

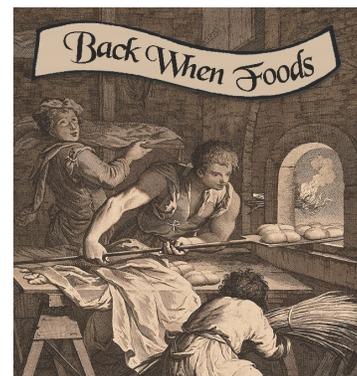
TYPE 1 TRADITIONAL SOURDOUGH FERMENTATION FACTS



Agricultural Utilization Research Institute

Historical Background

- There is evidence of fermented bread being utilized for well over 5,000 years. Researchers in Switzerland found evidence there in an excavation. Documentation of sourdough processes go back in writings as far back as Pliny the Elder (circa AD 70).
- Modern yeast only bread making emerged in the late 1800's and began its dominance throughout the early 1900's.
- By the 1960's processes such as the "Chorleywood bread process" emerged as models for rapid bread production. By the 2000's over 80% of modern bread is made by this process in the U.K.- the origin of Chorleywood.
- The Chorleywood Process greatly speeds up the bread making process. From raw flour stage to a bagged loaf of bread can be achieved in about 3.5 hours. This process is, easily, 2-3 times faster than the traditional sourdough method (per cycle).
- Research has shown that milled flour is an important source of the bacteria and yeast needed to create the sourdough culture.
- Stable and active sourdough cultures exist in bakeries all over the world. Some of these have been in continuous operation for centuries.



What is Traditional Sourdough

- Type 1 Sourdough is a stable culture of bacteria and yeast. A number of species of lactic acid bacteria and yeast strains may be present in a stable culture.
- Flour and water are added to a percentage of the "starter" or culture to form the dough. Bulk fermentation and bread proofing rely solely on this culture--no other form of leavening is used in the Type 1 sourdough process.
- Depending on temperatures, methods, and desired outcomes, the sourdough fermentation process will result in a dough ready to bake in a minimum of 6 hours to days.



What is Traditional Sourdough (continued)

- Commercially, other methods of sourdough, including the addition of more yeast for more rapid processing or creation of lighter crumb. Modern non-sourdough bread processes rely on mechanical whipping and generally one yeast strain to produce bread.
- Maintaining a traditional Type 1 Sourdough Culture can be seen as similar to a dairy operation in that daily feeding and care are required 7 days a week, 365 days a year to keep a stable and highly productive culture.

The Benefits of Traditional Sourdough

- Enhanced nutritional and health outcomes, such as potentially lower glycemic responses, improved mineral bioavailability, reduction of reactive compounds in cereal grains, hydrolysis of proteins, and degradation of gluten aid in protein synthesis in humans. Therefore, consuming Type 1 sourdough products will leave the consumer feeling fuller longer, with increased digestibility and nutrients uptake.
- Altered immunoreactive components for easier digestion. While there is no research proving what has caused the increase in wheat sensitivity by consumers over the decades, research indicates that germination and fermentation technologies can effectively alter certain immunoreactive components (Cornell University, 2015).
- Complex, delicious flavors from very simple ingredients—flour, water, and salt.
- Complex sensory characteristics—crispy crust, tender yet firm crumb.
- Extended shelf life. The low pH of finished goods and bacterial biofilms greatly retard mold growth and staling.