissolves the grease in the fleece, *"And what is everyone else flushing down the drain? Detergent, that's what ... detergent that is going to dilute and digest the effluent anyway. We should be concerned with the environment, very concerned ... but U.S. farmers aren't going to ship their wool to China to be scoured, so how are they supposed to get it clean?"*

Apparently, it isn't illegal to scour wool everywhere in the U.S. In order to save the environment and satisfy the regulatory requirements in New Hampshire, Harrisville's wool must be shipped to Texas to be scoured. Thirty minutes away across the New Hampshire–Vermont border, Green Mountain Spinnery is washing their own wool in 50 pound batches. We can only reasonably scour half that much wool per day on our farm – but then again, we've got a thirsty compost pile and living on the agrarian edge, the EPA isn't exactly looking over our shoulder. They *are* looking over the shoulder of Green Mountain Spinnery though, and requiring them to run their scouring water through a custom-built filter. The 8 gallon pails of sludge-like waste are shipped to New York and incinerated - a viable alternative if only because the volume of wool they process is far less than the 1500 pounds running through Harrisville's spinnery each week.

Up on Canada's Prince Edward Island, MacAusland's Woolen Mills scours thousands of pounds of wool each week. The effluent is pumped through a sand filter. Regular testing by the Canadian government hasn't identified any problems – and this on an island where waste is highly regulated. Everyone from hotel guests, to fast-food restaurants, to the average Joe on the street are required to sort their waste into three separate bins: compost, plastic and glass. Consider the toxic waste produced in the manufacture of most synthetic fibers, and the irony of the situation stateside is that much more poignant. Consider the consumption of fossil fuels necessary to ship the raw wool and the filtered effluent hither and yon, and it is little more than a comedy of errors.

Of course, in order to scour wool, you have to find a steady supply. I talked to six mills, and every one of them said the same thing – the quality and consistency of the domestic clip is much lower than it should be because the farmer has no economic incentive to take any pains with his wool. At Harrisville, buying domestic wool in small lots poses serious risks to the operation of the mill. The manager of the Harrisville Spinning Mill said, "*We've found sections of barbed wire fence ... and even a brick in a load of wool before.*" A piece of barbed wire in a 300 pound batch of wool can do \$25,000 worth of damage to a carder in less than 5 minutes. Changing the carding cloth is a month-long operation during which time the mill isn't producing any yarn. That assumes that new carding cloth is readily available for a 75 year old machine.

A recent industry report states, "*there has been some improvement in the polypropylene and black fiber contamination on larger U.S. farms, **but less so on smaller farms***" (Paullier, D., Chargeurs Wool USA, 1/3/07). Polypropylene contamination comes from using plastic feed sacks to store wool. Black fiber comes from, well, black sheep – an issue shepherds have been struggling with since the days of Laban's flock in the Old Testament. Unfortunately, this kind of contamination cannot be detected until the dying process when the color contrast renders the contaminants highly visible. At that point, the wool has already been scoured, picked and carded prior to being dyed– so the economic cost is far greater than the cost of the wool alone. And as we've already seen, wool is cheap – at least when you buy it off the farm.

Chick Colony understands this only too well. He found a book in the 1870 mill records that shows “*they were paying \$1 per pound for greased wool. In today’s dollars, that is equivalent to [\$14.29/pound¹ in 2005 dollars]. If we could pay you for your wool at that price, you’d have a lot more than a dozen sheep. In fact, there’d probably still be 12,000 sheep in Harrisville.*” The reality is that there are no longer that many sheep in Harrisville and the wool comes from much further away –countries like Australia and New Zealand who have tailored their flock management and breeding programs to better meet the demands of a global marketplace.

That same global marketplace is a double-edge sword. China is the world’s second largest wool producing nation (sandwiched neatly between number 1 – Australia, and number 3 – New Zealand) – providing 18% of the world’s annual wool clip and the resort destination of the majority of large woolen mills that have left Britain and the U.S. in the last twenty years. At every family owned mill I visited, I asked whether another generation of the family would manage the mill in the future. China appeared in the answer of every one of them, bar none.

Dale MacAusland, whose daughter works at MacAusland’s Woolen Mill during the summer told me, “*I wake up each day and look east to see what’s coming. I haven’t heard of any new mills opening up recently. In fact, I’ve only heard of closings.*” The larger woolen mills have continued to close their doors and move their operations to China, Korea, and Vietnam –countries with a labor force that

will work for much less money. Most of the smaller mills have simply folded. Thirty years ago, there were 900 mills between southern New England and northern Canada, most of them originally water-powered. Today, only a handful remain and most of them operate with refurbished machinery, some of which dates back to the 1930’s and 1940’s.

The subsidized Asian mills use modern machinery that would require a greater capital investment than any small mill on this continent could reasonably consider. The pattern isn’t unique to North America. British mills have moved to China. Italian mills have shifted operations to Turkey. All that yarn in my knitting stash that says “Made in Italy” may merely have passed through the Italian peninsula rather than actually having been spun there.

John Little’s 36 year old son has worked at Briggs & Little for a number of years but, as John said, “*We are wondering if there is a future in this for him. Can he work here for another 25 years?*” Both he and his partner have grave concerns about the infrastructure necessary to run a mill. “*Dye companies are getting to be a problem.*” he pointed out, “*There aren’t enough mills and dye houses left in North America to warrant having distributors for them over here.*” But he hopes that there will always be a niche in the market place for the smaller volume, quick turnaround, mom and pop mills.

Chick Colony’s 27 year old son also works at Harrisville Designs, but he is quick to clarify, “*All three of my boys see a lot of work and no money in the business.*” He said. “*They see other people working hard and making a lot of money and they are at an age where they don’t quite understand the difference.*”

¹ CPI Conversion factors from 1800 to estimated 2016, expressed in 2005 dollars – courtesy of the Oregon State Department of Political Science.

So, we've got to find a way to make the business a little more sustainable and a little more attractive." Much like Dale MacAusland, Chick is also looking east and what he sees worries him. *"What is Harrisville Designs going to do when the Chinese decide to start fooling around in our market?"* He asked. *"They buy the same wool we buy. They are running it on better machinery. What we need is a domestic product that they can't duplicate very easily."* He makes a good point. If China can produce the same quality yarn at 50% of the cost, how can any of these mills hope to compete?

Common in Britain, Australia and New Zealand, he contends that "green" insulation would be a great product for American wool. It's a product that would use a lot of wool, and perhaps more importantly, it is less sensitive to quality issues. Almost everything could go into it. Of course, the reality is that as a farmer, I probably won't be able to afford it, if and when it ever hits the shelves of my local hardware store. Once you get that "green" designation, you pay for the pleasure. If I can sell my wool to the manufacturer, maybe that's just as good. In order to have a wide market appeal in the U.S., woolen insulation would have to be clean and likely treated to make it inhospitable to insects.

Briggs & Little produces yarn that is made almost exclusively from wool shorn in Canada's Atlantic Maritime Provinces. Green Mountain Spinnery is doing the same with their "Wonderfully Woolly! New England yarn". Chick Colony thinks a generic New England yarn would be a great product that could be sold wherever tourists visit New England, and he says, *"I think there is a plentiful supply of good wool out there – not just crummy wool, but good wool. The question is whether somebody, the*

farmers, the mills, whomever, can get smart enough to do something with it."

Chick Colony takes the exercise one step further and considers farmers who raise sheep, *"I think people will always have the animals, I'd like to have a small flock of my own, but it's important for them to have something to do with their wool."* He was the only person in my travels who raised this issue – but it is an important one. THIS is the point where the interests of small farmers and mill owners intersect. If some of us already have to travel 600 miles to get our wool scoured, what happens when there is no longer a scouring facility within 3,000 miles?

Across the continent, we are in the process of quietly losing the capability of having our wool scoured, carded, spun, and woven on a large scale. In other words – we are losing the ability to turn our raw wool into a usable product. It's something that Chick Colony has seen more than once in his career.

"There was a period of time, must have been 7 or 8 years ago, when Pendleton Woolen mills in NH stopped buying wool altogether." Chick explained. *"And for about a year I'd get a call about once a week that would go just like this:*

Hi - I'm a sheep rancher; I want to know if you want to buy some wool.

Chick: *What kind do you have?*

Columbia

Chick: *Is it fine?*

Yeah, it's gorgeous.

Chick: *How much do you have?*

100,000 pounds

Chick: *Where is it?*

In my barn and my sheep are growing more wool and I'm going to have another 100,000 pounds in a couple of months.

Chick: *Well, I really can't use 100,000 pounds, but what have you been doing with it in the past?*

Well, Pendleton Woolen Mills always bought it. This year they said "no" - they don't want it.

The volume was amazing and it was really unsettling to understand the scale of what was happening there.

There wasn't much I could do for them. But the reality is that we need to build the infrastructure back so stuff can stay local."

How do we rebuild that infrastructure in order to keep our wool local? And how do we accomplish that before it's too late? In another 20 years, how many mills will be left, and how many fewer options will be available to us, the folks who grow the wool on the back of our flocks?

Perhaps if we stopped looking at mills solely as prospective customers for our wool, and instead focused our collective energies and efforts on working together with them, we might be able to turn the tide. Alternatives exist, but we'll have to dig deep to find solutions because one thing seems clear – the only way for wool to help pay the way for our flock is to be able to process it locally. If we lose the capabilities of the woolen mills that remain, we'll be forced to do that processing ourselves.

I spoke to several micro woolen mills (mills that are even smaller than the ones interviewed for this article) that will custom wash, card and spin. I sent 75 pounds of fleece to Fingerlakes Woolen Mill in upstate New York and paid \$15.75 per pound to have it made into two ply yarn. At \$3.93 per skein, they did a good job of making my fleeces immediately usable. But that's much more expensive than sending your wool to Briggs & Little and buying yarn from them at reduced prices – and theirs is available in 50 colors. Most small mills require from 200-300 pounds per color to accomplish the same thing. From my standpoint as a producer, it's hardly a long-term solution, unless you want to own a yarn shop.

For \$150,000, you *could* purchase a Belfast mini-mill that would allow you to wash, card and spin wool in small batches of 40 pounds (about 7 fleeces) each. – but how many batches of wool would it take before you got a reasonable return on your investment and how many of us want to relinquish our farming pursuits in order to spin yarn all day? While this might not be a solution for an individual farm, it could work well as a cooperative venture in much the same way that a group of chicken producers will cooperatively purchase and share the slaughter equipment necessary to butcher their own birds.

You *could* send 12 pounds of unwashed, well-skirted wool to MacAusland's, along with a check for 66\$CAN + shipping both ways and get a queen size blanket in return.

Or, you can do what small farmers have been doing since the fall of Rome. Maintain a flock that is sized for your farm. Let your sheep convert grass into meat, wool and if you are so inclined, milk. Then it is a matter of

keeping the lost arts alive. Learn to spin, weave, or knit, so that you can transform their fleece into the clothes on your back. Personally, I think the Chilean poet, Pablo Neruda, hit the nail on the head when he wrote:

*Beauty is twice beauty,
and what is good is doubly good
when it is a matter of two socks
made of wool in winter*

