



## Cozy up with Ancient Grains this Winter

On a cold and frosty winter morning, what better way to start the day than with a steaming bowl of creamy hot cereal? Topped with nuts, dried fruit, milk, and perhaps a cup of coffee on the side, this is a simple pleasure that is also great for our health.

This winter, branch out from the classic oatmeal and try some wonderful new grains. Many are grown right here in Colorado, such as millet and quinoa. There is a growing interest in ancient grains such as quinoa, millet, teff, buckwheat, amaranth, and sorghum. And for good reason: they offer us great taste, nutrition, sustainability, and even a link to the past.

What is an ancient grain? An ancient (or heirloom) grain is one that has not changed for hundreds, or even thousands, of years. Farming began about 12,000 years ago, but some early humans may have been eating wild grains as far back as 100,000 years ago! In Mozambique, Africa scientists found 100,000-year-old seed residue on stone tools. Amazingly, the residue was a type of sorghum, a grain that is still a staple of the diet in that region today.

Whole ancient grains, like all whole grains, are a good source of many nutrients. Protein, fiber, B vitamins, and some minerals are in most whole grains. However, grains vary when it comes to some nutrients, so it is best to eat a variety of different ones. For example, teff is an excellent source of manganese, quinoa is an excellent source of folic acid, and buckwheat is an excellent source of magnesium. Additionally, many ancient grains are gluten-free and are good options for those who cannot eat gluten.

What else makes ancient grains special? Ancient grains can play a starring role in a more sustainable food system. Currently, 60% of the world's calories come from only five cereal grains: rice, bread wheat, maize, millet, and sorghum. Social, technological, and economic factors have led to a global diet that has much less variety than in the past. For example, only a single variety of wheat is now widely grown, even though there are hundreds of different varieties. Growing only a small number of varieties means that our food supply is at greater risk from pests, disease, and extreme weather. Ancient grains evolved before modern agricultural practices, and in a wide variety of climates. Thus, they often require less pesticide, fertilizer, and water than modern varieties, and can often grow well in extreme weather conditions. Choosing a variety of grains can be a great choice for food security, the environment, and our health. Not to mention, they are a great choice for our taste buds!

#### Ideas for cooking with ancient grains:

- For a quick breakfast, soak your grains overnight in the refrigerator before you go to bed, and they will cook more quickly in the morning. Try buckwheat, barley, millet, or a multi-grain mixture as fresh alternatives to oatmeal.
- Serve whole grains with roasted winter root vegetables such as carrots, beets, parsnips, and turnips.
- Use ancient grain flours when baking. For example, try buckwheat in pancakes or spelt in muffins.
- Try heirloom varieties of old favorites, such as tri-color popcorn for a nutritious snack or red rice to add flare to your dinner.

Stay warm this winter by enjoying more whole ancient grains and reap the benefits they have to offer! To learn more about whole grains, visit the [Eat Live Play Colorado website](#).

#### Sources

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## Soaking and Sprouting Ancient Grains

Most of the whole grains that we eat, are the seeds to grow that plant. Much like when planting seeds for a flower or vegetable garden, each seed contains the blueprints to produce the next generation of that plant. These blueprints, including the nutrients and other nourishing components for plant growth, are packed into the tiny grains we enjoy consuming each day. To protect the ability for the plant to thrive, these nourishing components are often locked by what are referred to as anti-nutrients, because

they restrict access to the nutrients. These anti-nutrients, while protecting the nutrients for the developing plant inside the seed, reduce accessibility to the nutrients rich within the ancient grain. Degradation of the anti-nutrients, such as phytic acid, improves the bioavailability of the nutrients, meaning that the consumer has greater access to the nutrients that are rich in the grain, improving digestibility. Cooking whole grains is one effective method to release anti-nutrients, yet the most effective way is through germinating, or sprouting, the seed. Sprouting a seed sparks the internal reactions for a new plant to start growing, releasing the enzymes that improve the digestibility of available nutrients, carbohydrates, proteins, and fats.

Soaking, the first step in sprouting, initiates the reaction to lessen the effect of anti-nutrients. The whole grain lies dormant, until in a suitable environment to initiate the growth of the plant. Hydrating the whole grain, at an appropriate temperature, starts to unlock the enzymes, or proteins that facilitate biological reactions, in the inactive seed to spark the plant growth. Overnight soaking is useful for grains, such as oats, for a quick breakfast preparation. After soaking a whole grain in fresh warm water, the next step is sprouting. The process of sprouting grains at home or commercially takes time, but can be achieved with pre-planning. Sprouted grains are literally growing commercially! Some companies, such as Colorado-based Ardent Mills, mills sprouted whole wheat to a flour for use in baked goods including breads, tortillas, and buns. Other commercially available products include shelf-stable sprouted grains, such as quinoa, or baked goods made with the unmilled grains. Taste and texture characteristics of sprouted whole grains are often well-received, and limited recent research on health attributes reports reduced chronic disease risk.

There is currently not a regulated standard definition for sprouting, and consumers should be aware of safety concerns when making at home or purchasing commercially.

Microorganisms present on or in the grain can multiply quickly in the sprouting environment. Consumers are advised to eat only cooked sprouted seeds, which kills the bacteria, and reduces risk from foodborne pathogens. Critical steps to reduce food safety risk include proper hand washing, sanitizing all equipment, rinsing the grains, monitoring moisture and temperature, and reducing exposure to pests and airborne contaminants. Several foodborne illness outbreaks have been linked to the consumption of raw sprouts from seeds such as alfalfa. Raw sprouts increase the risk of harboring harmful bacteria, and consumption is not recommended for people with weakened immune systems. Sprouted whole grains, such as millet, amaranth, brown rice, buckwheat, sorghum or whole wheat should be cooked and can be used in much the same way as the un-sprouted grain. Because of the lack of industrial definition leading to potential for risks, some states do not allow sprouted products under cottage foods laws.

To follow best practices in soaking or sprouting ancient grains, rinse at consistent intervals with fresh clean water, refrigerate sprouted grains until consumption, cook sprouted grains thoroughly, and consume within a few days. Each whole grain, as the unique seeds for the plants, have distinct and unique needs for time, temperature, acidity, and water content in contributing positive outcomes.



Photo: [Sprouted Wheat Berries](#)/Veganbaking.net/Flickr