

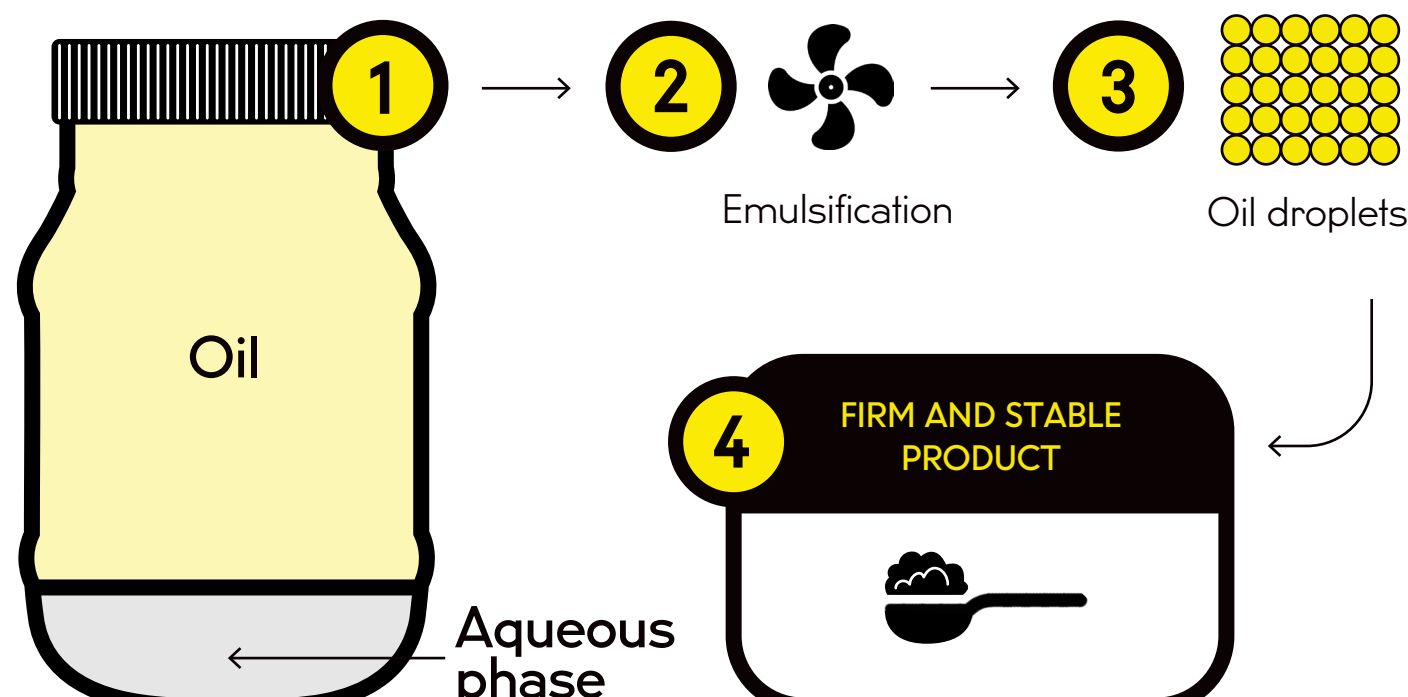
# REPLACING OIL IN MAYONNAISE WITH A LEGUME-BASED INGREDIENT

## What are the challenges of replacing oil in mayonnaise?

### STANDARD MAYONNAISE



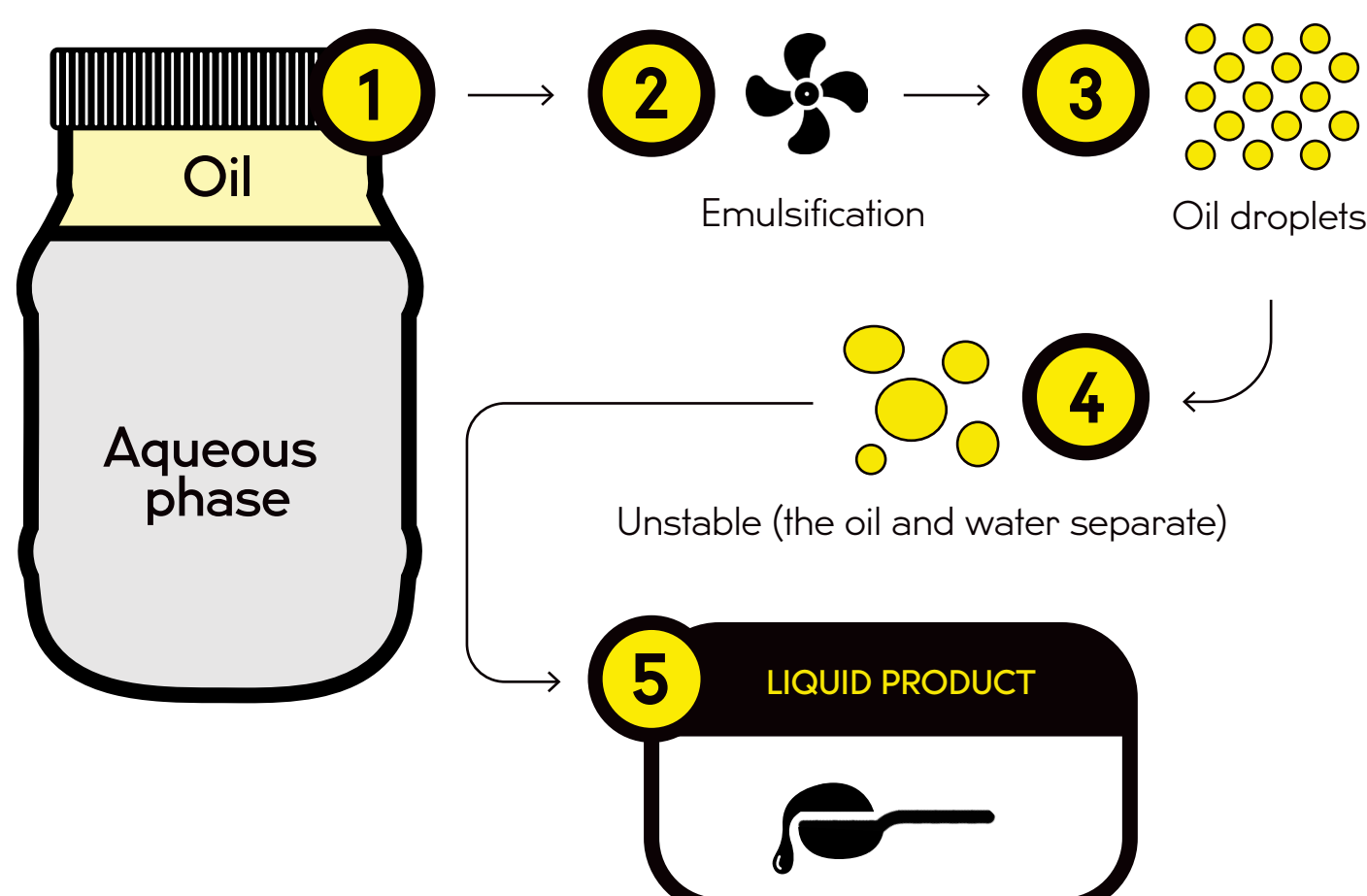
Mayonnaise gets its texture and stability from a compact network of oil droplets.



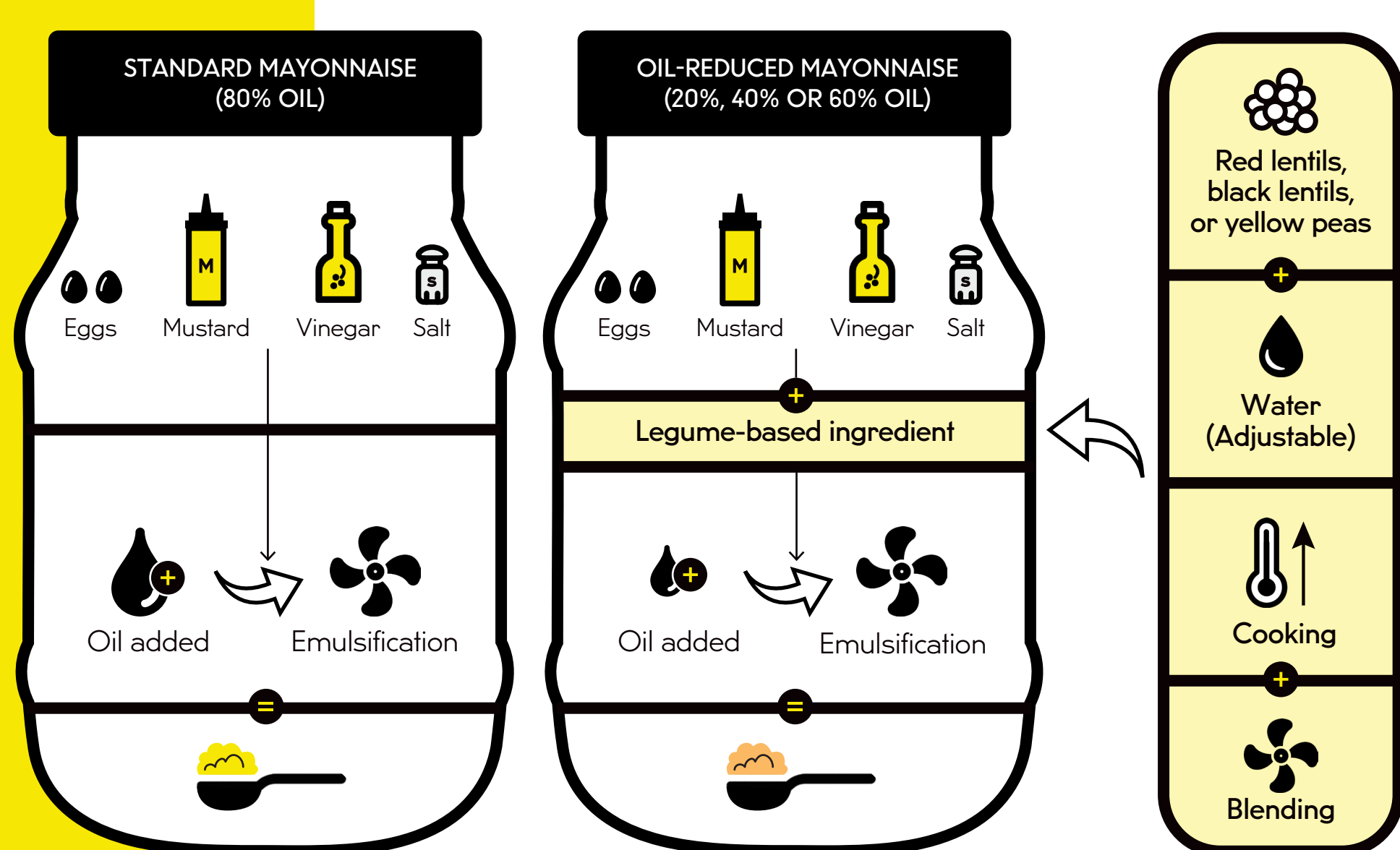
### OIL-REDUCED MAYONNAISE



When there is less oil, the network of droplets is less dense and less stable.



## How to use the legume-based ingredient to replace the oil in mayonnaise

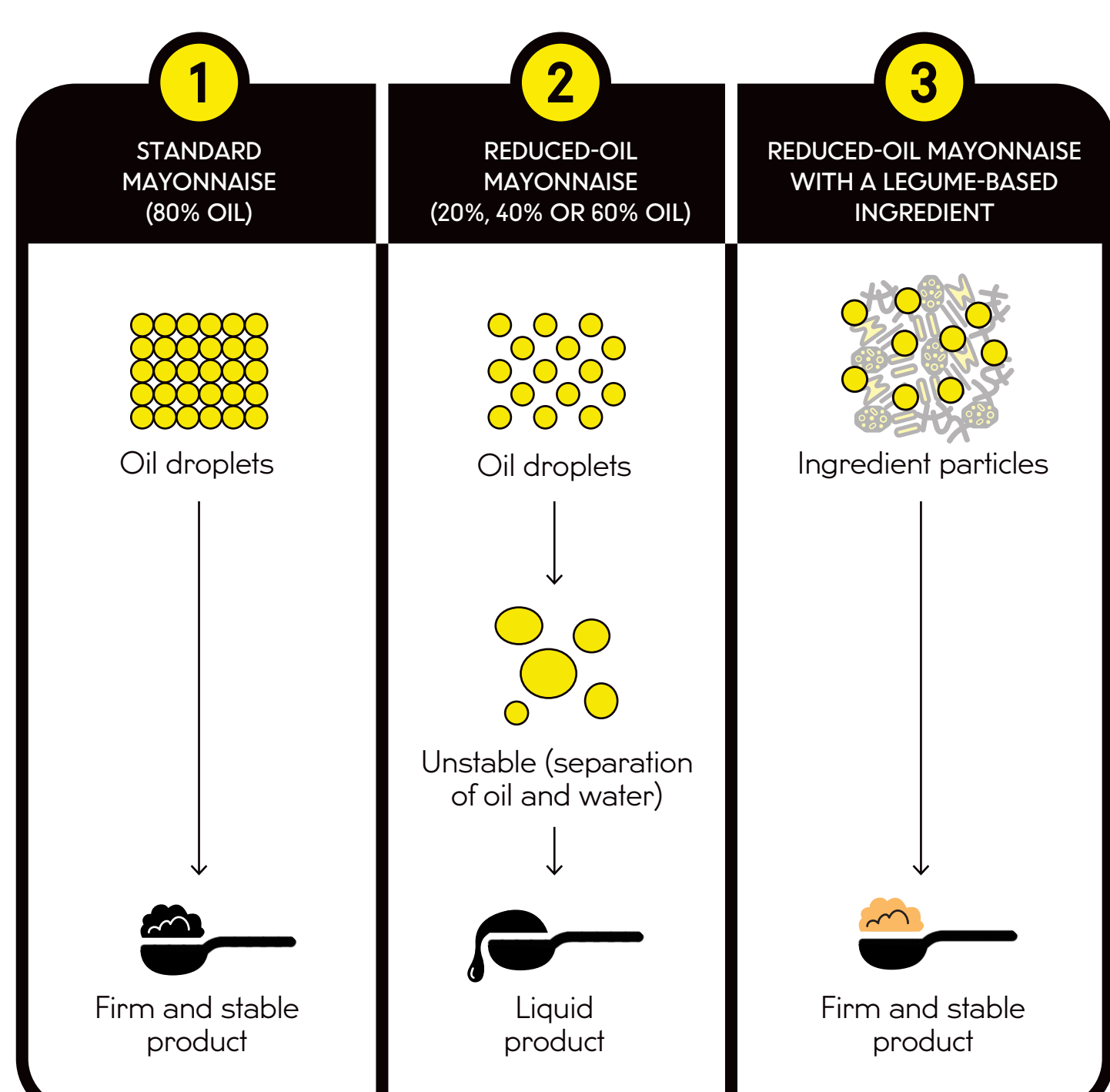


## How the ingredient replaces oil in mayonnaise

### OIL REPLACED BY THE LEGUME-BASED INGREDIENT



The particles of the legume-based ingredient form a compact network around the oil droplets, which stabilizes the mayonnaise and contributes to give it a texture that is close to standard mayonnaise.



## Projective mapping of mayonnaise products based on their similar/different sensory qualities

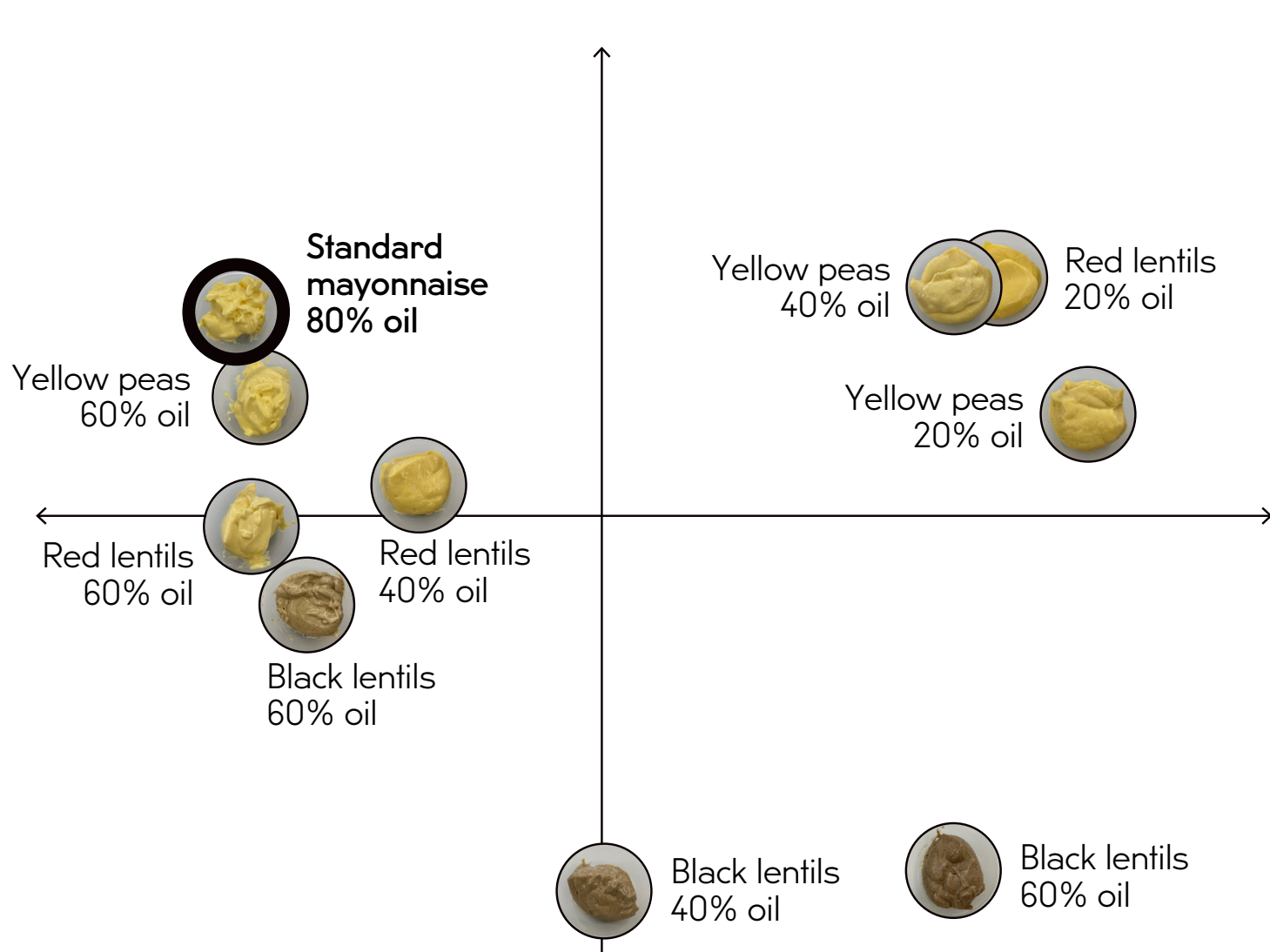


Mayonnaise products blind-tasted by culinary professionals.

The closer the mayonnaise products are to each other on the graph, the more their sensory qualities are perceived as similar.

The further away the products are on the graph, the more their sensory qualities are perceived as different.

This chart compiles the individual responses of all participants.



- An ingredient made from legumes (red lentils, black lentils or yellow peas) can replace some of the oil in mayonnaise.
- Varying the legume leads to greater diversity in the sensory qualities of the prepared mayonnaise.
- Several factors (water content, type of legume) will change how the ingredient acts in an emulsion.

To learn more, watch the video

**GastronomiQc**  
**Lab**

### Research team

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