



**TURNER HILL  
MALTING COMPANY**  
South Egremont, MA  
Darrell Turner  
Microloan Recipient, 2016

## Loan History

Darrell Turner grew up on one of the last remaining mid-sized operating dairy farms in Massachusetts. The farm was started by Darrell's great-grandfather and has been in business "in one form or fashion" for around 100 years, and incorporated in the 1970s. Turner Farms' acreage is perched atop Baldwin Hill, a location known to Berkshire regulars for its stunning views, affectionately known as Turner Hill.

Darrell spent about a decade off the farm in pursuit of his degree in mechanical engineering and then gaining work experience in his field. He returned to the area in 2012, and began working alongside his father and uncle, managing their herd of 130 milk cows and 600 acres producing hay, silage and grains for feeding the herd. Darrell says the Turner family "loves their machines," and in recent years has found a niche in renting out their equipment and experts to till and plant the fields of five other dairy farms in the area.

One evening while having a beer and chatting with the owner of a local brewery, he came up with a brainstorm for his own enterprise, separate from the family business: to build a local malt house. The bar owner was passionate about locally-sourced ingredients but couldn't find a source for the principle ingredient in beer, malted barley.

Darrell did some research, visiting several local brew masters who cited the same issue: most of the malted barley was coming from huge malt houses in the Midwest or Canada. The brewers confirmed Darrell's impression: they would love to buy their materials locally, if someone were able to produce them. Darrell recognized Berkshire County's movement toward farm-to-table food and beverages, and concluded that developing a small malt house at Turner Farm could be a viable long-term business, benefiting the many local breweries and distilleries clamoring for a truly local beverage product.

He would need a modest amount of capital to design and build a 15' x 15' small-capacity malt house capable of producing test batches of malted barley, ramping up to four small batches a month. He didn't think a bank would go for his proposal when he had no track record or hard data to offer, but The Carrot Project was very interested to hear out his idea. In early 2016,

## Farm Snapshot

Turner Hill Malting Company will be one of only two malting houses in New England supplying local brew houses with the primary raw material for their recipes. Farmer/Engineer Darrell Turner contracts directly with local breweries and distilleries who have long sought a local source of malted barley, now produced in small batches in Darrell's new facility in South Egremont, MA.

## Entrepreneur's Philosophy

"Can't isn't a word in my dictionary. If I come up with an idea, there isn't any way it 'can't' be done—there is always a solution to every problem." Darrell says this is a carryover from his days in mechanical engineering.

## Innovation

Darrell Turner has created another income stream for his family farm by capitalizing on local demand for farm-to-mug beverages, adapting the assets and talents of a mid-size family dairy farm in business for 100 years, to ensure its future.

Darrell prepared and submitted a business plan and application for a microloan to The Carrot Project.

### **Overview of Outcomes**

As of March 2017, The Turner Hill Malting Company is closely on track with Darrell's first three years' objectives. With The Carrot Project loan, Darrell designed and built his prototype malt house, a two-vessel system that first soaks the raw briefly until it sprouts, then dries the grain. Darrell then cleans the malted barley with an 1890s seed cleaner he modified for his purposes. Cleaning yields a small quantity of a salable byproduct, barley rootlets with a very high protein content, salable as chicken feed and mulch. The malt house is mostly automated, and Darrell is continuing to modify and tweak the systems for maximum efficiency.

Darrell has completed first trial batches, and is working with the Center for Craft Food and Beverage at Hartwick College in Oneonta, New York, to measure the enzyme content in his malted barley. The most important thing to a beer brewer/purchaser of Darrell's malted barley will be enzyme content, as enzymes are what the yeast feeds on in the brewing process.

Meanwhile, Darrell has established sales relationships with two local breweries, pending success of test batches. He has several other brewers interested in trying his product, once he steps up production enough to take on more customers.

### **Refining the Business**

Darrell notes that while there is a lot to read about malting barley on a large, industrial scale, there hasn't been much written to guide a small-scale operation, so he has been learning somewhat by trial and error. He has been documenting his process so that going forward, there will be a blueprint for small-batch barley brewing. Darrell sees no major obstacles to his next goals of producing three batches per month, then upping production to four monthly batches and increasing his sales base accordingly.

Another mid-term goal is to attempt raw barley production on his family's land. Currently, he is sourcing his raw barley from a farm in Maine, which has a drier climate more conducive to growing the grain than the Berkshire's wetter weather, which can promote the spread of a fungus deadly to the plants. He also has a potential additional source lined up in New York State.

Darrell plans to begin his attempt to grow barley in 2018, on an experimental basis. He emphasizes that this will be a challenge: besides the wet conditions, the soil on Baldwin Hill is mostly clay, while better-drained soil is preferable for barley production. But he says he may be able to find a few acres among his family's 600 that fit the bill: sandier, gravelly soil in a full sun, open location with lots of air circulation. And barley would fit right into Turner Farms' current crop rotation plan, as it likes to follow soybeans, just like corn.

Darrell is by no means confident he'll have a favorable, consistent outcome growing barley, but the micro-size of his enterprise *may* mean it is possible for him to succeed. An average yield for barley is one ton per acre; for one batch of malted barley, Darrell needs just over 500 pounds, so would only need to have a few acres in barley production to self-supply his malting operation. If he could achieve this goal, he would realize substantial savings over the current practice of buying the grain, and the related trucking expenses. So, by all measures, the experiment is well worth a try.

**On the Horizon**

If Darrell continues to realize success both on the production and sales ends of his malted barley operation, he will eventually need more robust infrastructure. Currently his small malt house, storage space and office space are in his garage.

If Darrell increases production beyond four batches a month, he will need a larger malting facility; if he has success growing his own raw barley, he'll need more storage-- likely a used grain silo.

Darrell believes that because of the decline of the dairy industry in general, the key to sustaining this family business into the next 100 years will be to continue to diversify and find niche opportunities outside of dairying. Keeping an eye on trends in the local and regional market, and capitalizing creatively on the farm's assets —the land, the machinery, and Darrell's engineering degree and ingenuity, to name a few — will ensure ongoing success.