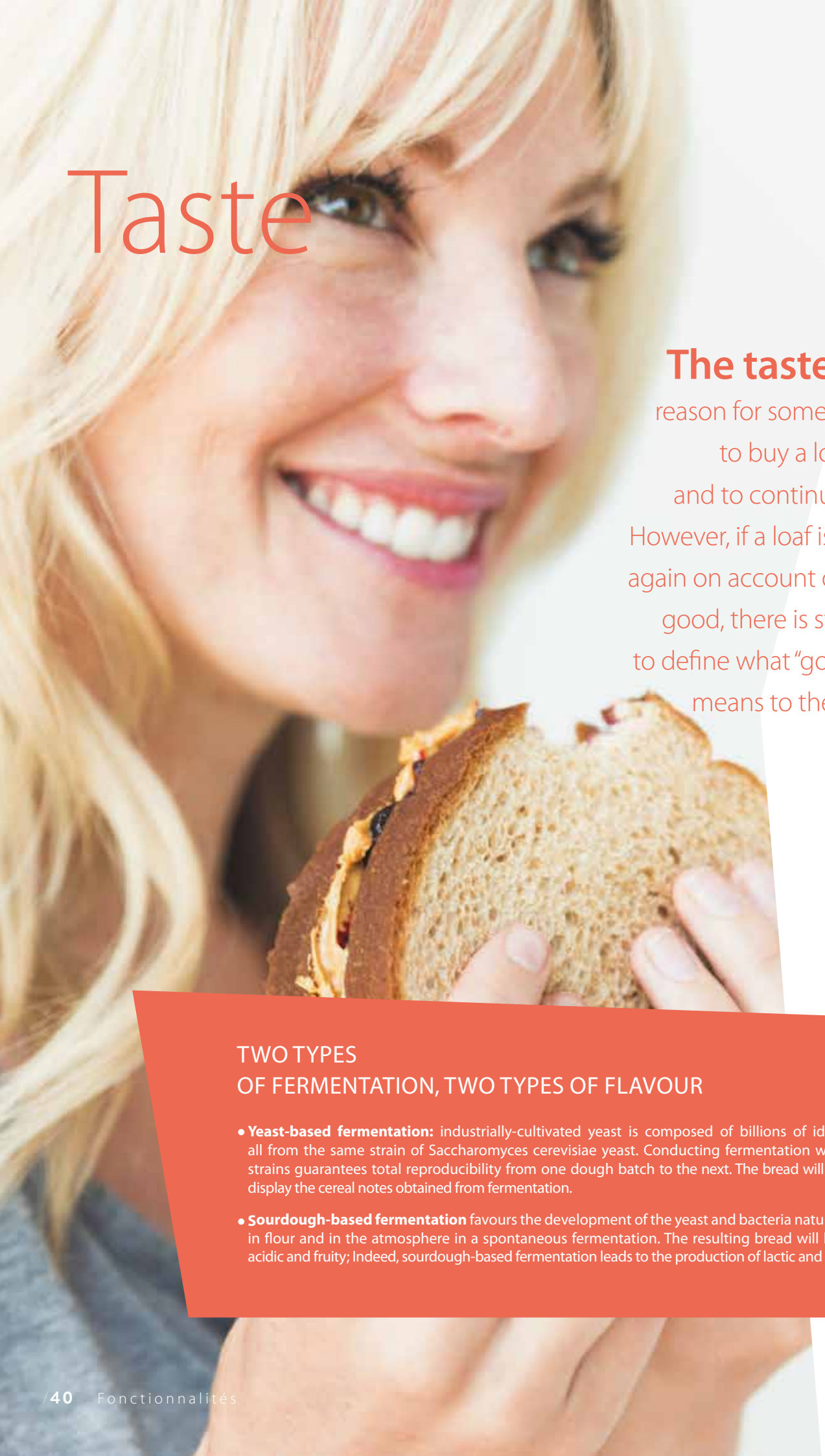
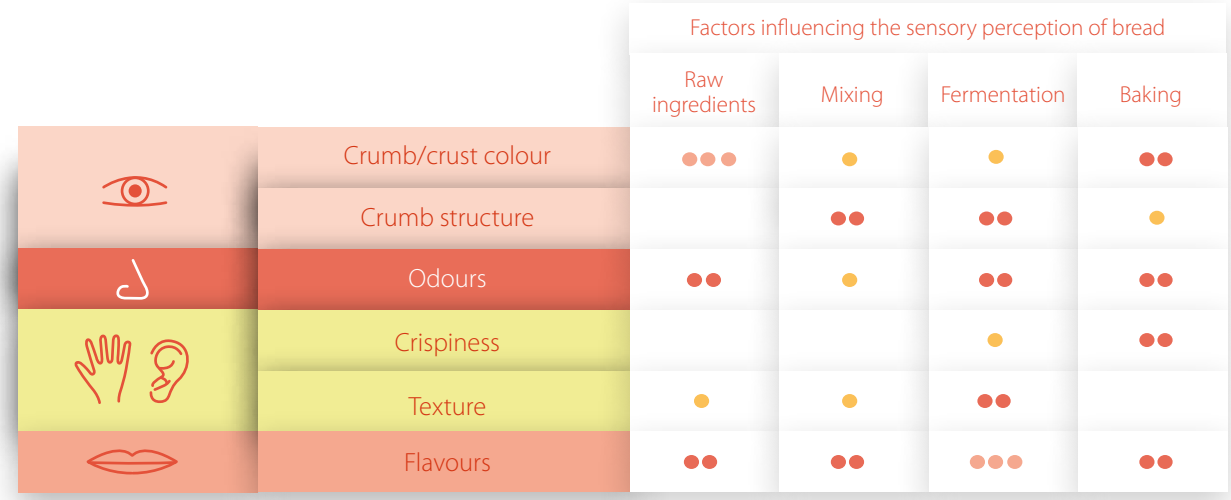
Taste



The taste is a major reason for some consumers to buy a loaf of bread, and to continue buying it. However, if a loaf is purchased again on account of its tasting good, there is still the need to define what "good" actually means to the consumer.

TWO TYPES OF FERMENTATION, TWO TYPES OF FLAVOUR

- **Yeast-based fermentation:** industrially-cultivated yeast is composed of billions of identical cells all from the same strain of Saccharomyces cerevisiae yeast. Conducting fermentation with selected strains guarantees total reproducibility from one dough batch to the next. The bread will then mostly display the cereal notes obtained from fermentation.
- **Sourdough-based fermentation** favours the development of the yeast and bacteria naturally present in flour and in the atmosphere in a spontaneous fermentation. The resulting bread will be relatively acidic and fruity; Indeed, sourdough-based fermentation leads to the production of lactic and acetic acids.



"Bread flavour is composed of more than 200 molecules"

IMPACT OF RAW INGREDIENTS

The nature of the raw ingredients used and their respective doses is enough to generate an infinite number of recipe variations:

- **Flour characteristics,**
- **Type of yeast,**
- **Addition of other ingredients:** sourdough, sugar, fat, malt, etc.

Nevertheless, not everything is possible. Indeed, not all combinations are realistic while some combinations are necessary or, at the very least, strongly recommended (e.g. increasing salt in a well-hydrated dough to avoid "blandness, etc.).

IMPACT OF THE PROCESS

The process greatly impacts on the taste of the finished product, particularly due to the following:

- **The order in which ingredients are added:** mixing salt into the process water guarantees an even distribution and an inhibiting effect on oxidisation phenomena ;
- **Mixing,** due to the oxidative stress it has on dough: intense mixing helps to produce a white loaf high in volume but low in flavour, whereas slow mixing results in a creamy coloured bread with flavour, but of smaller volume;
- **Fermentation:** fermentation agents (yeast and bacteria) not only produce CO_2 and ethanol, which result in increased volume, but also a large amount of aromatic molecules, which develop during baking. Depending on the fermentation factors (type of ferment, time, temperature), the aromatic profile may vary enormously…;
- **Baking:** the final step in the manufacturing process, will complete the loaf's aromatic cocktail: the Maillard reactions taking place during crust formation will enhance the "baked/warm" aromas, at the expense of more volatile aromas, such as buttery or acetic notes…

LESAFFRE SOLUTIONS

The Lesaffre group offers various fermenting solutions to cater to bakers' needs all over the world from its starters designed to increase fermentation activity of sourdoughs in a controlled manner, to its live or devitalised sourdoughs with a range of different microorganism cocktails and substrates.

The group also supplies its customers with a sensory analysis panels (see page 8), to help them define and provide a framework for the desired aromatic profiles. Lesaffre group also provides the technical support required to help them conduct their fermentation if they are working with starters or live sourdoughs.