



User application report

Product:

AquaKat

Consultant:

Ralf Stade

Germany

Anwender / User:

Bakery Schwarzmeier

82398 Etting

Germany

Date:

Since 2002

Improved Bread Quality with AquaKat Water



Michael Schwarzmeier

"The fermentation process in the dough plays an important role for us. We have noticed that the Penergetic AquaKat has a positive effect on this.

One could call it an accelerated fermentation process that is achieved by the water influenced by the AquaKat. Since we have been using the AquaKat we are able to produce bakery products, which are suitable for people who suffer from allergies, from 100 % pure varieties of grain (buckwheat, millet, oats, barley etc.).

With the AquaKat we can make predoughs with spontaneous fermentation from non-raising grain without yeast or sourdough.

Saving Time

When making wholegrain sourdough, the first step is sufficient and the sourdough is fully developed with all its aromas and yeasts in 12 hours with 5 % mature sourdough starter.

When working the dough further we do not use additional yeast, only salt, rye wholegrain dust and vitalised water. The doughs are generally smoother and "woollier". We were also able to reduce the use of baking agent from 3 - 4 % to 1,5 - 2 %. The doughs can be processed with a better dough yield (or water content), which in turn has positive effects on taste, freshness, volume and appearance.

We are of the opinion that a good product will keep its taste for a certain time. Bread becomes stale when starch releases water bound in it from the inside to the outside of the breadcrumb during so-called retrogradation. It will then become soft and the result is stale bread.

This process basically starts directly after baking when bakery products have cooled down to 30 degrees. We have noticed now that the AquaKat delays the retrogradation process.

In particular, smaller traditional bakeries like us have to bake our products during the night or early in the morning, but they still need to display their typical freshness when they are sold in the shop later on.

We achieve this by using a special method that among other things involves milling the grain in a particular fashion.





We use so-called zentrofan mills in which the granite millstone stands still and the grain is ground by being blown about in vortexes and crushed against the inside wall.

This is a particularly gentle milling process that is more time consuming, but avoids overheating that occurs with other grinding methods and thereby preserves the valuable components of the grain. Furthermore, we use a special dough making process in which the AquaKat water plays a part.

Because of the distribution structure for bakery products in Germany, it has unfortunately become the norm that consumers demand products that are still warm. We do not support this widespread habit because warm bread is not necessarily healthier.

A number of processes in our bakery are more time-consuming because we combine traditional methods with techniques that we developed ourselves and thereby achieve a product quality that is highly praised by our customers. On the whole, we are very proud that our bakery products are a part of a natural cycle.

We have been buying our grain, for example, for the past 10 years from a producer who is particularly careful and very close to nature in the way he plants and harvests his grains. Harvesting the ripe grain at a particular point in time, for example, is very important. Equally important is milling at a particular point in time; and we follow these rules.

We know that our grain grower enriches his soil, so to say, with certain microorganisms at the beginning of the cycle and keeps the grain mostly free of toxic fertilizers so that, with his grain, we have the best possible basis to work from. Of course, new experiments are also always very interesting for us.

We have, for example developed a new type of gluten-free bread. After some of our customers claimed that they had even developed an intolerance to corn, we stopped using it and now use buckwheat, brownseeded millet and rice.

However, one must not think that these ingredients are enough to bake bread. Instead, they make up a rather slimy soup. Only with special natural additives and fermentation processes that we have found after many tests can we now bake delicious gluten-free bread. This bread is so popular that we ship it from Bavaria all the way up to Berlin!

We see ourselves as craftspeople, who acknowledge the origins of our trade and thereby also make a point of not using industrial production methods. For us food is "vital" in every sense of the word. To do these ideas justice, we naturally try to produce in an environmentally friendly way. We call ourselves, for example, the first carbon neutral bakery in Germany, since we have developed a wood-burning oven that works with very low emissions."

First carbon neutral organic bakery
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