

MARKET CONTEXT

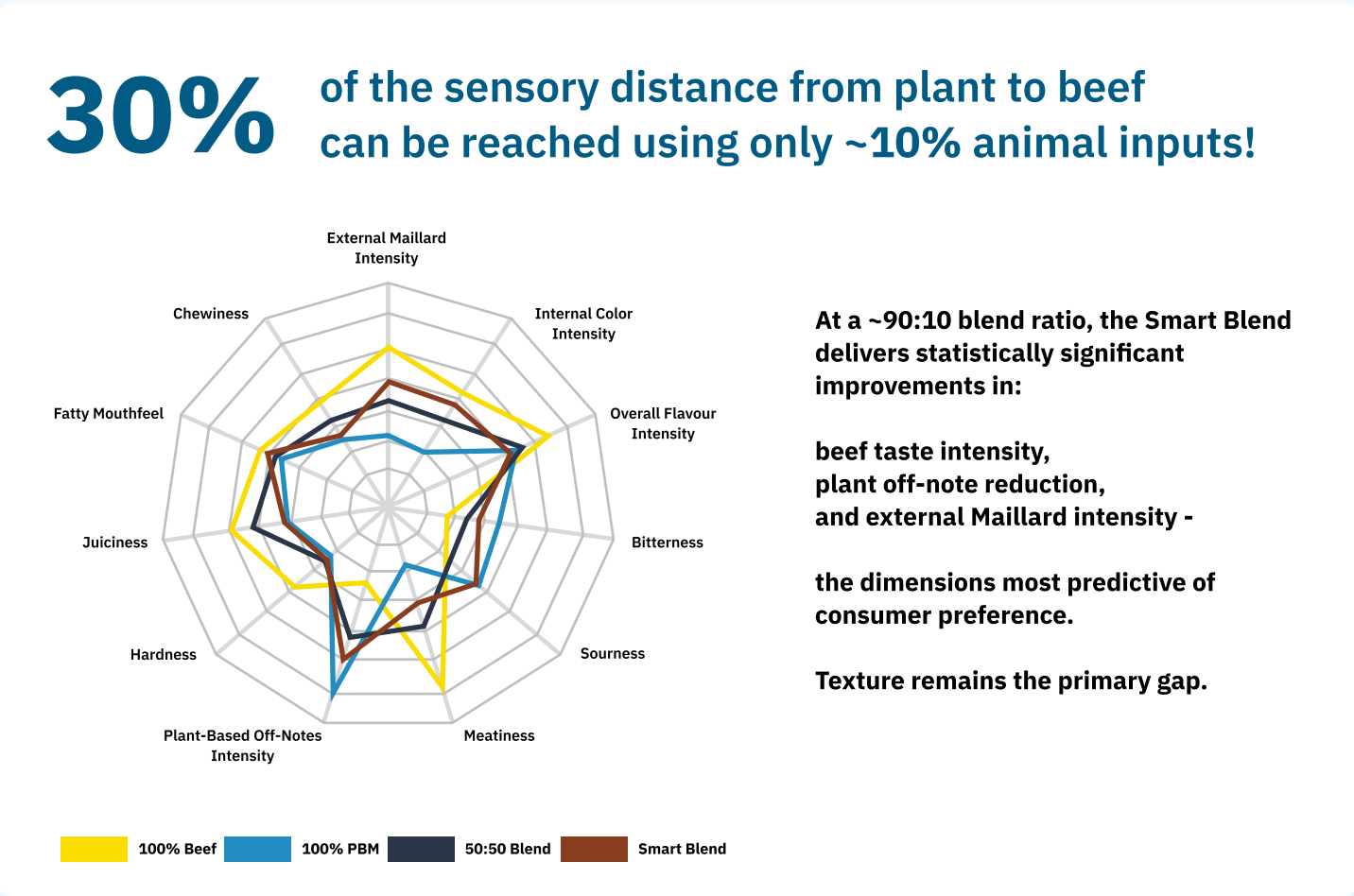
Blended meat products combine conventional meat with plant proteins to maintain the familiar meat experience while reducing meat content. This project explores how strategically using key animal-derived ingredients can maximize product performance, enabling meaningful meat reduction.

PROJECT OVERVIEW

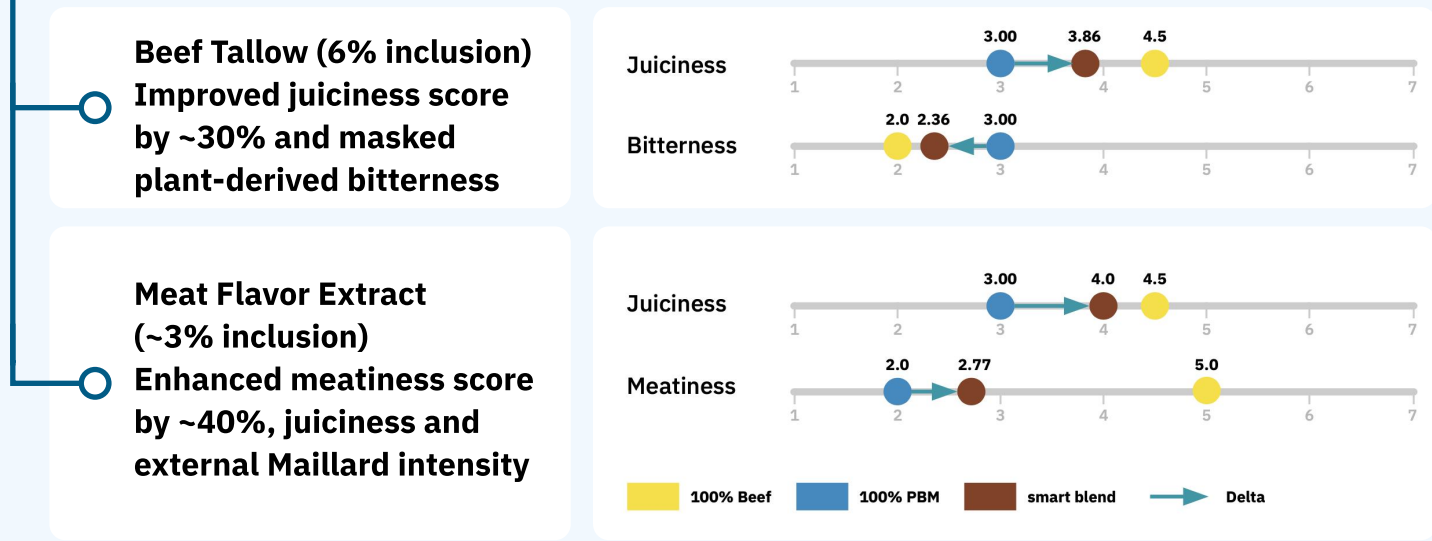
This project explored the potential of "Smart blending" - using a low inclusion (<10%) of selective highly functional animal-derived ingredients to produce a significant sensory improvement in a plant-based burger and potentially other versatile applications.

PROJECT SNAPSHOT

Matrix	Generic plant-based meat burger (120 gr.)
Screened	5 animal-derived fractions
Selected	3 - beef tallow, beef collagen and a meat flavor extract
Method	QDA, 11 sensory parameters, 11-12 supertaster panelists



INGREDIENTS INSIGHTS & THEIR CONTRIBUTION TO SENSORY PARITY WITH MEAT



WHAT TO DO WITH THIS RESEARCH?

- + Meat alternatives and blended meat producers: Use as baseline for further review of low inclusion rates of highly functional animal derived ingredients, with emphasis on Beef tallow, heme-rich and peptide-rich meat ingredients to enhance your product performance
- + Meat producers: Use as baseline for developing waste stream based dedicated animal-derived performance enhancers



Future R&D

- Further development of meat flavor extract through enzymatic proteolysis of beef exudate - to amplify its meatiness enhancement
- Development of strategies to unlock complementary synergy between “smart blending” and regular blending to maximize sensory similarity
- Identification of the precursors for beef tallow aroma - to decrease the animal input while keeping the significant sensory contribution intact

RESEARCH OUTLINE, MATERIALS AND METHODS

- + The internally developed “[PBM Generic Platform](#)” was used as a representative, balanced, mildly seasoned baseline formulation reference, to allow easier focus on sensory contributions of the ingredients and blending approaches
- + Several carefully screened & selected animal-derived ingredients were used: beef tallow, beef collagen, beef exudate freeze dried powder (internally developed)
- + Inclusion rates and synergies were optimized through sensory screening
- + A preliminary Techno-Economic Analysis (TEA) demonstrated the economic viability of the smart blending approach (available in the full report).