# Sensory design of protein enriched noodles
## P1.15

C. J. Findlay, J.C. Castura
Compusense Inc., Guelph, Canada
cfindlay@compusense.com

SenseAsia **2016**
The 2nd Asian Sensory and Consumer Research Symposium
15-17th May 2016 • Hyatt on the Bund, Shanghai, China

Compusense

## Background

Consumer-driven product development is a powerful tool to enhance the chances of success for new product introductions. It is an expensive and lengthy process which is often viewed to be impractical. Consequently, many product introductions are based upon the best guess of the exporter.

An alternative approach is to determine the sensory properties of leading category brands within the target market and use that information to evaluate the sensory properties of prototypes to determine the closest matches which reduces the risk of failure.

## Objectives

To compare the sensory profiles of two types of instant noodle product, Deep Fried and Steam Dried, against benchmark products that are popular in the target market, China.

To use the sensory differences to guide product improvement in the noodle prototypes being developed at Canadian International Grains Institute (CIGI).

## Process Steps

1. Identify and obtain representative samples of market leading products from the target market to use as benchmarks
2. Conduct Calibrated Descriptive Analysis of prototypes and benchmarks
3. Identify the prototypes that are closest to the benchmarks
4. Focus development on adjustment of the most different attributes to improve the chance of product success in the target market
5. Validate the prototype with in-market consumer testing

## Materials and Methods

Descriptive sensory analysis of benchmarks determined the key sensory attributes. Developers needed to focus on key attributes to design products familiar to Chinese consumers.

Fried noodles benchmark: Doll and Master Kong brands.
Steam Dried noodles benchmarks: Prosperity Chaffy Dish and Prosperity Bowl of Egg.

CIGI produced four prototypes of each style of noodle in their pilot plant in Saskatoon, Canada. Two levels of addition were used, 5% and 15% and two pea flours were used, low protein and high protein.

The noodles were evaluated in March 2014, by an FCM-trained descriptive analysis panel (n=12), at Compusense, Guelph, Canada. A total of 29 attributes were scored in triplicate on a 0-100 unstructured line scale.

## Discussion

In <1 month, researchers determined the key attributes to guide further development of protein enriched noodles that would have a much better chance of consumer acceptance.

Although it is unlikely that an enriched noodle would ever be indistinguishable from popular conventional noodles, the key textural and flavour attributes were clearly identified. Strategies could be applied to minimize differences.

Conventional in-market consumer research would have taken many months to conduct and would not necessarily have provided specific development guidance.

This approach can be applied to any product category in any new market, saving both time and money in the development process.


Master Kong (康师傅)


Doll (公仔面)

## Results - Fried Noodles

For the Fried noodles, 17 attributes were significantly different. The 5% and 15% levels were different in appearance, surface properties and texture than the benchmark.
Higher supplementation levels increased the colour of the noodles. The analysis indicated which prototype was the most promising for further development work.
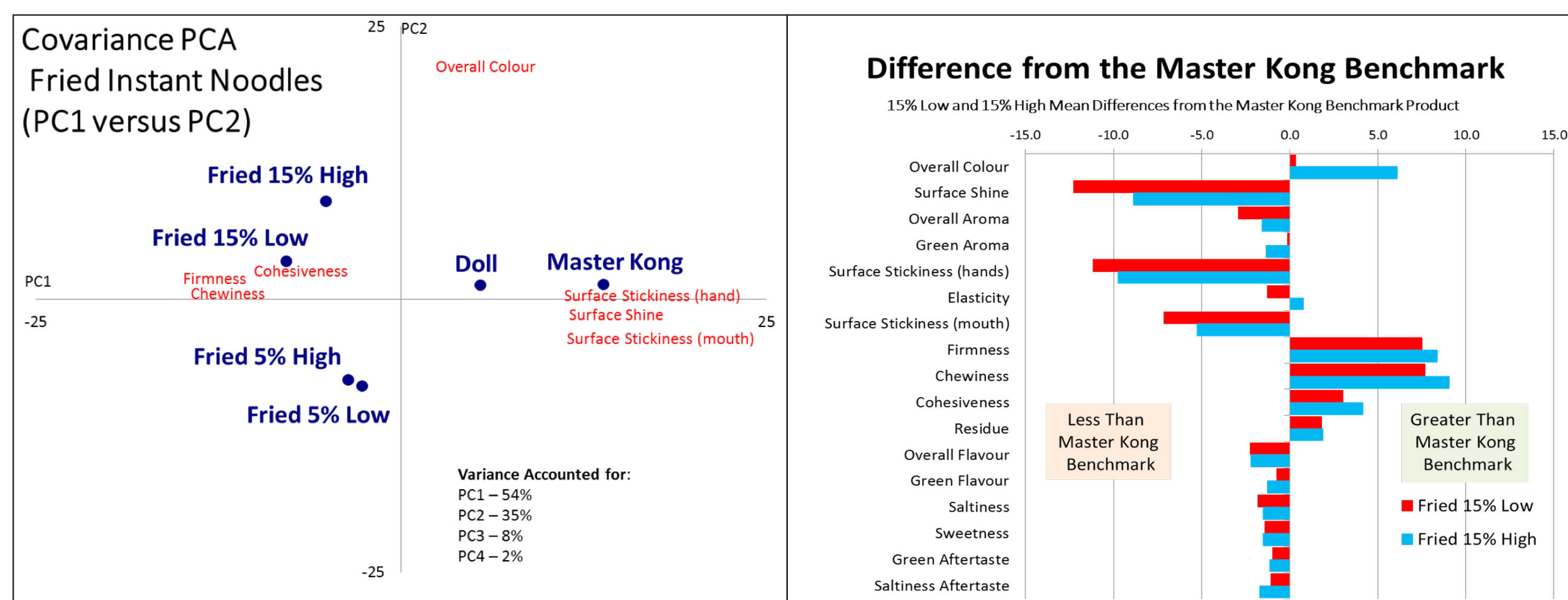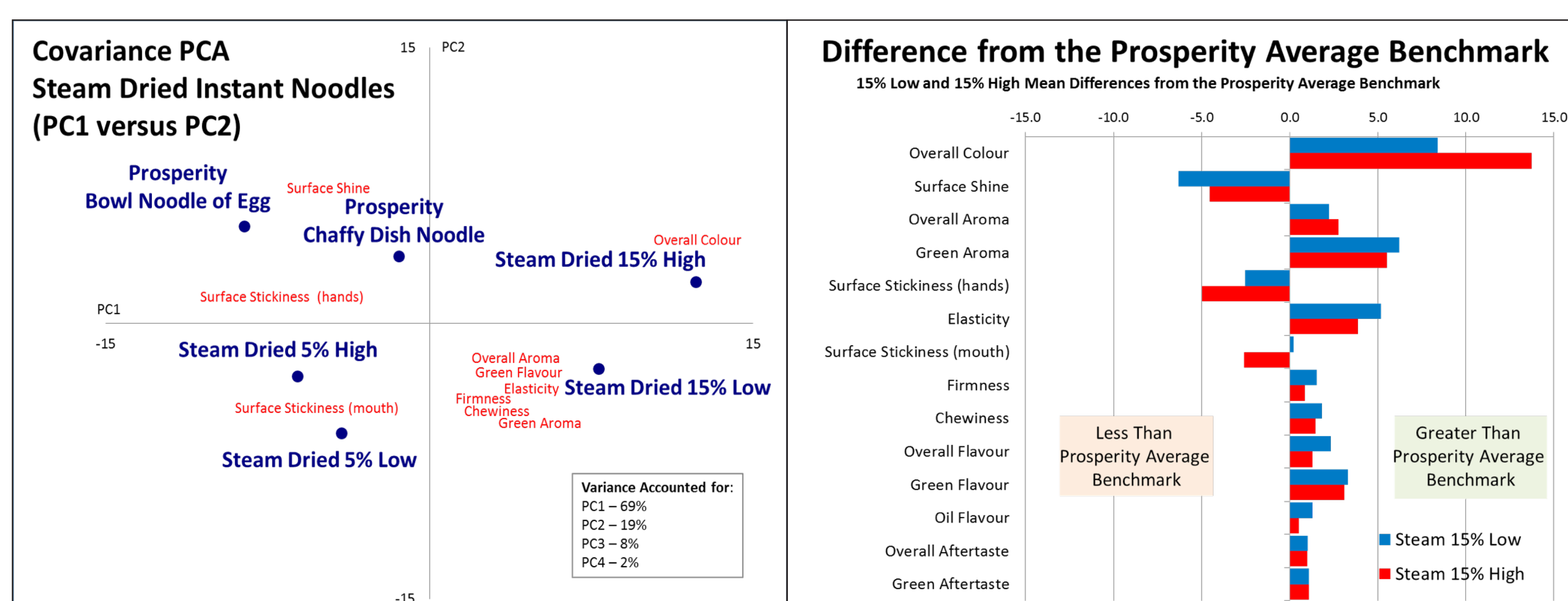



Prosperity Chaffy Dish Noodle


Prosperity Egg Noodle

## Results - Steam Dried Noodles

For the Steam Dried Noodles, 14 attributes were significantly different. Similar differences were found with these noodles, however the "green flavour" associated with peas emerged as significant. This identified the most promising prototype for further development in this noodle style.