

# Small Tools Bring Big Rewards On “Micro-Farm”

Jean-Martin Fortier makes a good living on a tiny farm using only hand tools and a walk-behind tractor. He and his wife Maude-Hélène Desroches farm only 1 1/2 acres of their 10-acre property. However, they harvest \$140,000 in vegetables with operating margins of about 60 percent. Their choice of tools keeps expenses to a minimum while maximizing production on their rural Quebec farm.

“We feed about 250 people on less than 2 acres and employ 4 people,” says Fortier. “We use no pesticides or herbicides because for me they make no sense.”

Fortier has recorded much of what he has learned in his book “The Market Gardener”. It’s full of detailed, hands-on information covering every aspect of running a small operation like this. He even includes his plan for what crops are produced for each week’s CSA share and their assigned value. The appendices alone are worth the price of the book.

Part of the management expertise Fortier and his wife have gained includes learning what tools make sense and investing accordingly. While he has a multitude of simple small tools he uses, he has identified half a dozen as his favorites.

A BCS walk-behind is his main tractor. While he started with all hand tools, he values his labor-saving, rotary-powered harrow. He likes the way it stirs the soil, not mixing layers like a tiller does. The steel mesh roller in the rear levels and pre-tamps the soil for seed-to-soil contact.

Fortier grows his crops on 180, 100-ft. long, 30-in. wide beds that he initially built by hand with a spade. Today that job is done by a Berta Plow, which he says is ideal for restoring old beds or building new ones. Unlike a tiller, it doesn’t pulverize the soil.

“Market gardeners starting out should consider investing in a walking tractor and especially a Berta Plow,” says Fortier.

To control weeds, he uses alternatives to pre-emergence herbicides. He spreads UV-treated, opaque polyethylene tarps on beds prior to planting. The 6 mm black silage tarps provide warm, moist conditions ideal for germination of weed seeds in the soil, which quickly die from lack of light. Once the weeds are dead, he can seed the beds or transplant seedlings into them. In the case of rows of transplants, he may use biodegradable plastic mulch to hold down weeds.

After seeding slow germinating, slow to emerge crops like carrots, beets and parsnips, he will use flaming to control weeds just before the crop is ready to emerge.

“We haven’t hand weeded a carrot bed in years,” he says.

His flamer has 5 torches and is 30 in. wide. The torches are shielded from the wind. To get the timing right, he tosses a handful of seeds on the surface of the bed after planting the bed. When they germinate, he knows the seeds in the bed will soon emerge, and it’s time to flame.

Fortier counts his calendar as another extremely valuable tool. Once his planning process down to each plot and bed is finished, the information is transferred to a paper calendar instead of a spread chart or computer software.

“We prefer the visual clarity of an at-a-glance paper calendar,” says Fortier.

Producing thousands of pounds of salad greens each season, it’s no surprise that the Quick Cut Harvester (Vol. 37, No. 3) is a favorite tool. He cites it as the biggest advance in tools in his more than 10 years of farming. He credits it for saving hundreds of hours harvesting each year.

While these tools are important to him, Fortier stresses that hand tools like the broadfork, hoes and precision seeding tools are equally important. He is also working with the Paper Chain Pot Transplant System (Vol. 35, No. 6). He sees it as having great



Jean-Martin Fortier makes a good living on a tiny farm using only hand tools and this BCS walk-behind tractor, shown here pulling a rotary-powered harrow.



Fortier uses a 30-in. wide flamer to control weeds just before the crop is ready to emerge. He says precision seeding tools are as important as the tillage equipment he uses.



potential for market gardeners like himself. The paper seedling cells come in a roll that can be unwound for transplant.

“It’s not certified for organic so I’m trying to get it made from 100 percent biodegradable paper,” says Fortier.

Fortier is quick to add that neither these tools, nor his intensive farming operation, are for everyone. However, he sees his system as a good starting point.

“For a beginning farmer, smaller scale

and less expense makes so much sense,” he says. “As bright people get into small scale farming, they will develop new ideas and ways to do things, and some may grow small farms into much bigger farms.”

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## Bale Turner Simplifies Handling

When big square balers discharge bales they lie flat on the ground, with the twine on the bottom. Some farmers who use mechanical equipment to pick up bales want them standing on edge for easier lifting and loading.

Suffolk, England farmer and custom baler Derek Keeble created a simple solution. He built an 8-ft. long bale tray that extends behind a large square baler, supported by a heavy-duty log chain on one side. One side of the grate folds down so a bale is automatically set on edge in the field. The grate gate operates with a hydraulic cylinder that the baler operator controls from the tractor. A 4-in. spring-loaded deflector bar mounted to the side of the bale tray restricts the bale movement to 90 degrees and prevents it from flipping completely over.

Keeble’s simple invention is designed for 3 by 4-ft. straw bales that he makes with his Massey Ferguson MF2170 baler. He says turning bales allows him to pick them up mechanically with a standard Heath bale chaser. Having them laying on their side increases the chaser’s capacity from 10 to 14 bales. Another benefit, Keeble says, is that bales laying on their side dry faster if exposed to rain in the field or in a completed stack. If he wants to use a loader rather than the chaser to pick up bales he can lock the folding gate in place so bales land flat the ground.

Keeble’s invention was honored with the top award at the Inventive Farmer



Big square baler-mounted tray automatically sets bale on edge in the field for easier lifting and loading.

Competition at the 2014 Suffolk, England farm show. That competition attracts farm-built machinery and equipment from eastern Suffolk counties. Keeble and his family along with a handful of employees operate a contract baling, hedge cutting, vegetable covering and manure spreading business. They bale large, medium and small size squares and offer hauling and stacking services to several farm customers.

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William Garrett built this 3-pt. mounted rake to clean up brush and tree limbs, but says it also comes in handy for a variety of other jobs.

## Another 3-Pt. Yard Rake

“When I got my most recent FARM SHOW a few weeks ago I was really surprised to see the story about a 3-pt. yard rake built by David Owings. It’s almost identical to one that I built,” says William Garrett, Muncie, Ind.

“We had a bad ice storm during the winter of 2005 and almost every tree in our yard had damage. The following spring we had so much brush, tree limbs and twigs on the ground that it would have taken a month to pick it all up.

“My wife said we needed a giant rake to clean the mess up, so I built one using rubber-mounted teeth just like David Owings. I use it for lawn raking, dethatching, light landscape work, seedbed preparation, and incorporating lawn seed. However, most of the time I use it to maintain our gravel driveway. It rips the grass right out of the middle of the driveway.



Rake is equipped with a series of rubber-mounted teeth.

Of course, gravel is rough on the tips so they’ve worn down a bit.”

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