

Exploring the wants and needs of the South African soya consumer

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The future of the South African soya industry is dependent upon profitability and sustainability, all within the context of the dynamic nature of consumer behaviour and production environments. Although human consumption of soya comprises only 2% of local soya use, with soya crushing responsible for the largest share of domestic use, there exists significant potential for increasing the use of soya in food products.

The Bureau for Food and Agricultural Policy was contracted by the Oilseeds Advisory Committee (OAC) to investigate South African consumers' knowledge and perceptions regarding selected soya products. In August and September 2021, a sample of 381 low-income, middle-income and affluent consumers were interviewed. This article presents key results from this survey, with a specific focus on typical intake frequencies of soya-based foods, purchase factors, product perception and willingness to pay (WTP).

How often do consumers eat soya?

Overall, the top five most frequently consumed soya-based foods were soya mince, Future Life and ProNutro, followed by cooked soya beans, soya milk and snack bars containing soya (Figure 1).

With rising socio-economic status, the intake frequency of more affordable options such as cooked soya beans and soya mince decreased significantly, while the intake frequency of more expensive soya food options such as soya milk, Future Life or ProNutro, snack bars with soya, and tofu increased significantly.

The most frequently consumed soya-based foods among sub-groups (in order of importance) were:

1. Low-income: soya mince, cooked soya beans and Future Life or ProNutro.
2. Middle-income: Future Life or ProNutro, soya mince, cooked soya beans and soya milk.
3. Affluent: Future Life or ProNutro, snack bars with soya, soya milk and soya mince.

Important purchase factors

In the overall sample, the most important purchase factors pertaining to soya-based foods (in order of importance) were taste, aroma, preparation, health benefits, texture and affordability (Figure 2).

The most important purchase factors pertaining to soya-based foods among sub-groups (in order of importance) were:

1. Low-income: taste, preparation, aroma, health benefits and texture.
2. Middle-income: taste, aroma, preparation, health benefits and texture.
3. Affluent: taste, health benefits, aroma, preparation and texture.

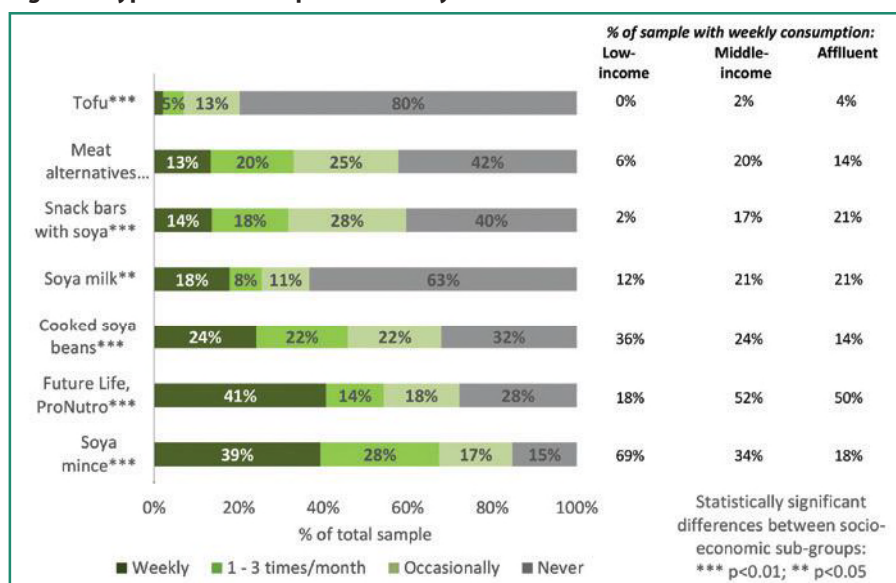


Low-income and middle-income respondents perceived aroma, texture and affordability as significantly more important than affluent respondents. Low-income respondents also perceived preparation, how pure the products were, and colour as significantly more important (at $p < 0.01$) than middle-income and affluent respondents (Figure 2).

South Africans' perception of soya

Respondents were asked to indicate their level of agreement with a series of

Figure 1: Typical intake frequencies of soya-based foods.



statements involving potential attributes of soya. The dominant positive and negative perceptions are summarised in Table 1.

In the overall sample, respondents were most positive about soya-based foods in terms of:

- Product usage: Convenience, preparation, knowledge on preparation.
- Health: Being part of a healthy diet.
- Product origin: Liking South African produced soya.
- Product pricing: Affordability.
- Product image: Not being ashamed to eat soya mince and not being viewed as a 'poor person's food'.
- Sensory appeal: Taste and texture.

Consumers were most negative about soya-based foods in terms of:

- Health: Experiencing flatulence after consuming soya and causing allergies.
- Sustainability: Soya products perceived as not being more environmentally sustainable than animal-protein foods.
- Competing products: Preferring pea protein foods to soya-based foods.

Figure 2: Perceived importance of purchase factors.

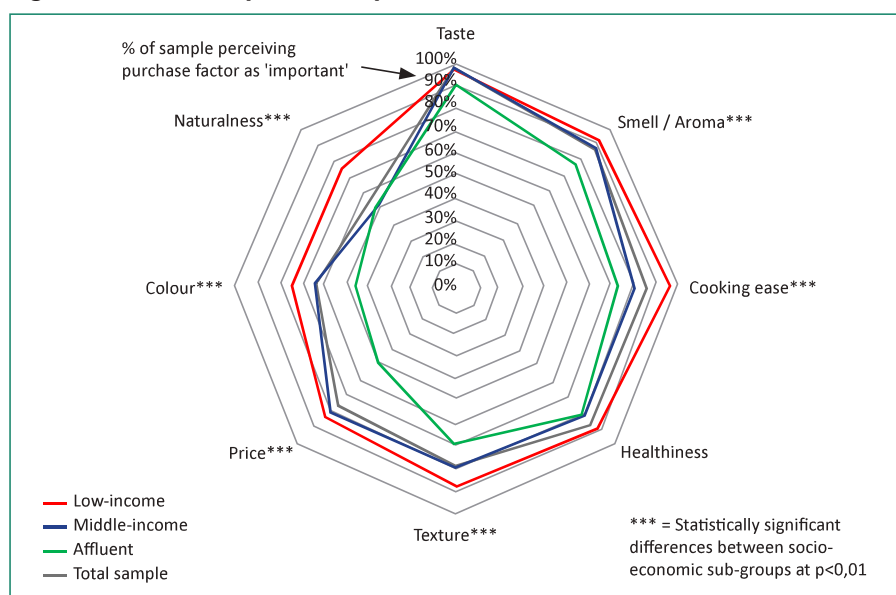


Table 1: Dominant positive and negative perceptions regarding soya.

	Low-income group	Middle-income group	Affluent group
Positive perceptions	Product usage/preparation		
	• Easy to prepare (99%). • Know how to prepare (99%). • Like convenience (98%). • Use soya as meat extender (95%).	• Easy to prepare (95%). • Know how to prepare (93%). • Like convenience (96%). • Use soya as meat extender (74%).	• Know how to prepare (66%). • Easy to prepare (66%). • Like convenience (67%).
	Sensory appeal		
	• Enjoy taste (99%). • Enjoy texture (99%). • Enjoy aroma (99%).	• Enjoy taste (90%). • Enjoy texture (90%). • Enjoy aroma (85%).	–
	Product pricing		
	• Like affordability (97%).	• Like affordability (85%).	• Like affordability (73%).
	Health/nutrition		
	• Part of a healthy diet (88%). • Allergies are rare (74%).	• Part of a healthy diet (87%).	• Part of a healthy diet (81%).
Negative perceptions	Product origin		
	• Prefer products produced in South Africa (88%).	• Prefer products produced in South Africa (86%).	• Prefer products produced in South Africa (83%).
	Product perception		
	• No shame in eating soya mince (85%). • Not considered a 'poor person's food' (84%).	• No shame in eating soya mince (81%). • Not considered a 'poor person's food' (74%).	• No shame in eating soya mince (84%). • Not considered a 'poor person's food' (76%).
Negative perceptions	Product perception		
	• Prefer soya to pea protein (18%). • Do not experience flatulence (55%). • Considered more environmentally sustainable (65%).	• Prefer soya to pea protein (42%). • Do not experience flatulence (28%). • Considered more environmentally sustainable (66%). • Soya allergies are rare (50%).	• Prefer soya to pea protein (28%). • Do not experience flatulence (18%). • Considered more environmentally sustainable (56%). • Soya allergies are rare (47%). • Used as meat extender (43%). • Enjoy aroma (47%). • Enjoy taste (61%). • Enjoy texture (53%).

Note: % in brackets – share of sub-group in agreement with the particular soya attribute.

Table 2: Consumers' WTP for soya containing foods.

Reference product and price	Alternative product evaluated	Average WTP	Average discount/premium
1kg 100% lean beef mince (R100)	1kg beef mince with soya added	R89	-10%
	250g soya mince (to make 1kg cooked soya mince)	R66	-34%
600g 100% beef burger patties (R100)	600g beef burger patties with soya added	R84	-15%
	600g soya burger patties	R82	-18%
40g healthy snack bar (R10)	40g healthy snack bar with soya 'smart protein'	R11	+11%

Even though most soya beans produced in South Africa are genetically modified, only 7% of the total sample agreed that most soya beans produced in South Africa are from genetically modified plants. The highest levels of uncertainty were observed among middle-income and affluent consumers.

Low-income consumers, followed by middle-income consumers, were significantly more positive about soya in terms of not being ashamed to eat soya mince, not perceiving it as a poor person's food, perceiving soya allergies as rare, having the know-how to prepare soya-based foods, considering it easy to prepare and to be used as meat extender, as well as liking the products in terms of taste, smell, texture, affordability and convenience.

In the overall sample, the soya health attributes recognised by the largest share of respondents were low in carbohydrates (82% of the total weighted sample), high in protein (61%), a good source of fibre (44%), high quality protein (40%) and containing no cholesterol (29%). The average respondent only selected three of the eleven possible soya health benefits that were tested, with recognition increasing towards more affluent respondents with higher education levels. Thus, significant knowledge gaps exist in this regard.

Consumers' willingness to pay

In the overall sample, consumers' stated WTP implied lower prices for soya-added or soya-based products (i.e. beef mince with added soya, soya mince, beef burger patties with soya, soya burger patties), relative to the beef reference products (lean beef mince and beef burger patties). The only product containing soya that consumers were willing to pay more for was a snack bar with soya

'smart' protein (when compared to a regular healthy snack bar) (Table 2).

Learning to love soya

The following factors might motivate consumers to eat more soya-based products:

- Improved affordability.
- Improved taste/flavour.
- More knowledge concerning the health benefits of soya.
- Healthier processing methods.
- Better consumer education.
- Availability/accessibility of products.
- Easier preparation.
- Wider product variety.
- More pleasant aroma.
- Increased awareness about the protein content of soya.
- Improved packaging and/or labelling.
- Improved texture.
- Position as part of weight loss eating plans.
- Increased awareness concerning environmental benefits.
- More appealing appearance.

Recommendations to the industry

The research indicated that consumers are currently most positive about soya in terms of cooking and convenience, preparation knowledge, sensory appeal, affordability, health benefits, its role as a meat extender and not being considered a 'poor person's food'. Continued actions to maintain and enhance these selling points are important to grow its market share.

Consumer education and marketing actions are recommended to inform the target market about the following factors:

- The consumer benefits of soya and soya-based ingredients in food related to improved sensory appeal (e.g. improved palatability when used as a meat extender).

- The science-based health benefits of soya, such as being high in protein, a high quality protein, low in carbohydrates, a good source of fibre, being naturally cholesterol-free, high in vitamin E, high in omega 3 and 6 fatty acids, having anti-cancer properties and low glycaemic index (satiety for longer), and being low in saturated fats.
- The introduction of new and innovative recipes.
- The general awareness regarding sustainable food choices among South African consumers is still low and not as prominent as observed in developed economies such as Europe. Since increased awareness and consideration of aspects related to sustainable food choices do apply to more affluent consumers in South Africa, consumer education regarding the sustainability benefits of soya production versus animal production systems should mainly be aimed at affluent consumers and middle-income consumers, as they could move into more affluent consumer segments due to future class mobility.
- Since most of the soya beans produced in South Africa are genetically modified, educating consumers about the environmental benefits of genetically modified soya beans is recommended, focussing on aspects such as more sustainable production systems using less diesel and fewer chemicals, compared to conventional soya bean production.

Scientific advancements are needed to address soya allergies, and to eliminate flatulence and the beany taste often associated with soya consumption. Product improvement and marketing actions (with a specific focus on soya as

a meat alternative) should reposition soya as a tasty and affordable meal, eaten by modern families with a health-conscious outlook on life.

Eliminating the image of soya as a 'poor person's food' through appropriate marketing seems to be most needed among the middle-income and affluent consumer markets in South Africa. Considering the size and purchasing power of these consumers in South Africa, this could promote the market growth of textured vegetable protein (TVP).

The price discounts/premiums resulting from the WTP section of this survey could assist in the formulation of retail prices which are acceptable to consumers:

- Informing consumers about the benefits of soya as a meat extender (e.g. increased palatability and higher protein content), could increase their acceptance of meat

dishes with soya, as suggested by the 13% increase in the share of respondents who liked the concept of soya being added to meat products following exposure to product benefit information. This could have a positive contribution to growing the market for TVP in the butcher meats market in South Africa.

- Product improvement and innovation could focus on the following soya-based foods in particular: Soya mince, meat with soya, meat alternatives, soup or soup powder, sausages, burger patties, soya milk, soya beans, added dried vegetables to soya mince, health bars, snacks, sweets, porridge, ProNutro, Future Life and polony.
- Soya mince is a common component of school feeding meals in South Africa, with anecdotal evidence pointing to consumer resistance

to the product in this context. As scholars are the consumers of the future, an improved understanding of their perceptions and sensory preferences are critical to guide the development of products with consumer appeal to improve future market success.

- Developing and marketing soya-based foods that present consumers with a value offering that is sensorily appealing, affordable, convenient and healthy, are of utmost importance for the future of the soya food market in South Africa. 🌱

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