

FARM TO Pizza

LINKING STUDENT'S FAVORITE FOOD TO THE GROWING GRAIN ECONOMY IN MAINE

A SLICE OF LIFE

What is your farm like?

I farm in the highlands of Maine with my wife and five kids. We farm around 550 acres of mixed hay and pasture, with about 200 acres of that in crops. In 2025, I'll have about 120 acres in small grains*, close to 50 acres in corn, and the remaining 30 acres in sunflowers, buckwheat, peas, and other odd crops. (*Small grains are cereal crops categorized by their relatively small kernels, like wheat, oats, barley, and rye.)

Where does your wheat go after harvest? How is it used?

Most of my corn goes to processors for tortillas and similar products, and we also sell to bakeries, flour customers, and wholesalers. Having a processor like Maine Grains nearby makes it viable to grow food-grade grains in Maine and reach those markets.

What do you hope kids understand about where their food comes from?

That it matters. When kids understand that their lunch might include grain grown just down the road, it makes them think differently about food. Local food supports the local economy. It doesn't have to come from across the country. And when food is raised well, it nourishes the body differently.



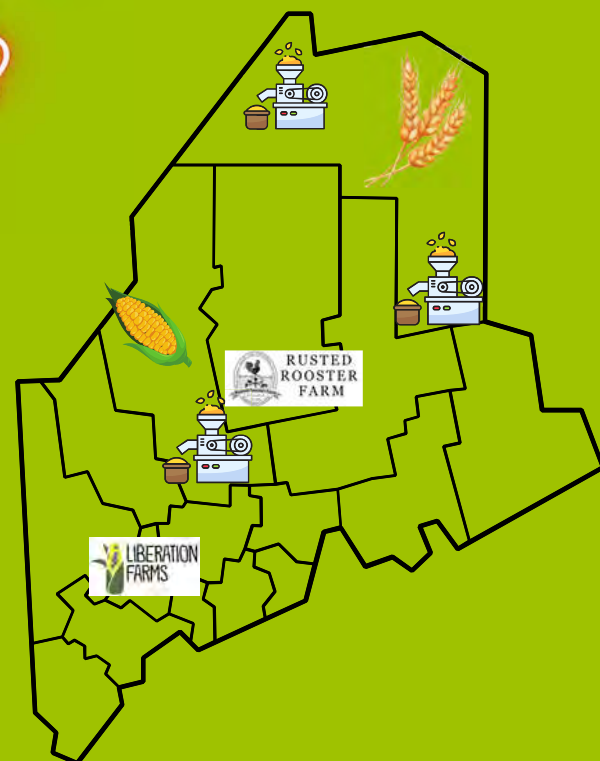
Sean O'Donnell
Rusted Rooster Farm
Parkman, Maine

WHERE'S THE GRAIN?

Access to grains has been crucial throughout history, playing a vital role in the development of agriculture, civilization, and human societies. Specifically, wheat is such an important food source for our country that it is grown in 42 out of the 50 states! The top five grains grown in Maine are Oats, Barley, Rye, Wheat, and Corn! Aside from growing for humans, Maine farmers also grow grains for animal feed.

Most of all Maine grains are grown in Aroostook County, though corn is primarily grown in Somerset county for both humans and animals. Liberation Farm in Androscoggin County is also known for growing corn for milling.

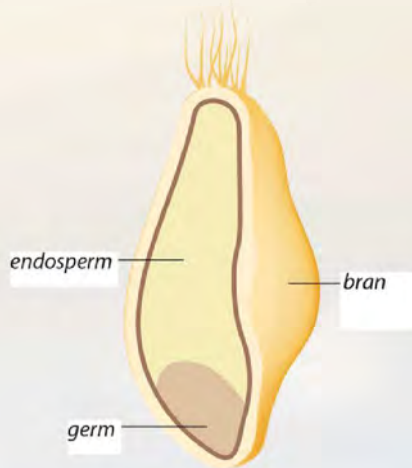
Maine wheat is milled at Maine Grains in Skowhegan, and Aurora Mills and Farm in Linneus. Bouchard Farms in Fort Kent, Maine mills buckwheat.



The Anatomy of A GRAIN KERNEL

Endosperm: Starchy middle layer with carbohydrates and protein. The endosperm comprises about 83% of the kernel weight and is the source of white flour.

Germ: Nutrient-packed core with vitamins B & E, phytochemicals and healthy fats. Germ is about 2.5% of the kernel weight. The germ is the embryo - or sprouting section - of the seed, often separated from flour in milling because the fat content (10%) limits flours shelf life.



Bran: Fiber-filled outer layer with vitamin B and minerals. Bran makes up about 14.5% of the kernel's weight. It is used in whole wheat flour, or can be purchased separately.

Whole Wheat Flour vs Highly Processed Flour

The term '**whole grain**' means that the product contains all three edible parts (the endosperm, bran, and germ) in the same proportions as the harvested grain seed before it is processed. Aside from offering more fiber and nutrients, whole wheat flour can often make more of a product than highly processed flour. For example, one **bushel** of wheat can make 60 (24oz) loaves of whole wheat bread, but only 42 (24oz) loaves of white bread!



It starts with A SEED



Pizza crust, and lots of other tasty treats, are made from a grain called wheat. Sometimes called the '**wheat berry**,' the kernel is the seed from which the wheat plant grows.

Wheat is planted with a drill that digs tiny furrows just deep enough to drop the seed and cover it with a little soil. In the Spring, the plant stems will elongate and heads will appear. When the wheat flower is pollinated, it will develop into wheat kernels. About 30-60 days after flowering, the wheat kernel becomes ripe. The kernels will increase in size and gradually harden - the entire plant becomes dry and turns golden brown! Depending on the variety of wheat, ripe kernels can be white, yellow, red, or purple.

Farmers will harvest the wheat after it ripens, when the moisture level makes up no more than 14% of the kernel's weight. This is because the wheat has to be dry enough to be stored without spoiling. The farmers can take samples of their crop to a laboratory to test them for moisture. Some rub the wheat head in their hands, blow away the chaff (straw-like outer covering of the kernel), and chew some of the grain. If the wheat is hard and makes a gummy substance when chewed, it is ready to harvest.



After harvesting, farmers send their wheat to be **milled**. Millers grind the kernels into fine powder to make flour. There are two stone ground mills in Maine: Aurora Mills in Linneus and Maine Grains in Skowhegan. Grain drops into the middle of two stones, and one of the stones grinds it into flour. This flows out of the side of the stone and is captured, stored, and then bagged for market. These mills produce a variety of items such as cornmeal, corn flour, and polenta from corn; oat groats, cracked oats, and rolled oats from oats; and various products from wheat, rye, and barley. Stone milling allows for all of the important parts of grains to be captured for nutrition.

Wheat flour contains a protein substance called **gluten**, and is great for baking because the gluten makes the dough elastic. Wheat flour is used to make many foods such as bread, cakes, cookies, and pizza dough! Wheat germ and wheat germ oil, that are both derived from the wheat kernel, are used to improve the flavor and nutritional value of foods. Once the flour is ready, it is purchased and sent to value-added producers.

Value-added producers are businesses who take raw agricultural products and turn them into new, exciting products for consumers to enjoy. This may look like a dough manufacturer who makes high volume pizza crust like The Good Crust, or an entity like The Maine Meal that uses local grains to make fresh pasta for your macaroni and cheese! But grains aren't only used for savory meals - other Maine high-value producers are making sweet treats like ice cream sandwiches and sandwich cookies!



We most often think of oats as a breakfast food. But oat **groats** can be used in place of rice and there are lots of creative ways to include it in your meals, in breads, and cookies. Flint corn makes delicious cornbread, johnny cakes and polenta. It can also be added to all sorts of items that are typically wheat based like bread, cookies and pie crusts. You only need to use your imagination! Wheat and Rye are often used for baking bread, but they can be used for pastries, and the berries themselves can be used in place of rice and pasta. All of these grains can take the place of the white flour that so many of us imagine when we think of baked goods. It's fun to try different Maine grown grains!



Did you know that pizza was historically made with grains of the local region?! Pizza made with Maine sourced grains offers a delicious and **sustainable** option, highlighting the unique flavors of our region. Using local grains in your pizza dough can create a richer, nuttier flavor with a more nutritious crust compared to traditional white flour.

A SLICE OF HISTORY



The first signs of pizza were in A.D. 79



In the 19th century, Italian immigrants brought pizza to America.



In 1905, Gennaro Lombardi opened the first pizzeria in the USA in Manhattan, NY.



In 2023, The Good Crust purchased 85,000 lbs. of Maine-grown grains for making pizza!



What is your favorite grain food? Can you think of a creative way to use local grains in other foods you enjoy?

How are whole wheat flour and highly processed flour the same? How are they different?

HUNGRY FOR MORE?

Find the Vocabulary Words!

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Vocabulary

Acre: A unit of land equal to 4,840 square yards (about the size of a football field).

Gluten: Gluten is a protein found in grain products. It helps bread rise and expand while baking. Gluten acts as a “glue” to hold food together.

Whole Grain: Whole grain foods are made with the entire grain kernel. The bran, germ, and endosperm are all included!

Wheat Berry: The seed kernel from which wheat grows.

Groats: A groat is another name for a grain kernel. Whole oat groats are the result of simply harvesting oats, cleaning them, and removing the inedible hulls.

Mill: In grain production, a mill is a machine used for crushing grain into flour.

Bushel: A unit of measurement equal to eight gallons; Wheat is harvested and sold using bushel/acre measurements.

Value-Added Producer: Businesses who take raw agricultural products, like flour, and turn them into other products like pizza or hand pies.

Sustainable: Able to be maintained at a certain rate or level.

To view references and standards used in this ag mag visit: <https://www.thegoodcrust.com/good-grains-on-the-go>

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