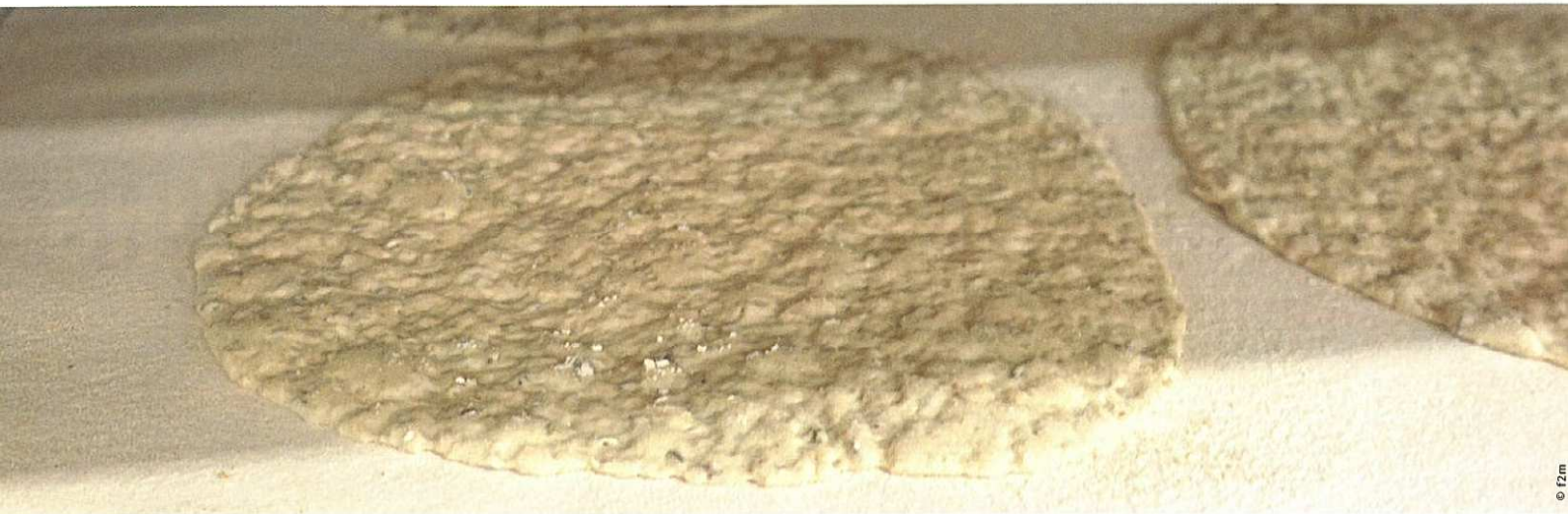


Flexibility and freshness

Pre-baked bread can be stored unwrapped at 3°C for six days or more without losing moisture – that’s how Johann Trenker in Toblach in the Puster Valley ensures maximum flexibility and freshness.



++ One schüttelbrot (South Tyrolean flatbread) is not the same as another schüttelbrot – every baker in South Tyrol has his own recipe, and Johann Trenker has half a dozen. There’s rye-flavored handmade schüttelbrot, spelt schüttelbrot, machine-made wheat schüttelbrot, schüttelbrot with seeds and mini-schüttelbrot as a baked snack. Incidentally, schüttelbrot (English: shaken bread) is called schüttelbrot because the proofed dough is shaken on a wooden board until the large input of energy makes it spread out flat – due to its TA (dough yield) of more than 180

+ Although the Puster Valley is rather sparsely populated, thousands of tourists come to the high Alpine region around the famous “Drei Zinnen” (Three Peaks) mountain range in summer and for the winter skiing season. These extreme demand fluctuations don’t make things easy for a baker like Johann Trenker, and entail recalibrating a complex production and distribution system on a daily basis.

Trenker generates two thirds of his sales through his nine branches in the Italian part of the Puster Valley and two in the Austrian part, together with six locations in Bozen 100 km further away. In addition he supplies local caterers and

private wholesalers, who mainly distribute his rye-flavored South Tyrolean specialties down the Italian peninsula as far as Rome.

The specialty product range comprising various dry products such as schüttelbrot, lye grissini, pretzel sticks, stuzzini, pretzels etc. is an important factor to balance out the fluctuating day-to-day business, and these are offered for sale in all the local distribution channels as well as in the international food retail. Only the total is what makes up a production portfolio which, although very varied, when added together creates a coherent product portfolio that fully occupies



++ Johann Trenker is pleased with the result. Only handmade schüttelbrot has a surface with different degrees of browning



++ In contrast, schüttelbrot made on a sheeting line has an absolutely uniform shape and color



++ Stuzzini (appetizers) are small lye-baked breads popular as snacks to nibble, and are a part of Trenker's range of long-life baked products just as much as pretzel sticks, pretzels and schüttelbrot, which can be used to smooth out demand fluctuations in the fresh goods business

thirteen bakers working two shifts in the production unit. When packing, dispatch, administration and branches are included, Trenker employs a total of more than 70 staff.

His range of fresh products concentrates on bread and rolls, many of them South Tyrolean specialties with a healthy proportion of rye or spelt. Even the bread twists have a dough color distinctly darker than is usual elsewhere. Whereas bread rolls are processed directly or run through a proofing interrupter in a long-time dough method, Trenker has used a new approach since November last year. An approach that takes the breads through a **Hein Flexbaker**, mostly weighing 500 grams and up to 70% part-baked. They are then fully baked-off in the production unit shortly before delivery.

The Flexbaker is a modified cooling cell in which there is a consistent temperature of 3°C and a relative air humidity of 95%. Air in the cell is constantly circulated at a comparatively low velocity and passes over UV light sources in the cover area, which stops the growth of germs and mold spores. Newly-developed control software regulates the temperature, air humidity and air speed. Hygrometers measure the air humidity, and the controller feeds in additional moisture through pressure plates at the sidewall if necessary, regulated via a sliding element depending on the cell's loading. The program has provision for 200 different levels of air speed.



++ Various bread types, sorted and with date labels, are stored in crates in the Flexbaker. Photo top: When the Flexbaker is closed, the UV lamp along which air circulates can be seen

Viktoria Binder's bachelor thesis at the Upper Austria University of Applied Sciences in Wels last summer dealt in detail with the "Physical Characterization of HB (half-baked) baked products during storage in a modified cooling cell" – i.e. in a Flexbaker. The paper was written in collaboration with master bakers from the backaldrin company, Asten. To assess the effect, Mrs. Binder analyzed the water content, weight and texture of half-baked bread rolls, and four different types of bread, both during their respective storage and also after the second baking process. Tests were carried out on half-baked rolls, a country style wheat bread, a wheat mixed bread 70/30, a rye mixed bread 70/30 and a PurPur (purple wheat) wholegrain bread. Whereas clear losses of water

occurred and the crumb firmness increased with other storage methods such as room storage or cold storage under a rack hood, Mrs. Binder discovered that: "With HB (half-baked) baked products, no water loss during storage was determined. On the contrary, a weight increase during storage was observed. Only very slight losses of water were discovered after the second baking process, so only a very small water loss was noticed. Consequently this also resulted in a softer, more moist crumb, which was also reflected in the sensory description." According to her observation, HB baked products can be stored under these conditions for around seven to 14 days without spoilage occurring or any significant weight loss. The crumb remains elastic and soft, and there is even a further improvement in flavor. Test persons even attested to Flexbaker rolls having a better flavor compared to fresh Kaiser rolls. The energy requirement is also said to be reduced by up to 40% compared to a dough storage freezer. According to Binder, dough pieces can also be stored in the Flexbaker for two to three days without any preservation.

However, the extended storage period is less important to Johann Trenker. He achieves flavor through slow dough management, sourdough and hot-soaked grain. He is mainly interested in the great flexibility offered to him by the new system, and the opportunity it allows him to move away from refrigerating the bread. He stores bread in the Flexbaker for an average of four to six days. The yellow baskets used exclusively for internal goods transport have a closed base and open sides. This minimizes the uncontrolled scattering of strewings that have fallen off. Each basket can hold six 500 g breads. The Flexbaker holds 450 baskets. This is enough to enable a very fast response to sales fluctuations and even demand peaks occurring at very short notice.

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