



Premium Grain Value Chain Development in Maine

A REPORT FROM THE
Maine Food and Beverage Market Access Association

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Executive Summary

Overview

Maine grain companies are expanding to meet growing demand from artisanal bakeries, the exploding craft beer industry, and consumers who increasingly crave products that are imbued with a compelling place-based story. Maine grain infrastructure businesses can achieve appropriate scale and deliver profitability and regional economic impact by capturing only a tiny percentage of the expansive Northeast market.

To capture market share among values-forward customers throughout the Northeast, Maine's malting and milling entrepreneurs will leverage investment in grain infrastructure with well-resourced marketing and sales efforts.

Maine is home to two craft flour mills and two craft malthouses that are well positioned for continued growth. Aurora Mills and Farm in Linneus, Maine Grains in Skowhegan, Blue Ox Malthouse in Lisbon, and Maine Malt House in Appleton serve as anchor businesses in a broader regional economic development strategy. These value-added processing enterprises are capital intensive and require continued capital investment as they grow into their desired scale and achieve sufficient cash flow from operations. There are many additional opportunities for craft-level enterprises to emerge in this space provided ample access to capital.

This *Premium Grain Value Chain Development in Maine* report from the Maine Food and Beverage Market Access Collaboration supposes a significantly higher scaled value chain for premium grain products grown, processed, branded in Maine and distributed throughout the Northeast. This exploratory value chain model is anchored by an appropriately scaled malt house and flour mill that produces diversified flour products. Trade associations,

institutions, and non-governmental economic development organizations from Maine and the region are committed to supporting businesses in the grain value chain and development of the state's premium grain industry.

To capture market share among values-forward customers throughout the Northeast, Maine's malting and milling entrepreneurs can leverage investment in grain infrastructure with well-resourced marketing and sales efforts. Infrastructure and on-farm investment could deliver efficiency and bring down prices for customers, while sales efforts focus on capturing market share among the Northeast's nearly 60 million consumers who support local economies and prioritize quality, sustainability, and traceability.

Value-add Processing Infrastructure with Value Chain Impact

This report explores the potential regional economic impact of a Maine-based malthouse with capacity to produce 8,000 tons annually of quality barley malt and a mill with the capacity to produce 7,000 tons of premium quality flour annually. These two appropriately scaled Maine grain processing businesses will boost rural communities by creating jobs for Maine people, increasing revenues and diversifying market opportunities for farmers, incentivizing sustainable soil management and generating returns to investor by supplying craft brewers and artisan bakers with quality ingredients that carry a story.

SCALED MALTHOUSE

The proposed Maine malting operation at full capacity will sell an estimated 8,900 tons of malt per year for \$.45 per pound, generating over \$8 million in revenue annually and a 39 percent gross profit margin.

SCALED MILL

The proposed Maine flour mill at full capacity will sell an estimated 6,800 tons of flour per year for \$.60 per pound, generating over \$8 million in revenue annually and a 39 percent gross profit margin.

REGIONAL GRAIN AGGREGATORS

Three on-farm grain aggregators can be strategically sited throughout Aroostook County to offer to farmers convenient handling and transportation of raw grain, and to manage quality and risk via post-harvest conditioning, cleaning, and storage.

CENTRAL AROOSTOOK GRAIN ELEVATOR

Central Aroostook has a high density of qualified growers that also need post-harvest processing, and where a grain elevator and feed mill facility could be supported.

ON-FARM BENEFIT

31 farms will gain an estimated \$2.5 million over current practices annually.

ENHANCED SOIL MANAGEMENT FOR LONG TERM RESILIENCY

Over 15,000 acres will be managed in economically viable multi-year crop rotations for long term soil health and productivity.

BREWERS & BAKERS

80 consumer-facing craft businesses will gain access to premium quality ingredients and a point of marketing differentiation around local sourcing.





Market Opportunity

The Northeast market is large. An established segment of customers will pay extra for top quality craft beer brewed with malt that can be traced from field to glass and for premium baked goods made with flour that can be source-identified from farm to table. Including New England states, New York and Pennsylvania, the appropriately scaled Maine mills and malthouses will achieve profitability by capturing only a small percentage of the total Northeast market.

MALT BARLEY

The Northeast's rising craft brewery tide will raise all boats for Maine malthouses and barley growers. Craft brewers in the Northeast use an estimated 225,000 tons of grain annually. Maine craft brewers alone use 11,000 tons of malted grain annually.

WHEAT FLOURS

The Northeast regional market uses 293,000 tons white wheat flour and 46,000 tons of whole wheat flour annually. The proposed 7,000 ton per year flour mill will achieve 40 percent gross margins by capturing 2 percent of the total Northeast market.

Products

Malt and flour are ubiquitous in daily life. Flour is the primary ingredient in baked good and malt is the primary ingredient in craft beer. Maine entrepreneurs are creating business niches for high-quality, source-identified grain products for highly targeted market segments willing to pay premium prices. The milling and malting value-add infrastructure businesses will contract with farmers and pay farmers a premium over commodity markets for grain produced with sustainable practices and marketed with a clear story of land stewardship, family farming, skilled knowledge and craft, and commitment to quality.

MALTHOUSE

The appropriately-sized Maine malt house of regional impact will fill a niche between high-cost floor malting techniques with constrained capacity and large commodity malthouses that process 100,000s of tons annually. The Maine malt model will retain and elevate story, craft, and traceability but gain the efficiency and expanded throughput of mechanized systems. The malthouse's customers will range from regional craft breweries in addition to hyper-local micro-breweries from Maine to Pennsylvania.

Sales Strategy A growing number of craft brewers seek to differentiate their products within an increasingly crowded craft beer market by branding their brews with traceable ingredient sourcing practices. Research conducted for this report suggests that the 8,000 ton per year malt house can achieve 40 percent gross margins by selling 2,000 tons of malt barley

to Maine craft brewers (18 percent of Maine craft industry demand) and the remaining 6,000 tons annually to out-of-state regional markets, representing just 2 percent of the Northeast craft brewing market share.

FLOUR MILL

The market opportunity exists for a regionally scaled mill specializing in traceable wheat flours sourced from Maine and neighboring northern New England communities. The mill's customers will be medium-sized artisanal bakers along the densely populated I-95 corridor from Fort Kent to Philadelphia.

Sales Strategy This report assumes the mill will net 10 percent of sales in Maine and 90 percent of sales throughout the densely populated Northeast. Eighty percent of flour product (5,600 tons) will be sold to regional bakeries. These 5,600 tons are equivalent to one truck load per week (15 tons) delivered to eight large-scale bakeries. The balance of flour will provide three 2,500-pound pallets per month to 32 smaller bakeries.

Competitive Advantages


Maine entrepreneurs are succeeding with traceability, quality, and product development highly targeted for premium customers. While Maine is at a disadvantage in competing for commodity malt and flour markets, the state's geographic proximity of productive rural lands to the densely-populated Northeast urban centers offers compelling opportunities. Maine has abundant water and relatively affordable land. Entrepreneurs have an opportunity to leverage an emerging state and regional food brand rooted in a growing reputation for quality craftsmanship, colorful communities, and pristine landscapes and waterways. These natural and cultural brand assets offer Maine's premium grain businesses a relative competitive advantage to capture market share adequate to achieve target return on investment for appropriately sized infrastructure businesses. premium grain businesses a relative competitive advantage to capture market share adequate to achieve target return on investment for appropriately sized infrastructure businesses.

Financing

An estimated \$33.5 million in financing is required to develop infrastructure along the entire Maine grain value chain at total build out to support both the proposed mill and malthouse, including one mill, one malthouse, 31 farms, 3 grain aggregators, and one scaled elevator/feed mill.

RETURN ON INVESTMENT

Many factors and decisions during business development execution will drive ROI, including site selection and available existing infrastructure relative to needed improvements, types of capital and the respective costs of capital, among many others. The following financial models generate an estimated gross margin of approximately 40 percent.



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At a Glance

Maine Grain Production Supply

	 31 FARMS	 3 AGGREGATORS	 1 ELEVATOR
 Wheat Acreage	350	1,467	6,600
 Barley Acreage	400	1,200	5,400
 Total Acreage (per)	750	2,667	12,000
 CAPITAL NEEDED	\$3,771,429	\$1,708,500	\$5,000,000
 TOTAL MAINE JOBS	126	6	4

Value-Added Processors




1 FLOUR MILL

6,806 flour tons

\$3M capital needed

7 Maine jobs



1 MALTHOUSE

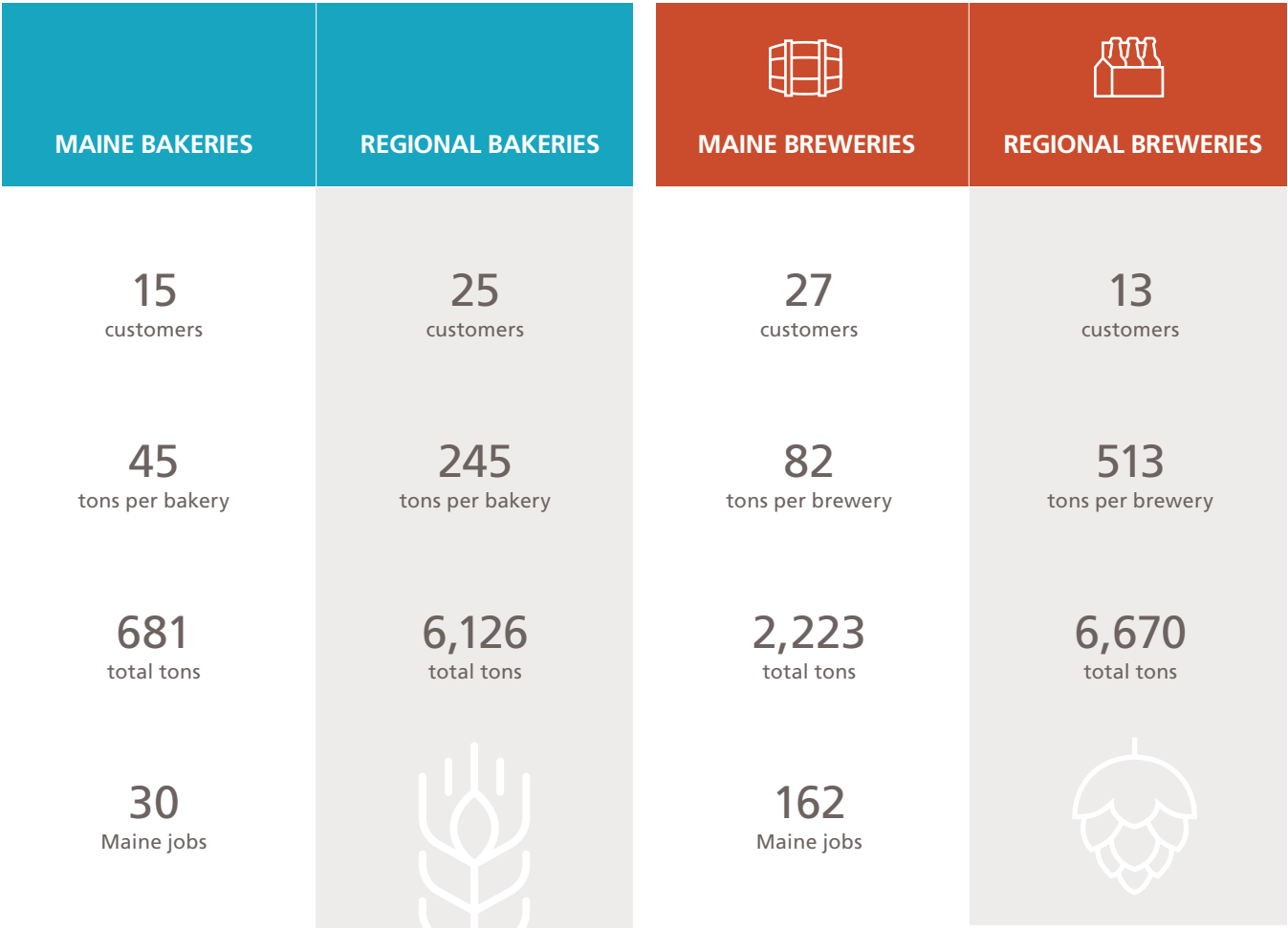
8,893 malt tons

\$20M capital needed

9 Maine jobs

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Customers and Sales Channels





Consumers increasingly crave products imbued with a compelling place-based story. Maine entrepreneurs have an opportunity to leverage an emerging state and regional food brand rooted in a growing reputation for quality craftsmanship, colorful communities, and pristine landscapes and waterways.





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