"swirl" pattern in the product. Again, this can indicate the effects of processing or ingredients.

Of course, cell numbers, shape, etc, vary according to the product. For instance in French bread, bubble cells are generally large; in British bread, the smaller the bubbles the better because that makes for a softer loaf.

The C-Cell unit, which was installed at Anchor Yeast in Johannesburg in September, should help to improve the quality of SA bread.

Says Bill Nankervis, Anchor Yeast’s bakery specialties director: "We will be advising our clients on using the machine and the best ingredients to optimise their processes. Clients will be able to measure one slice against another and then able to change the ingredients and measure again. This could be done in our test bakery or in their plants. The technology will also help to ameliorate the depletion of skills in the SA baking industry."

Nankervis says that all major SA bakeries have expressed interest in Anchor Yeast’s C-Cell system.

Already, he says, large plant bakeries are finding that they have recaptured some profitability - following years of downsizing - because they have been able to improve their quality and consistency.

But he says, plant bakers are not the only ones realising the importance of improving bread quality. Enquiries received by Anchor Yeast from small bakers also interested in improving quality improvement indicate this. The much larger number of South Africans attending this year’s Iba baking industry exhibition in Germany - both large and small bakers - also attest to this.

In another development by Anchor Yeast, all regionally-based technical sales managers will hitherto be equipped with "Bread Advisor" software, also developed by CCFRA. This will be available for use by its clients to, for instance, diagnose faults in the baking process, enhance product quality, check out processing steps to achieve quality products, experiment with "what if?" questions and train on the job.

The software, which will be run on the representatives’ laptop computers, will be understandable to both novices and experienced bakers and technologists.

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**CORPORATE FEATURE**

**Filling of bulk bags with powder**

Anchor Products of New Zealand’s automated packing line for filling bulk bags with sodium caseinate (for export and use in the manufacture of coffee creamer) eliminates aeration experienced with a rotary sack filler, and cuts dust and packaging waste by 90%, while achieving bag weight accuracy of 1%.

The powder is automatically transferred and filled by a system comprised of two flexible screw conveyors, a 1,500 litre capacity surge hopper, and a bulk bag filler. The bags are automatically conveyed from the filler to a heat sealer, then to bulk storage. The PLC-controlled system ties to the plant PLC.

The line was designed, built and commissioned by Flexicon Corp’s licensee, Fresco Systems Ltd, Auckland, New Zealand, in a two-month timeframe.

Flexible screw conveyors provided the means to overcome the semi-free flowing powder’s tendency to aerate. The flexible screw conveyors lie at a 20° angle, which combats aeration by imparting less energy into the powder than would occur at a higher angle. The screw is a wide, flat spiral, which presents a wider carrying surface than the typical round-wire screw. The flat screw applies a positive forward force while reducing the radial force against the outer tube’s walls.

Anchor rejected pneumatic conveying, which needs a de-aeration station. "A separator would reduce packing time and increase fines losses," says Keith Mason, former site services manager, who oversaw the installation.

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