



Breaking News on Food & Beverage Development - Europe

Mühlenchemie pilot plant to aid pasta makers using non-durum wheat

By Caroline Scott-Thomas+, 22-Jan-2014

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Mühlenchemie has developed a pilot plant to help pasta makers optimise the use of hard and soft wheat flours when durum wheat flour is in short supply.

Global pasta production is on the rise, from 9.3m tonnes in 2001 to 12.7m tonnes in 2012, according to UNAFPA (Union of Associations of Pasta Manufacturers of the EU) figures. But durum wheat flour – the preferred choice for pasta manufacturing – may be unavailable or prohibitively expensive in some parts of the world.

The new pasta laboratory in Ahrensburg, Germany allows pasta makers to trial different enzymes and emulsifiers with their own flour on a small scale under commercial production conditions, to optimise flour performance.

"If you look at the production of pasta, a large amount of flour will pass through the equipment in a very short time," product manager Martina Mollenhauer told FoodNavigator. "If they want to do a trial, they will have the risk of having to waste one or two tonnes of pasta."

The plant has an output of 70 kg an hour, with a minimum quantity of 10 to 15 kg of the end product in each test, thereby closing the gap between laboratory-scale testing and commercial production, the company says.

Hard and soft wheat pasta – with bite

Durum wheat is the gold standard flour for use in pasta in Europe, which accounts for nearly half (49%) of global pasta production, but its availability and cost varies elsewhere.

"Our work starts with companies and areas of the world where they want to use hard wheat or soft wheat instead of durum, so we then try to copy durum and get the bite of durum wheat," said Mollenhauer.

Using different additives and enzymes can improve texture and colour, and reduce stickiness, breakage or loss of starch in the water.

"Sometimes colour can be an issue because durum gives this nice yellow colour and with hard or soft wheat it can be a bit more grey, so we work with natural colours or vitamins to get the same colour impression as durum," she said.

Tailored conditions

The new pilot plant allows pasta makers to work alongside application experts to test their products under realistic conditions with different mixes of flours and enzyme systems.

"You can work in the lab with really small equipment like we did in the past – more like restaurant quantities – but if you want to check what's going on in your production line with the vacuum and the drying chambers and so on, then you can't do that with this smaller equipment.... We can adapt our equipment to customer conditions," said Mollenhauer.

Mühlenchemie's managing director Lennart Kutschinski added: *"We shall be able to simulate practically any process anywhere in the world and use the results to make individual recommendations for each application."*

The equipment allows computer-controlled mixing and extrusion under vacuum, temperature adjustment and pressure measurement, and can be tailored to mimic customers' processing conditions.

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