

Press Release

Barry Callebaut, VIB and KU Leuven optimize cocoa fermentation process

Inspired by Belgian beer brewers: Newly developed yeast helps make chocolate more delicious

- **Optimization of cocoa fermentation process through development of new yeast**
- **Natural fermentation process inspired by Belgian brewers**
- **Result: Improved, superior tasting chocolate**

Wieze/Belgium, Zurich/Switzerland – March 12, 2015 – The Barry Callebaut Group, VIB (Flanders Institute for Biotechnology) and KU Leuven (University of Leuven), with the support of IWT (Agency for Innovation by Science and Technology-Flanders), managed to improve the process of cocoa fermentation. Building on techniques inspired by Belgian brewers, the researchers developed a special yeast that unlocks the flavor and aroma precursors in cocoa beans and enriches the chocolate's full flavor development. With the new yeast Barry Callebaut will now be able to customize the flavor development of cocoa to the specific needs and wants of its customers more than ever.

Improved, superior tasting chocolate

For the past three years, Professor Kevin Verstrepen and his team at VIB and KU Leuven isolated hundreds of different yeasts from cocoa fermentation processes on various pilot sites of the Barry Callebaut Group in Africa and Asia Pacific. These yeasts were then examined in labs to determine which characteristics yielded superior chocolate. Based on the results, the research team developed a new yeast strain combining all the desirable traits. “When this ‘new yeast’ is added while the cocoa is fermented in the bush, the process becomes faster and more consistent. Moreover, the new yeast strain produces more desirable aroma compounds and hampers the growth of unwanted yeast. The result is even tastier chocolate”, elaborated Professor Verstrepen.

From beer to cocoa

The whole process of cocoa fermentation is based on *Saccharomyces cerevisiae* or the yeast used to brew beer. “A completely natural process – refined during a hundred years of winemaking and beer brewing – now makes it possible to unlock the flavor and aroma precursors in the cocoa beans. A Belgian artisan product will now contribute to a new national pride. We could not make this story any more Belgian”, said Gino Vrancken, Global R&D Program Manager at the Cocoa Science Team at the Barry Callebaut Group.

10 years of research on fermentation

The Barry Callebaut Group has two fermentation research facilities dedicated to finding ways to optimize the natural fermentation processes and to develop insights in creating exciting new flavors. For nearly ten years, the Barry Callebaut Group has been a pioneer in the field of controlled cocoa fermentation, a 100% percent natural process. Experiments were conducted with several microorganisms in a microbial starter process. Today, Barry Callebaut is the first, in collaboration with the Verstrepen Lab (VIB / KU Leuven), to craft

yeast starter cultures that enrich the full flavor development of the end product, chocolate with a more intense flavor.

About Barry Callebaut Group (www.barry-callebaut.com):

With annual sales of about CHF 5.9 billion (EUR 4.8 billion / USD 6.5 billion) in fiscal year 2013/14, the Zurich-based Barry Callebaut Group is the world's leading manufacturer of high-quality chocolate and cocoa products—from sourcing and processing cocoa beans to producing the finest chocolates, including chocolate fillings, decorations and compounds. The Group runs more than 50 production facilities worldwide and employs a diverse and dedicated global workforce of over 9,300 people.

The Barry Callebaut Group serves the entire food industry, from industrial food manufacturers to artisanal and professional users of chocolate, such as chocolatiers, pastry chefs, bakers, hotels, restaurants or caterers. The two global brands catering to the specific needs of these Gourmet customers are Callebaut® and Cacao Barry®.

The Barry Callebaut Group is committed to sustainable cocoa production through its “Cocoa Horizons” initiative to help ensure future supplies of cocoa as well as improve farmer livelihoods.

About Kevin Verstrepen Lab (VIB/KU Leuven)

Professor Kevin Verstrepen examines with his team why particular characteristics of yeast cells evolve more quickly than others. With that knowledge he develops new yeast strains for a whole range of applications: from beer and wine to bread and industrial ethanol.

More info on the Kevin Verstrepen Lab: www.vib.be/en/research/scientists/Pages/Kevin-Verstrepen-Lab.aspx.

About VIB

VIB is a non-profit research institute in life sciences. About 1,400 scientists conduct strategic basic research on the molecular mechanisms that are responsible for the functioning of the human body, plants, and microorganisms. Through a close partnership with four Flemish universities—UGent, KU Leuven, University of Antwerp, and Vrije Universiteit Brussel—and a solid funding program, VIB unites the forces of 74 research groups into a single institute. The goal of the research is to extend the boundaries of our knowledge of life. Through its technology transfer activities, VIB translates research results into products for the benefit of consumers and patients and contributes to new economic activity. VIB develops and disseminates a wide range of scientifically substantiated information about all aspects of biotechnology. More information: www.vib.be.

About KU Leuven

KU Leuven (University of Leuven) is a leading European research university dedicated to excellent research, education and service to society. It is a founding member of the League of European Research Universities and has a strong European and international orientation. Its sizeable academic staff conducts basic and applied research in a comprehensive range of disciplines. University Hospitals Leuven, its network of research hospitals, provides high-quality healthcare and develops new therapeutic and diagnostic insights with an emphasis on translational research. The university welcomes more than 40,000 students, of which 15.5% are international from more than 140 countries. Its doctoral schools organise internationally-oriented PhD programmes for over 4,000 doctoral students.

More information: www.kuleuven.be/english/.

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