



The California Grain Campaign & Whole Grains at Farmers' Markets

A BAKER'S GUIDE

What is the CA Grain Campaign?

The California Grain Campaign is a group of farmers, millers, bakers, and farmers market organizations working together to increase the visibility, knowledge, and consumption of California-grown whole grains.

The California Grain Campaign's mission to prioritize regionally-produced whole grains and to support small-scale California farmers by encouraging farmers' market bakers to use 20% locally-grown, whole grain in their products by 2020. In the process, our goal is to:

- Increase demand for regionally-grown grains
- Make possible the necessary investments in infrastructure needed for a successful local grain economy
- Educate bakers and customers about the advantages of eating whole grain products grown and processed locally
- Connect farmers with millers, grain food vendors, and ultimately, farmers market customer

Whole Grains & Farmers' Markets

Californians visit farmers markets to support local growers, but make one major exception when it comes to grains. The majority of grain foods at farmers markets are prepared locally, but often contain refined white flour from unknown origins. We aim to change that.

The value that grain food vendors provide the state's farms and farmers markets is greatly enhanced when they source at least a portion of their grains or flours from California growers.

We're asking for a commitment to incorporate just 20% locally grown whole grain flour by 2020! We're here to help you do it.

WWW.CALIFORNIAGRAINS.COM

THE INDUSTRIAL MILLING PROCESS



Wheat from vast farmland is harvested and shipped to centralized storage facilities throughout the country.



Wheat of unknown origins is then sorted by protein, or gluten, qualities.



The wheat berry is milled so that component parts are separated: endosperm (mostly starch & gluten), germ, and bran.



The germ and bran (containing the majority of nutrients and flavor) are sold primarily as livestock feed. Milled endosperm progresses through the system to be sold as food for human consumption.



Flours are blended to achieve a standardized benchmark for large-scale baking. Any will have the same baking qualities as the next.

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New Possibilities for Bakers

The result of our current commodity grain and milling industry is centralization and standardization – but we can change that.

With this system, bakers and their customers miss out on flavor, nutrition, and a deeper connection to where and how their wheat is grown, and the farmers who grow it. The whole system lacks transparency, and **transparency** is at the center of the farmers' market ethic.

In order to appreciate the unique characteristics of the grains that small-scale farmers are growing throughout the state, it's necessary to **keep them whole**. The majority of flavor and nutrition in grain is found in the bran layer and germ, both of which are routinely removed in order to produce white flour. The whole grain flours provide endless options for bread, pasta, pizza, cakes, pies, muffins, laminated pastries, and more.

A strong **local grain economy** ushers in a new way of doing things. A direct feedback loop between bakers and farmers develops. More diverse grain crops are planted. Whole grain flours are milled locally, preserving the attributes of each crop. And we all benefit from access to better quality food.

The California Grain Catalog

The California Grain Campaign helps farmers market bakers connect directly with California grain farmers, bolstering a burgeoning local grain economy. Bakers and their customers will enjoy more nutritious and flavorful baked goods and breads along the way.

To do that, we've created a beautiful and informative Grain Catalog that bakers can use to connect with and purchase from local farmers. **As bakers learn more about the varieties they offer, they can approach each year's crop with a sense of play!**

Please visit www.CaliforniaGrains.com to view the catalogue, which you may also purchase the catalogue to display with your goods!

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The Baker's Craft

Wheat is very complex, with over 200,000 varieties grown world-wide. For any one variety there can be a range of flavor and baking qualities, dependent on a number of factors including farming conditions and milling processes.

Protein quality, absorption, gluten strength, falling number, etc. are inherently more variable in locally grown, single-variety flour than those of mass-produced flour.

Bakers must use all of their senses and experiences to test and adapt formulas that take advantage of California-grown and milled wheat!

BAKING WITH WHOLE GRAINS Techniques for 100% whole grain flour

TYPE OF FLOUR

- Start with 10% or 20% of total flour and adjust accordingly
- Expect more flavor, aroma, and nutrition from fresh whole grain flour
- Coarse whole grain flour will have lower absorption and less gluten development than finely ground whole grain flour
- Use a finer flour for laminated doughs

HYDRATION

- Increase water .5%-2% for every 10% whole wheat flour added
- Let ingredients sit for 5-20 minutes after incorporating for full absorption
- Low speed mixing assists hydration

MIXING & FERMENTATION

- Slow fermentation improves dough texture, flavor, availability of nutrients
- Decrease fermentation times when using whole grain flours, as they bring more enzymes, bacteria, and yeast to breads
- Use slightly higher oven heat for whole wheat breads with more moisture



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Wheat Varieties Grown by Local Farmers

Wheat Classification	Baking & Flavor Properties	Grown in CA
Hard Red Wheat	These wheats generally have stronger gluten properties making them ideal for bread, pizza dough, bagels, and laminated doughs. They have a reddish-brown bran coloring with strongly-flavored phenolic compounds that give whole wheat flour its rich, 'wheat-like' flavor.	Summit Joaquin Yecora Rojo Cal Rojo
Hard White Wheat	Like hard red, hard white wheats generally have stronger gluten properties making them ideal for bread, pizza dough, bagels, and laminated doughs. The bran, however, is lighter in color with a mild flavor.	Patwin Blanca Grande
Soft White Wheat	Typically lower in gluten protein, but not in all cases, these varieties of wheat are wonderful for more delicate baking applications, such as cakes, muffins, and cookies. Lightly hued, mild flavor, with a soft crumb.	Yamhill Twin Alpowa
Durum Wheat	Normally amber colored grain, with less color distinction between endosperm and bran. This wheat is traditionally used to make semolina (refined flour) for pasta, but makes a wonderful amber-hued addition to cakes and breads.	Desert King Orita Fortissimo
Heritage Wheat	This distinction includes Old World landrace varieties in existence before 1900, and also the crosses between landrace varieties made after 1900. Tailored to specific microclimates.	Sonora (Soft White) Chiddam Blanc de Mars (Soft White) Red Fife (Hard Red) Durum Iraq (Durum) Blue Beard (Durum)
Ancient Wheat	Wheat varieties that were domesticated at the dawn of agriculture, approximately 8,000 to 10,000 years ago. Ancient wheats have many nutritional benefits, versatility, and great flavor.	Einkorn Emmer Khorosan Some Spelt