



Consumer Education Project of Milk SA

**CNE AD SA KZN**



The truth about plant-based beverages

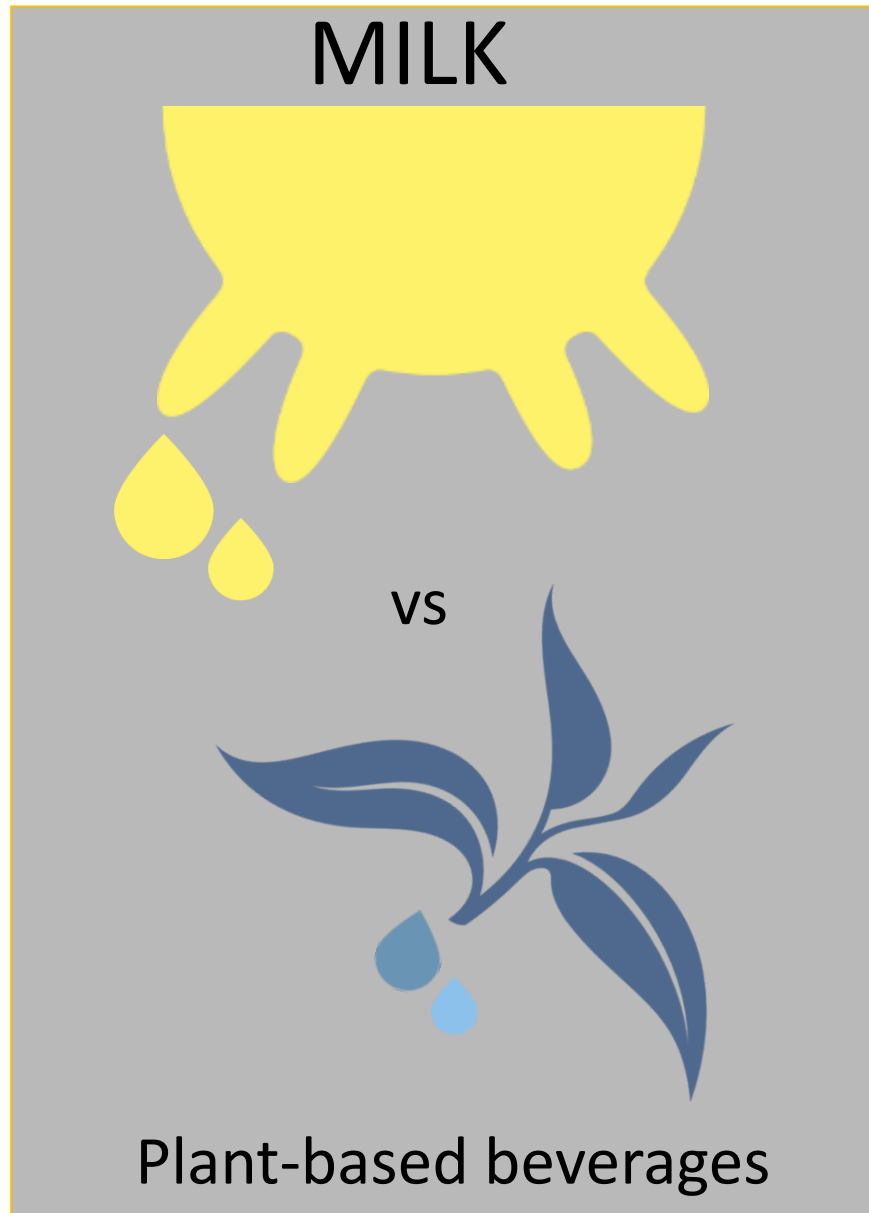


Maretha Vermaak  
Registered Dietitian

**Communicating the nutritional  
and health benefits of dairy**

[www.rediscoverdairy.co.za](http://www.rediscoverdairy.co.za)  
[www.dairygivesyougo.co.za](http://www.dairygivesyougo.co.za)

# The difference between MILK and plant-based *milk*



# Outline of presentation

- The food and beverage market
- Milk – what we know
- Why focussing on plant-based beverages?
- Market trends
  - Milk and dairy
  - Plant-based beverages
- Comparing MILK to plant-based beverages
- Regulatory matters concerning plant-based beverages



Milk South Africa

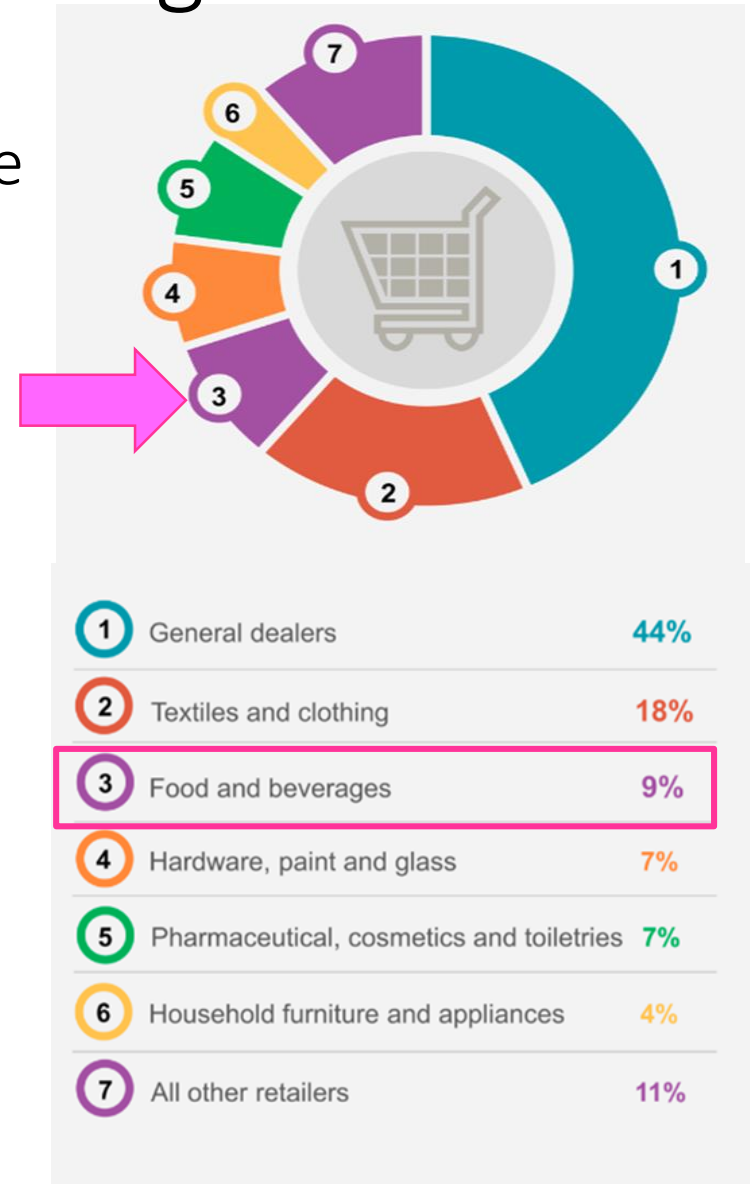


# The Global food & beverage market

- Playing an increasingly important role in the reason people visit shopping centres
- The Middle East & Africa between 2006 – 2016:

**7 % average growth**

- ✓ 2<sup>nd</sup> fastest growing region in terms of consumer spending
- ✓ expecting to rise with another 7% in the next 10 years



# Milk and dairy in South Africa

## Number of producers



1364 farmers

750 000 cows

Average: 332cows/producer

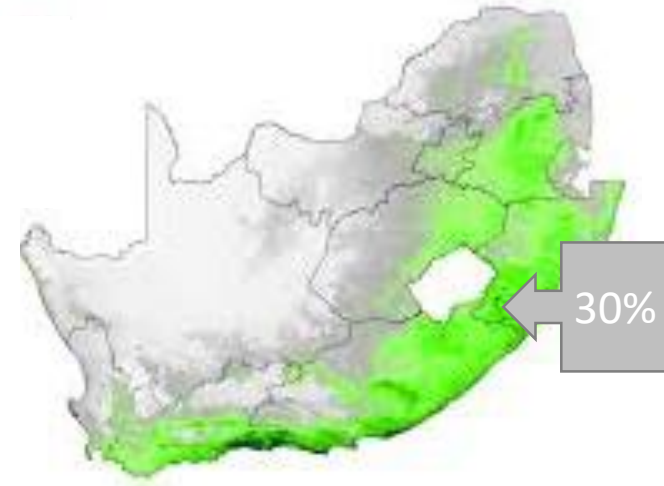
## Production: Litre per year



3.2 billion litres/year

Average: 20L/cow/day

## Areas of production



75% in KZN

WC and EC



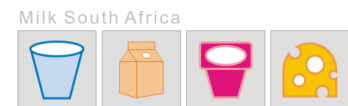
Source: Lacto data

Milk South Africa



# Milk - what we KNOW...

- **Nutrient rich** profile:
  - 9 essential nutrients
  - high quality protein
  - no added sugars
- Milk is the **leading food source of 3 of the 4 nutrients** of public health concern in SA
  - calcium
  - potassium
  - vitamin A
- **South Africa's FBDG's** include MILK, MAAS or YOGHURT as one of the eleven national food-based guidelines  
Health authorities world wide recommend low-fat and fat free milk as part of healthy diet patterns
- An extensive body of research shows **dairy's health benefits** on critical issues related to public health.



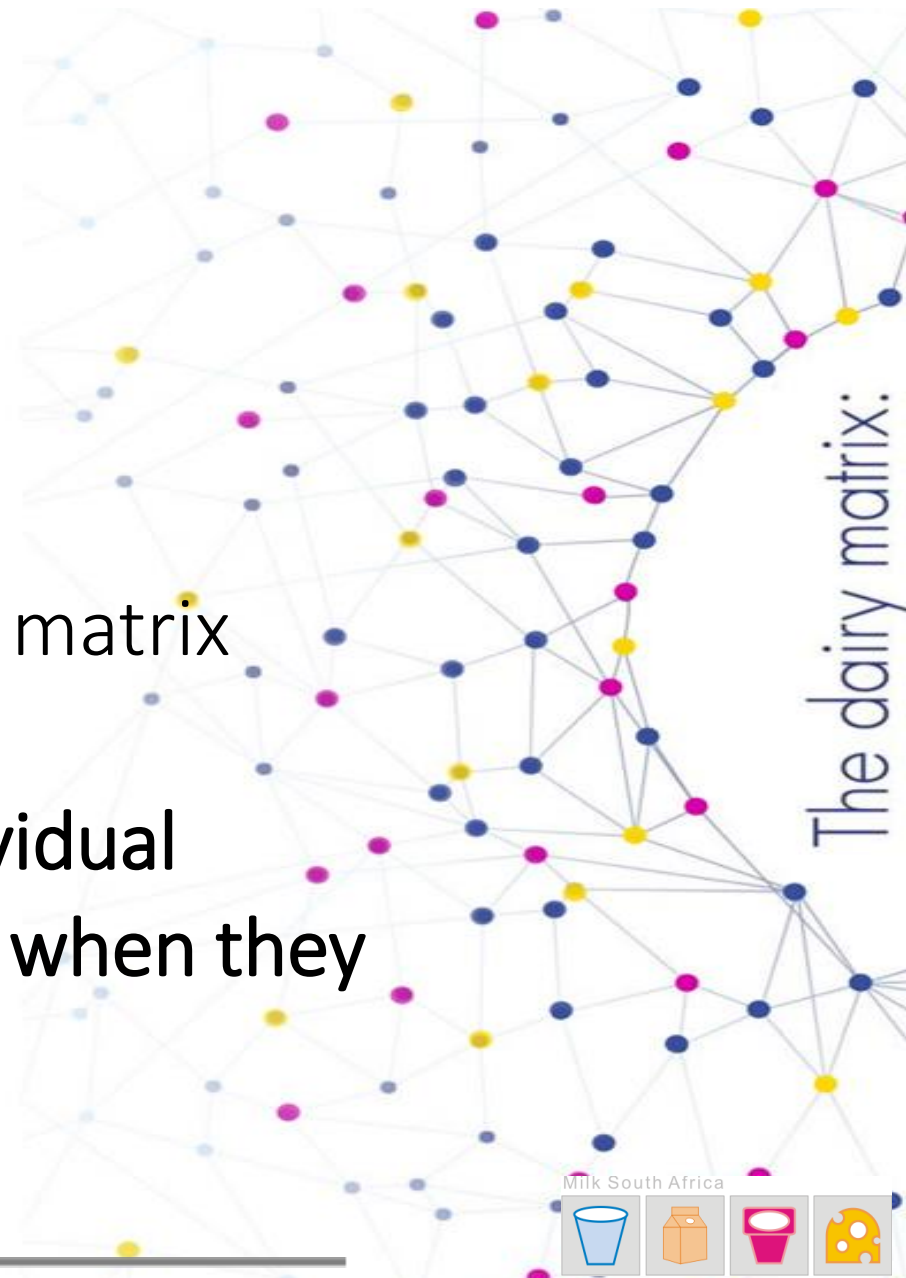
# Milk - what we KNOW...

## The Milk

## Matrix

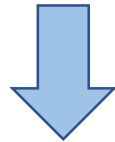
## Matters

The concept of the dairy matrix explains the fact that health effects of the individual nutrients may be greater when they are combined together



# Why focussing on plant-based beverages?

- Change in consumer perceptions around HEALTH
- Popular life style choices  
Vegan and flexitarians
- Consumer's interest in animal welfare
- Consumer's curiosity and perceived knowledge about sustainability



The consumer

looking for 'OTHER' options

tends to increasingly select 'DAIRY FREE' products





# Why focussing on plant-based beverages?

Plant-based beverages are a growing market that presents **variety**

It is a **popular choice** amongst the younger generations

Plant-based drinks make **appealing claims**

- better for the climate
- animal-free
- no lactose,
- low SFA



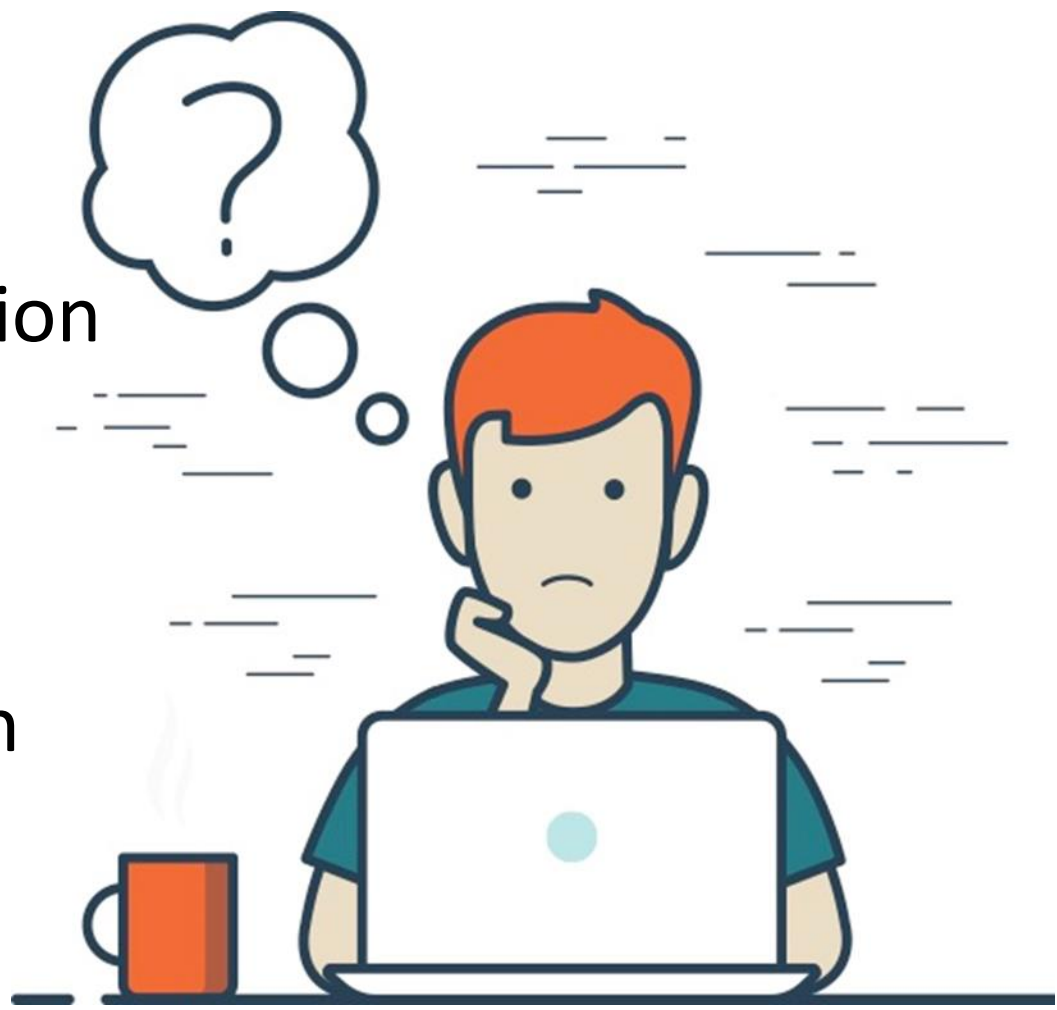
# 'Featured' claims for plant-based drinks

## CAUSE

consumer misconception

and

consumer confusion



# Consumer misconception & confusion

- **Assumptions** are made

- that plant-based foods are just as healthy as dairy foods
- if something is called “milk” it has the same nutritional properties as cow's milk

- **Confusion** and excluding

- cow's milk allergy
- lactose intolerance
- following a trend
- exclusion diets
- personal lifestyle choice
- beliefs about animal mistreatment



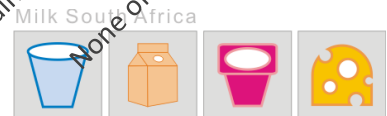
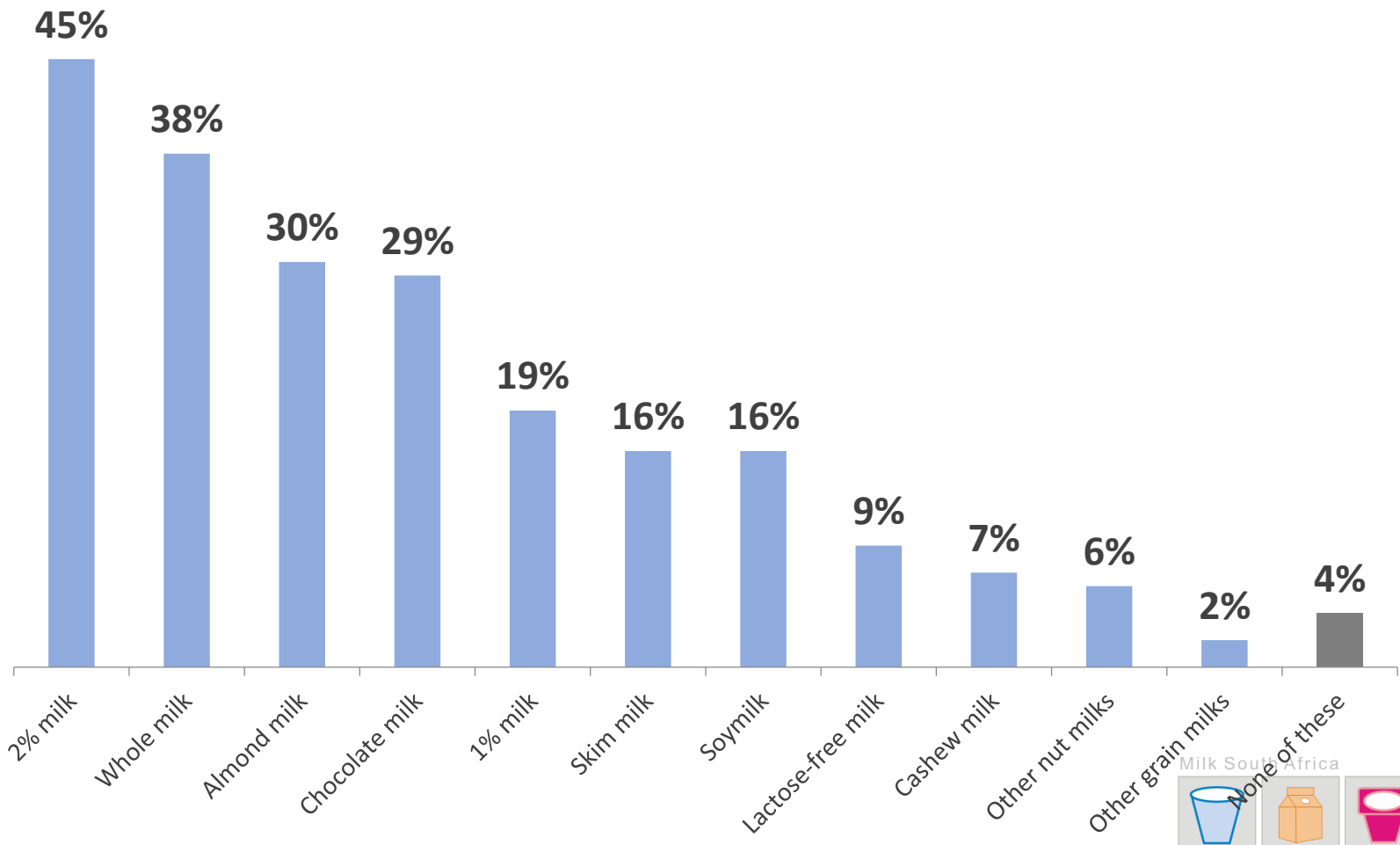
# Market trends



# Market trends

## Types of Milk purchased

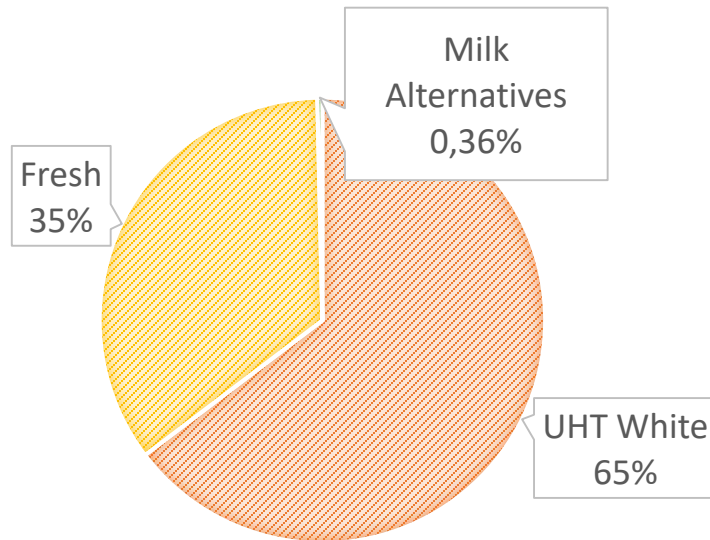
according to The International Food Information Council – **October 2018** – online survey amongst American adults



# Market trends: Milk Segment in SA

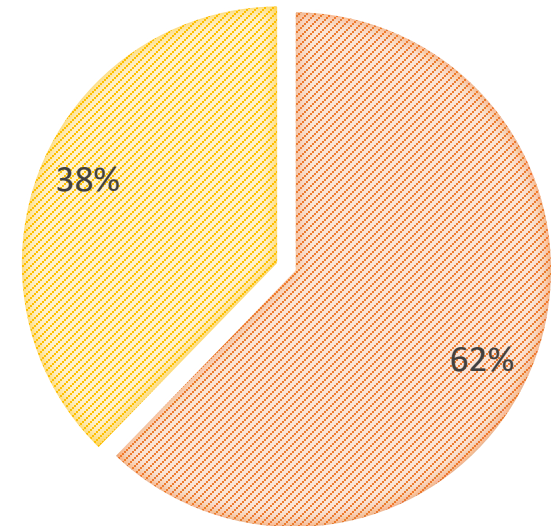
Dairy industry = R 19,7 B

## TOTAL MILK



## MILK ALTERNATIVES

■ Soya ■ Almond



Alternatives: R 60,1 M

Lactose free: R 52 M

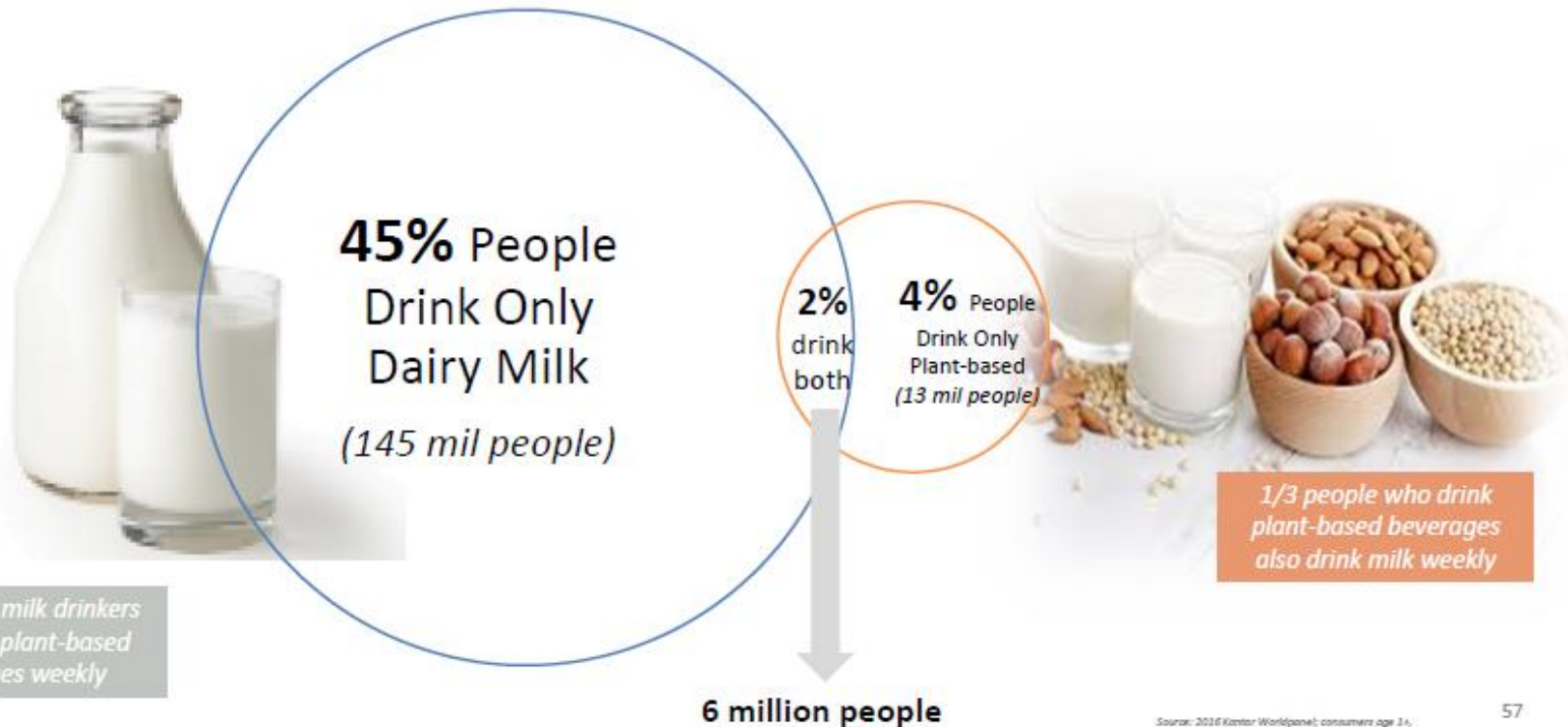


Milk South Africa



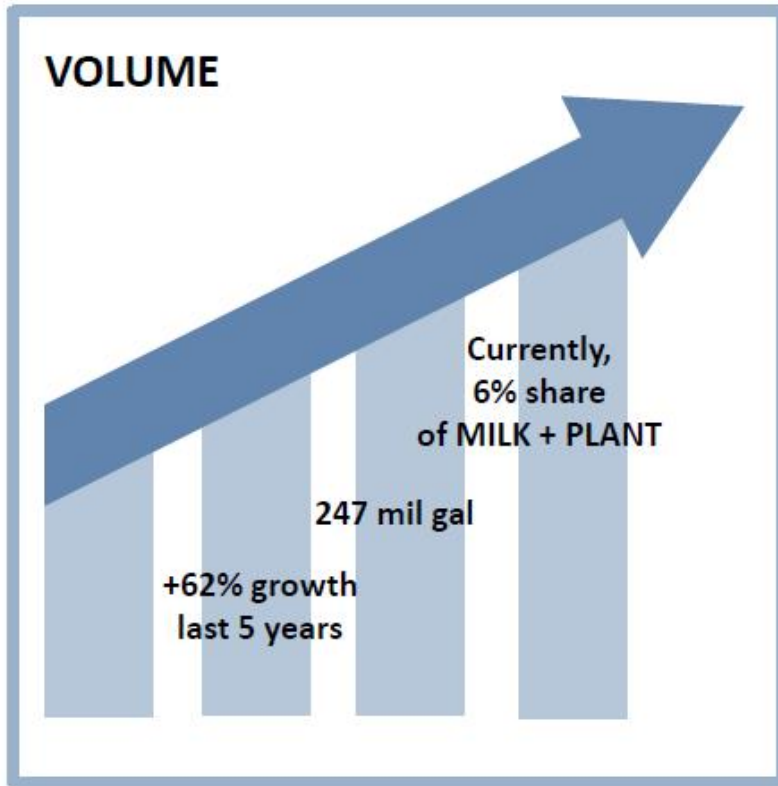
# When it Comes to Drinking Beverages, Only 2% People Drink Both Dairy Milk and Plant-based Beverages

**49%** don't **DRINK** either product weekly



Source: 2016 Kantar Worldpanel; consumers age 14+

# Over the Last Five Years, Retail Sales of Plant-based Beverages Have Grown by Over 60%

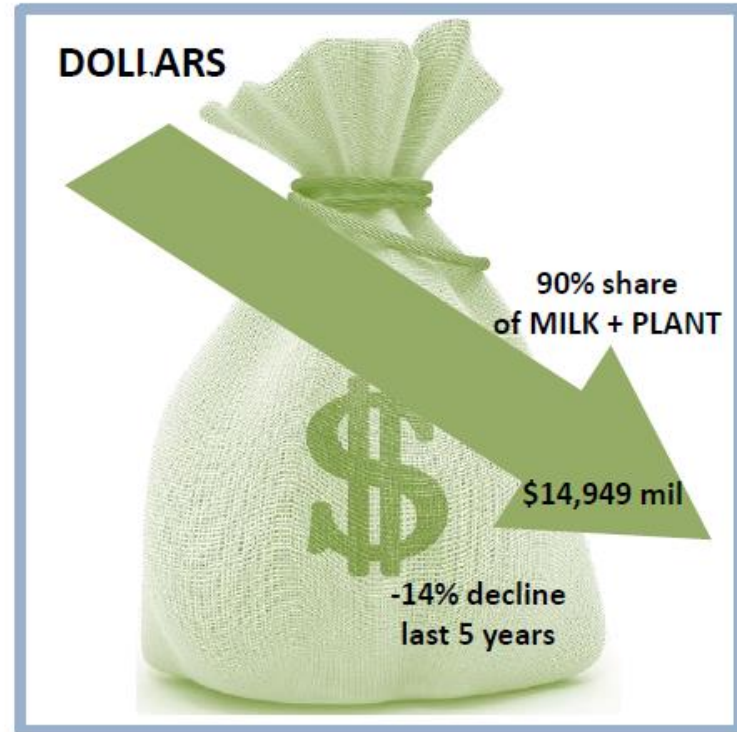
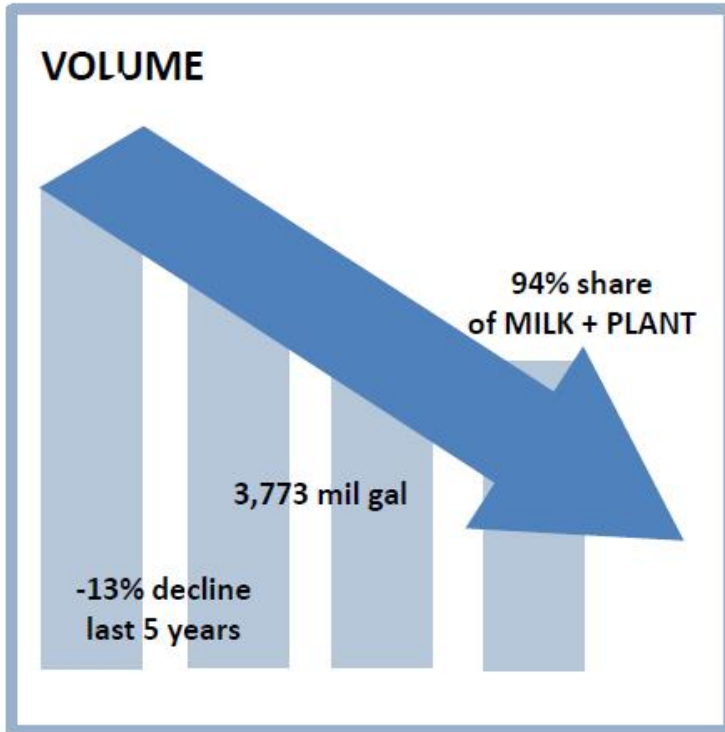


Milk South Africa

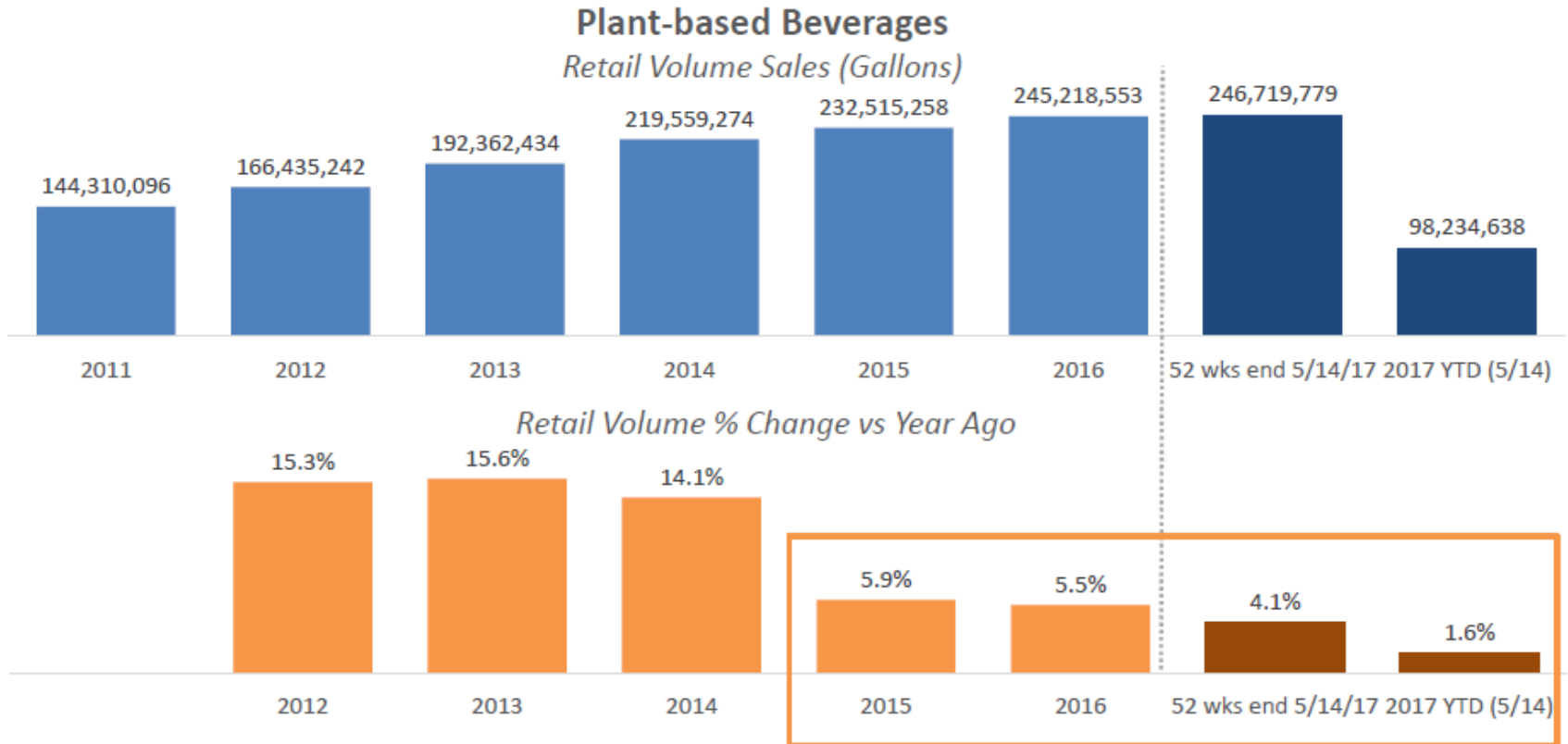




## Retail Sales of Dairy Milk is Trending Down



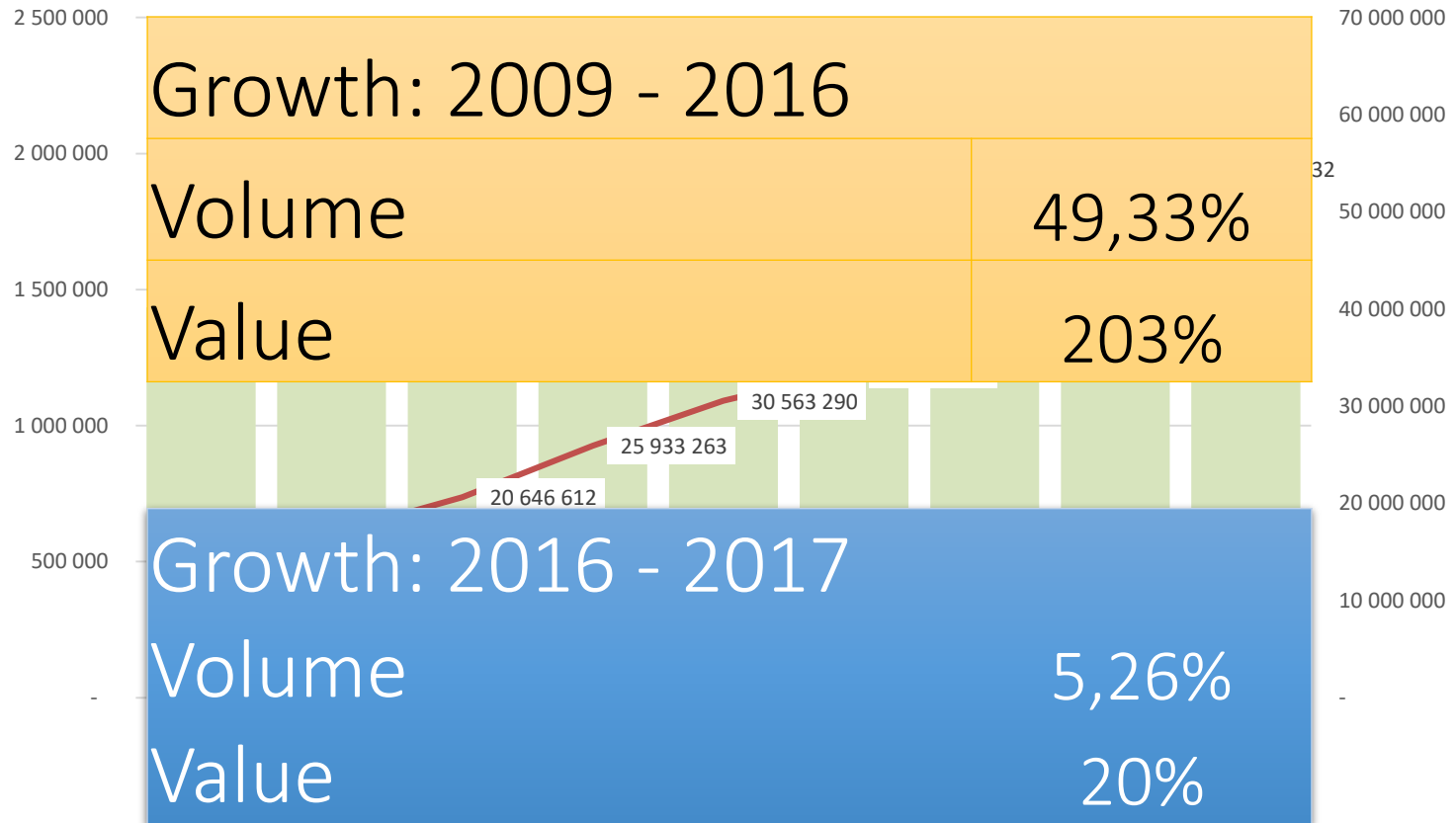
# Plant-based beverage sales – currently growing at a more moderate pace



Milk South Africa



# Volume and value for plant-based beverages in SA



Data Source IRI, July 2018. Top-end Retail & Wholesale

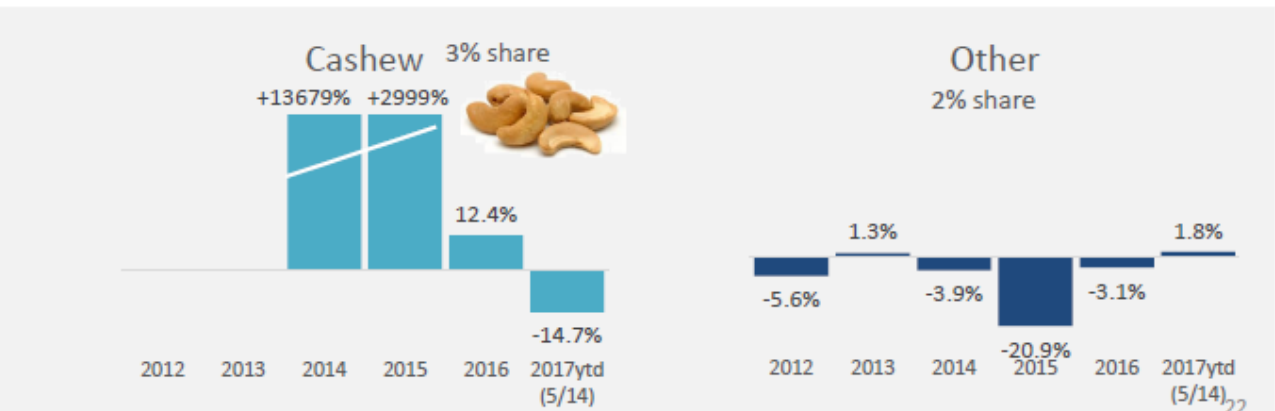
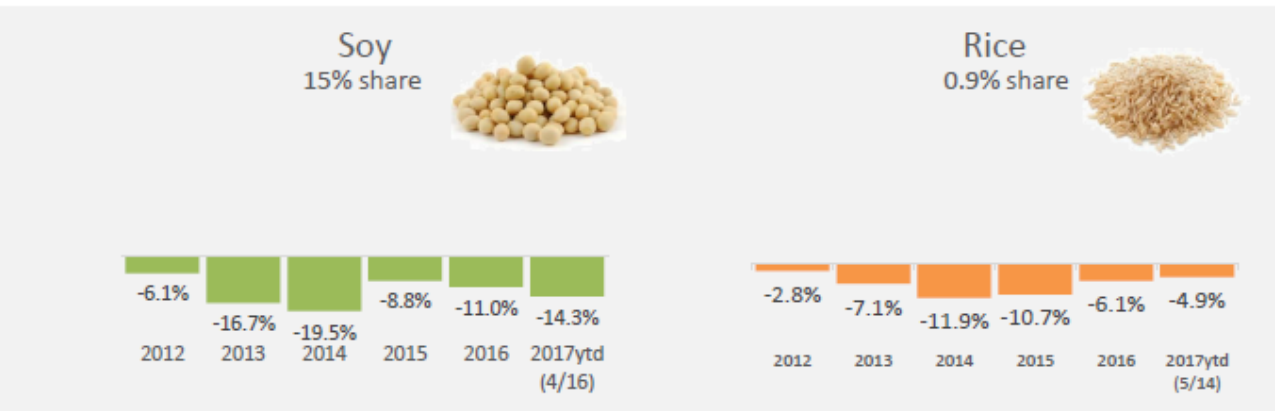
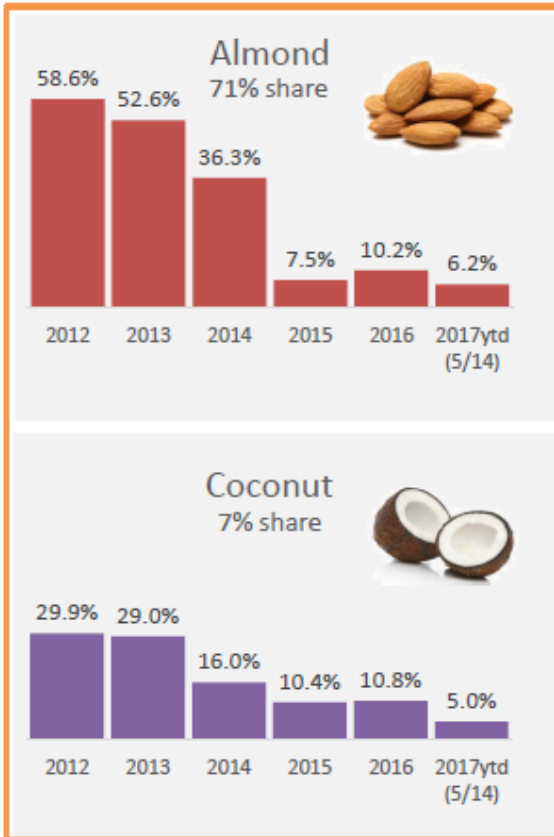
Provided by Parmalat

Milk South Africa



# Almond and Coconut Continue to be Growth Engines in Plant Beverages

## Retail Volume % Change vs. Year Ago



Milk South Africa



# Growing attributes consumers seek when choosing beverages

## Prefer Beverages



**Good for Me**  
64% Drinkers



**All Natural**  
49% Drinkers

## Pay More for Beverages



**Fulfill Needs**  
56% Drinkers



**High Quality**  
53% Drinkers

## Support Companies that



**Give Back to Communities**  
33% Drinkers



**Help Global Organizations**  
29% Drinkers

## Buy



**Environmentally Friendly Products**  
40% Drinkers

## 1<sup>st</sup> to Try



**New Beverages**  
26% Drinkers

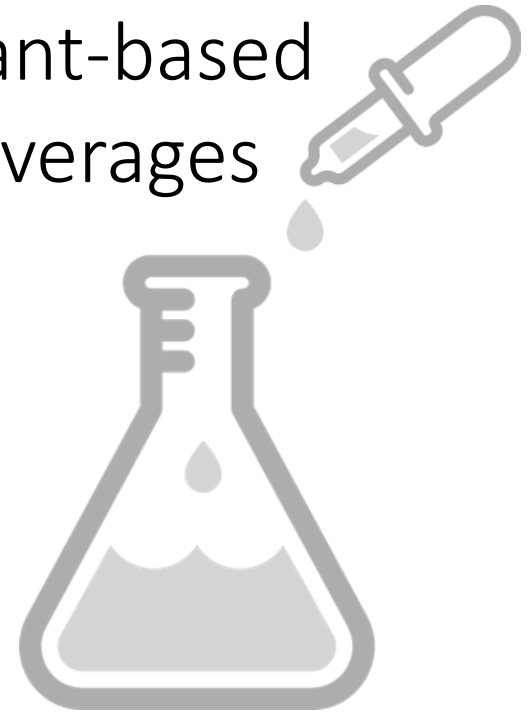
# Nutritional comparison

Comparing MILK



- natural
- nutrient-rich
- presenting nutrients in a milk matrix

to Plant-based beverages



- highly processed or formulated
- mainly fortified

# Know the facts.



- Plant-based beverages **do not naturally contain the same nutrients found in cow's milk** and are not nutrient rich by nature
  - ➔ necessitating **fortification**
- Plant-based alternatives are **highly processed products** with high volumes of water added
- It is **not a natural source of calcium** – fortified with calcium carbonate or phosphate
- Processing often produce **by products** such as okara and carrageenan
- Plant-based alternatives are generally **expensive** – making it hard to reach nutrient recommendations

Milk South Africa



# Nutritional comparison

- **Milk is naturally nutrient-rich and a good source of several essential nutrients by nature**
- such as **high quality protein** and a unique mix of slow and fast proteins
- the minerals **calcium**, phosphorus, potassium and iodine and the vitamins A, B<sub>2</sub> and B<sub>12</sub>.
- milk also contains many other **bioactive components** e.g. over 400 different fatty acids bioactive peptides and a lot of diverse lacto-nutrients
- usually **no added ingredients**
- milk is not a 'high fat' product and there are a range of fat (and kJ) options for different preferences or needs.





# Nutritional comparison

- **Plant-based beverages ARE NOT nutritionally equivalent to milk.**
- generally **low in protein** (with the exception of soy)
- generally **low quality protein** (with the exception of soy drink)
- increasing **fortification with minerals** and vitamins to mimic milk as much as possible
- generally **added sugar**
- several other **added ingredients**  
e.g. vitamins, minerals, and additives such as emulsifiers, stabilisers etc.

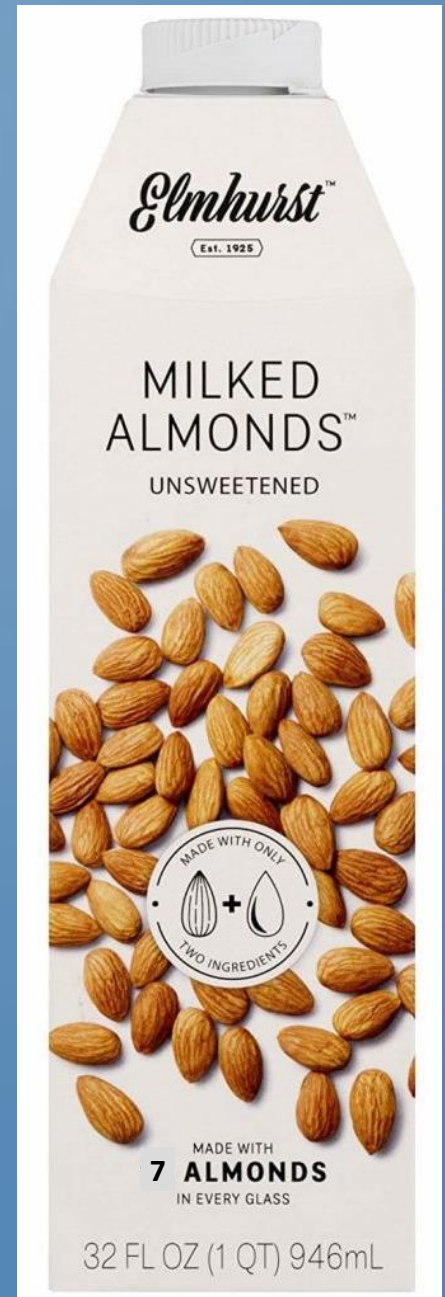


# Nutritional comparison

The composition of plant-based beverages can vary considerably **between** and **within types**

The perception that plant-based drinks are **as nutritious as milk** has the potential to result in **nutritional deficiencies**, particularly in growing children and adolescents

Allergies and intolerances are also factors to consider when using PBB



# Nutrition and Health



**Wealth of data** on  
beneficial or neutral associations  
between milk and health effects

VS

**very little data** on plant-based drinks  
*per se*

# • Health effects of milk and dairy



- Positive associations for
- ✓ colorectal cancer
  - ✓ blood pressure
  - ✓ metabolic syndrome
  - ✓ weight loss with calorie restriction
  - ✓ markers of bone health
  - ✓ dental health



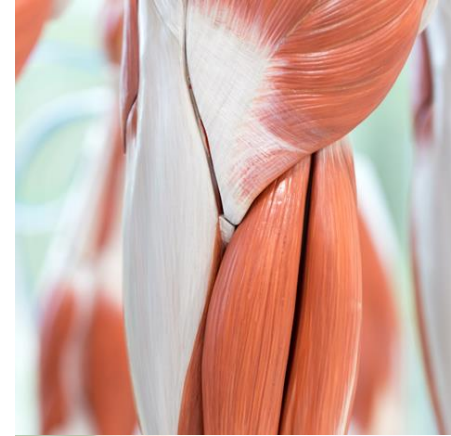
- Neutral associations for
- ✓ cardiovascular disease (CVD)
  - ✓ stroke
  - ✓ type 2 diabetes
  - ✓ overweight



Limited evidence for a negative association for prostate cancer



The actual incidence of milk protein allergy in adults and lactose intolerance or the perception that milk is difficult to digest is much lower than perceived.



*The matrix concept: evaluating the health effects of foods based on the whole food beyond the health effects of the individual nutrients it contains.*

*Note: the evidence for the health effects of fermented dairy (yogurt, cheese) is stronger in some cases than the evidence for milk.*

# Nutrition and health effects

- Very **little research** data and a **lack of evidence** on the health effects of commercially available plant-based drinks
- Plant-based drinks mostly **focus on** the purported beneficial **effects of their constituents** (e.g. soy protein, unsaturated fat) **on disease markers** (e.g. cholesterol) and extrapolate these to product effects.
- Opposite to research with milk, there is little or none evidence for beneficial effects on **disease endpoints** (e.g. CVD).
- Plant-based drinks generally shift the focus to the health benefits of 'plant based diets' and so **create a halo effect**
- The **evidence is currently insufficient** to conclude that plant-based drinks possess health benefits equal or above that of milk.



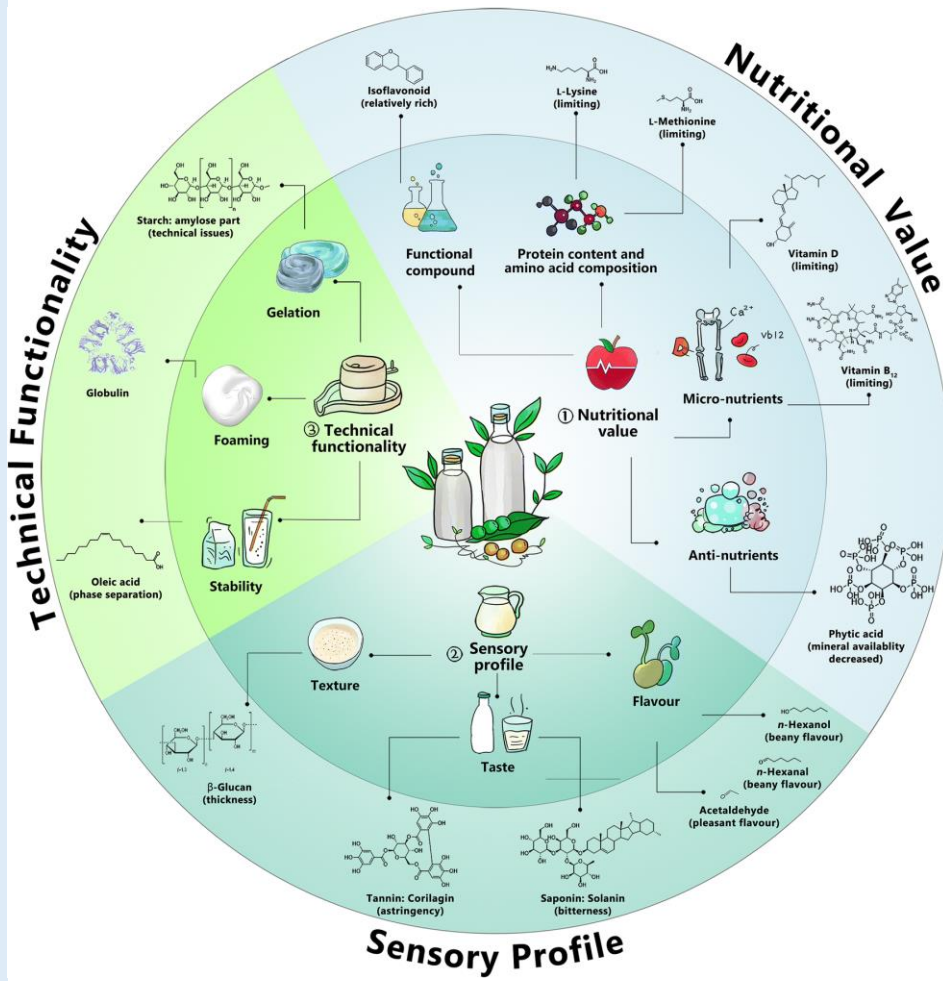
# Processing of MILK vs Plant-based beverages

## MILK is MINIMALLY PROCESSED

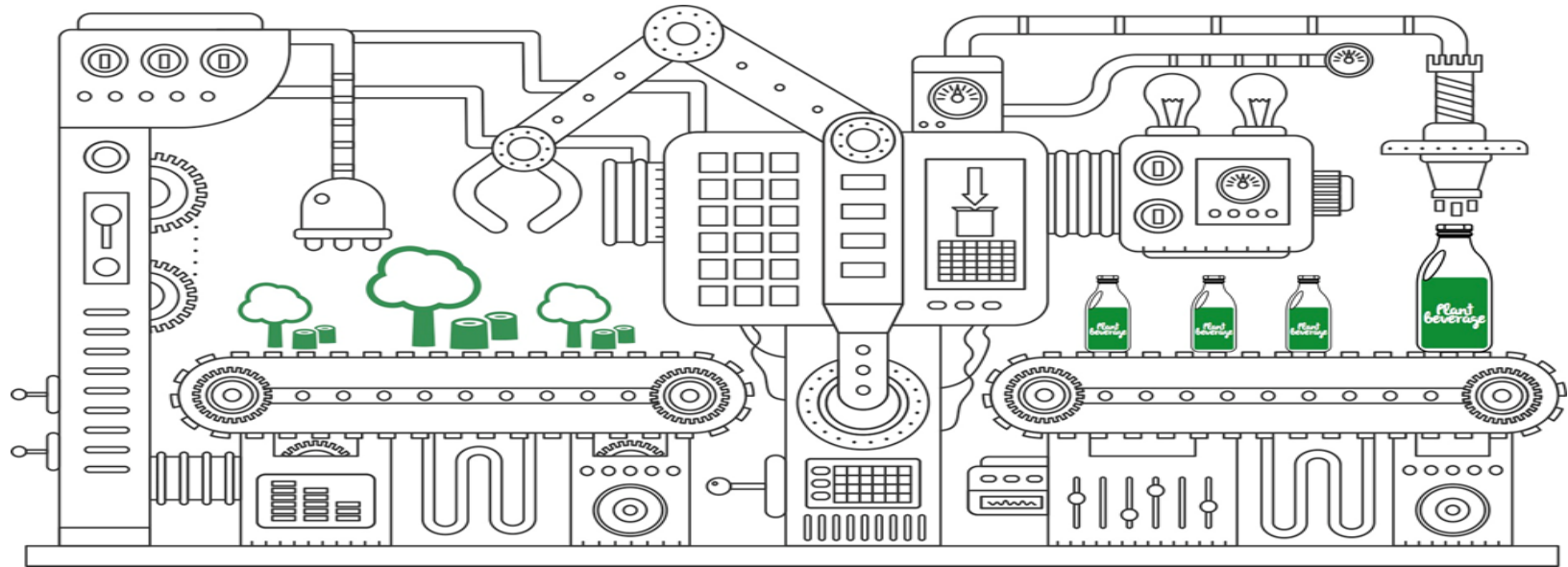
- standardisation
- homogenisation
- heat treatment and
- usually no added ingredients

## PLANT-BASED BEVERAGES are FORMULATED PRODUCTS

- many technical interventions
- fortification with several minerals and vitamins
- addition of different ingredients such as emulsifiers and additives
- heat treatment at generally higher temperatures



# Processing of plant-based beverages

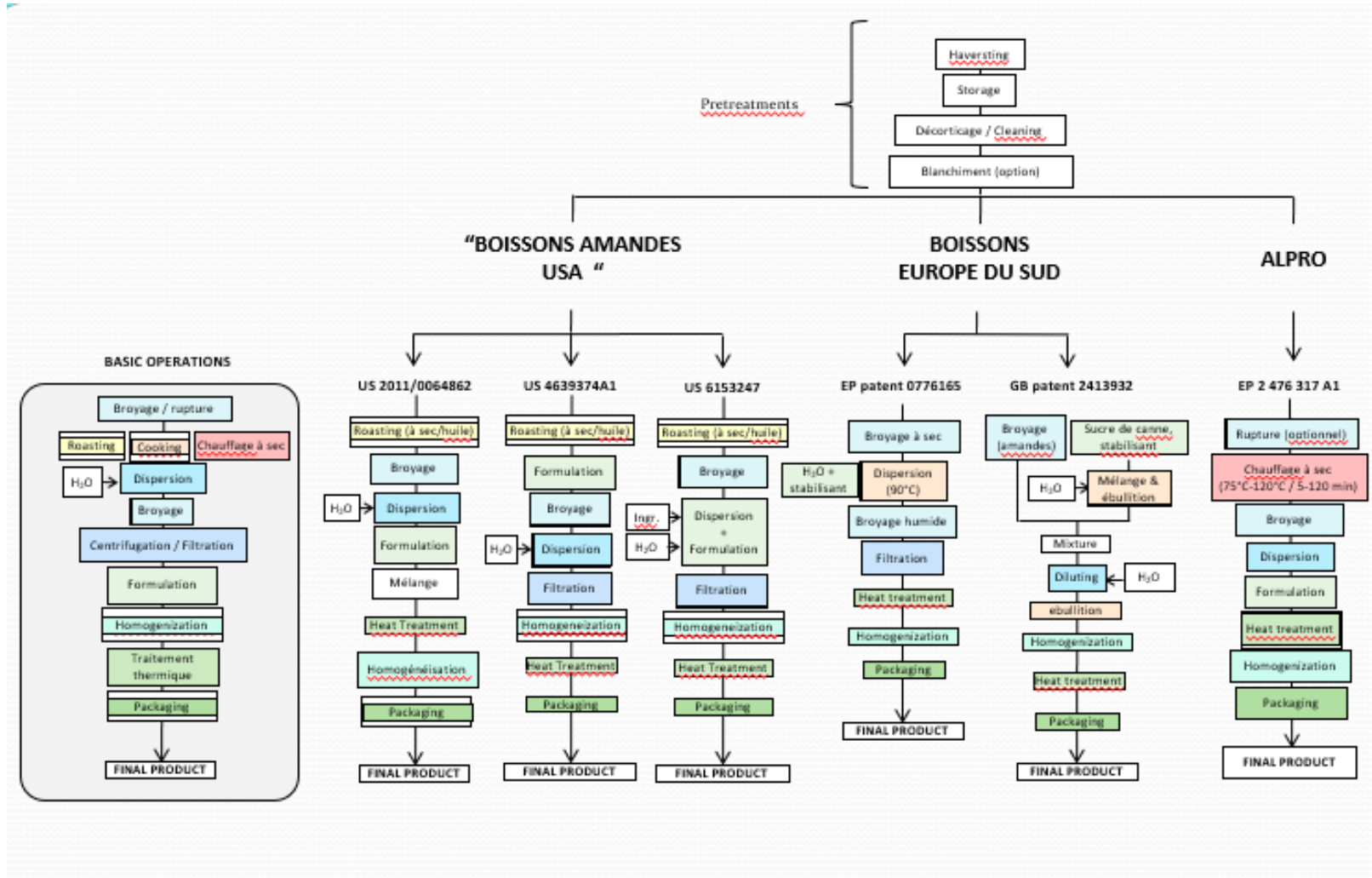


- mechanical and physico-chemical treatments of seeds such as hulling, soaking, cooking, extraction and filtration
- enzyme additions
- fabrication of base in a first step
- formulation by ingredient additions
- use of significant amount of water
- several heat treatments ↪ possible denaturation, degradation of thermosensible molecules
- oxydation ↪ risk of bad taste
- production of by-products such as Okara and Garageenan

Milk South Africa

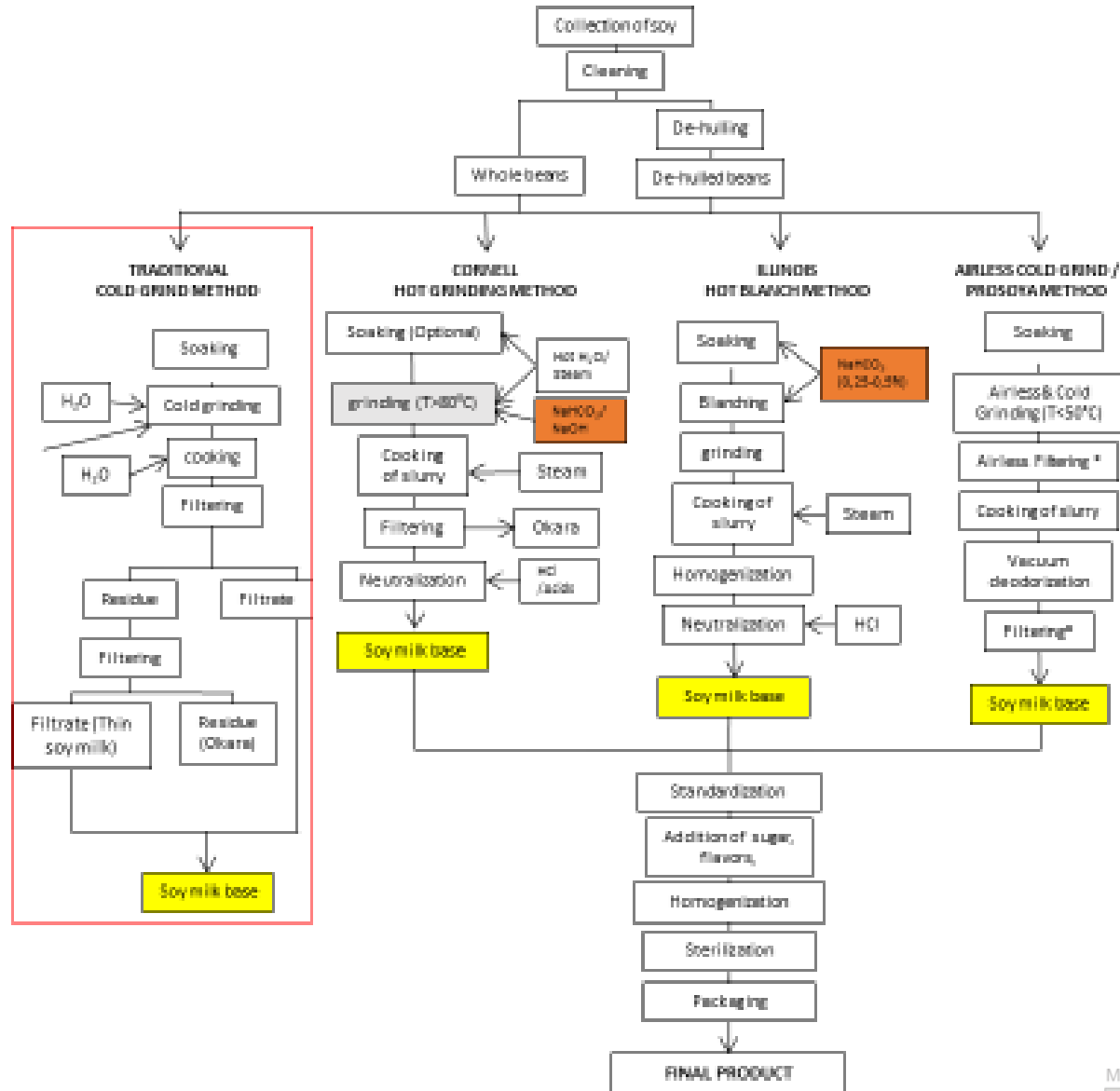


# Processing steps in producing Almond milk



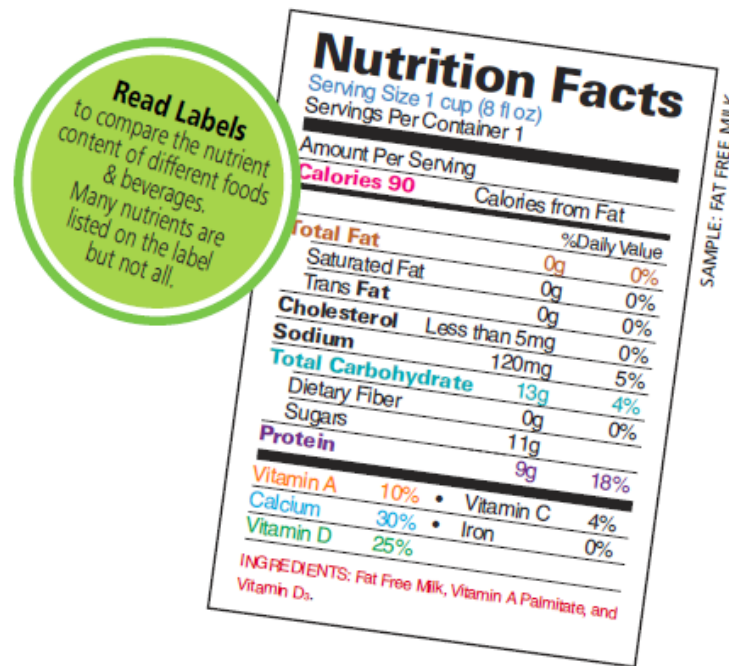


# Processing steps in producing Soy milk



# Comparing apples with apples... The nutrient content of PBB vs MILK

✓ Check the labels, **get the facts**...drink **real MILK**

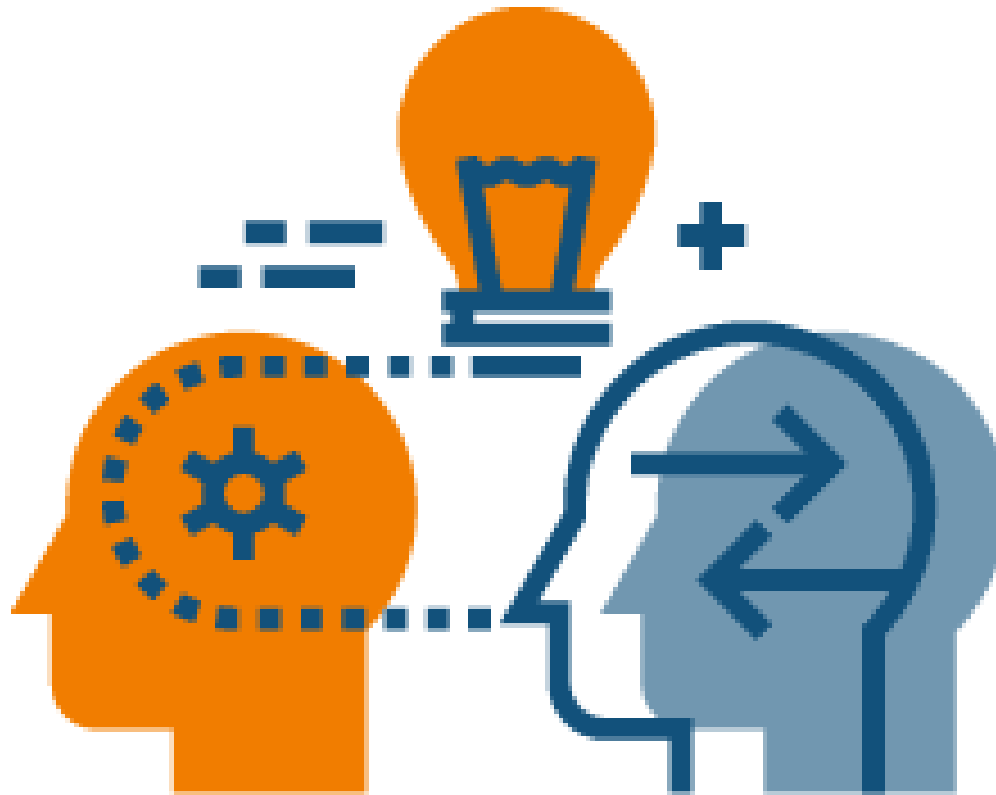


Milk South Africa



# Composition comparison

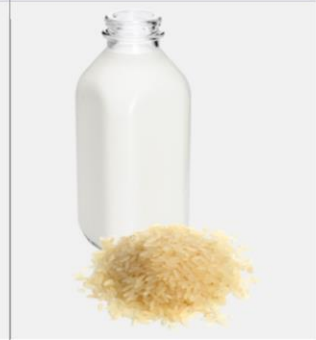
Applying the steps



Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
---------------	-------------------	-------------------	----------------------	-----------------------	--------------------



Per cup = 250 ml



**Nutritional Facts** % Daily Value  
Energy (kj) = 365

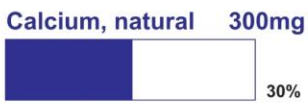
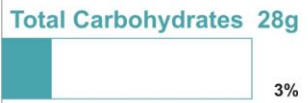
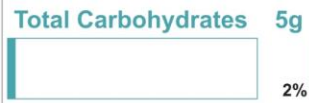
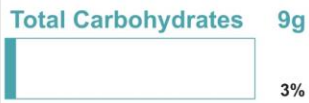
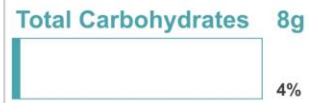
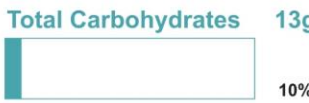
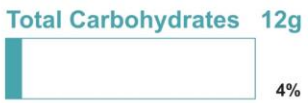
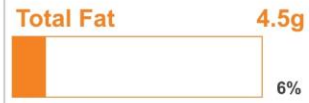
**Nutritional Facts** % Daily Value  
Energy (kj) = 440

**Nutritional Facts** % Daily Value  
Energy (kj) = 460

**Nutritional Facts** % Daily Value  
Energy (kj) = 256

**Nutritional Facts** % Daily Value  
Energy (kj) = 1165

**Nutritional Facts** % Daily Value  
Energy (kj) = 571



**INGREDIENTS:**

FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)

**INGREDIENTS:**

FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME

**INGREDIENTS:**

(FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12

**INGREDIENTS:**







(FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D-ALPHA-TOCOPHEROL (VITAMIN E)







**INGREDIENTS:**







ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENOMETHYLONINE (SELENIUM), ZINC OXIDE, FOLIC ACID, VIT B12







**INGREDIENTS:**

FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D2, VIT B12







Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 365</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 440</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 460</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 256</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 1165</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 571</b>
<b>Total Fat</b> 0g 	<b>Total Fat</b> 4.3g 	<b>Total Fat</b> 4.5g 	<b>Total Fat</b> 2.5g 	<b>Total Fat</b> 29g 	<b>Total Fat</b> 2.5g 
<b>Total Carbohydrates</b> 12g 	<b>Total Carbohydrates</b> 13g 	<b>Total Carbohydrates</b> 8g 	<b>Total Carbohydrates</b> 9g 	<b>Total Carbohydrates</b> 5g 	<b>Total Carbohydrates</b> 28g 
<b>Protein</b> 9g 	<b>Protein</b> 8.5g 	<b>Protein</b> 8g 	<b>Protein</b> 1g 	<b>Protein</b> 0g 	<b>Protein</b> 0.5g 
<b>Calcium, natural</b> 300mg 	<b>Calcium, natural</b> 300mg 	<b>Calcium, added</b> 200mg 	<b>Calcium, added</b> 312mg 	<b>Calcium, added</b> ? 	<b>Calcium, added</b> 277mg 
<b>INGREDIENTS:</b> FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)	<b>INGREDIENTS:</b> FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME	<b>INGREDIENTS:</b> (FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12	<b>INGREDIENTS:</b> (FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D ALPHA-TOCOPHEROL (VITAMIN E)	<b>INGREDIENTS:</b> ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAJACUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENIUM, ONINE (SELENIUM), ZINC OXIDE, FOLIC ACID, VIT B12	<b>INGREDIENTS:</b> FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR







Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 365</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 440</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 460</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 256</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 1165</b>	<b>Nutritional Facts</b> % Daily Value <b>Energy (kj) = 571</b>
<b>Total Fat</b> 0g 	<b>Total Fat</b> 4.3g 	<b>Total Fat</b> 4.5g 	<b>Total Fat</b> 2.5g 	<b>Total Fat</b> 29g 	<b>Total Fat</b> 2.5g 
<b>Total Carbohydrates</b> 12g 	<b>Total Carbohydrates</b> 13g 	<b>Total Carbohydrates</b> 8g 	<b>Total Carbohydrates</b> 9g 	<b>Total Carbohydrates</b> 5g 	<b>Total Carbohydrates</b> 28g 
<b>Protein</b> 9g 	<b>Protein</b> 8.5g 	<b>Protein</b> 8g 	<b>Protein</b> 1g 	<b>Protein</b> 0g 	<b>Protein</b> 0.5g 
<b>Calcium, natural</b> 300mg 	<b>Calcium, natural</b> 300mg 	<b>Calcium, added</b> 200mg 	<b>Calcium, added</b> 312mg 	<b>Calcium, added</b> ? 	<b>Calcium, added</b> 277mg 
<b>INGREDIENTS:</b> FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)	<b>INGREDIENTS:</b> FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME	<b>INGREDIENTS:</b> (FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12	<b>INGREDIENTS:</b> (FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D-ALPHA-TOCOPHEROL (VITAMIN E)	<b>INGREDIENTS:</b> ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENOMETHYLONINE (SELENIUM), ZINC OXIDE, FOLIC ACID, VIT B12	<b>INGREDIENTS:</b> FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D2, VIT B12







Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<b>Nutritional Facts</b> % Daily Value Energy (kj) = 365	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 440	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 460	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 256	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 1165	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 571
<b>Total Fat</b> 0g 	<b>Total Fat</b> 4.3g 	<b>Total Fat</b> 4.5g 	<b>Total Fat</b> 2.5g 	<b>Total Fat</b> 29g 	<b>Total Fat</b> 2.5g 
<b>Total Carbohydrates</b> 12g 	<b>Total Carbohydrates</b> 13g 	<b>Total Carbohydrates</b> 8g 	<b>Total Carbohydrates</b> 9g 	<b>Total Carbohydrates</b> 5g 	<b>Total Carbohydrates</b> 28g 
<b>Protein</b> 9g 	<b>Protein</b> 8.5g 	<b>Protein</b> 8g 	<b>Protein</b> 1g 	<b>Protein</b> 0g 	<b>Protein</b> 0.5g 
<b>Calcium, natural</b> 300mg 	<b>Calcium, natural</b> 300mg 	<b>Calcium, added</b> 200mg 	<b>Calcium, added</b> 312mg 	<b>Calcium, added</b> ? 	<b>Calcium, added</b> 277mg 
<b>INGREDIENTS:</b> FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)	<b>INGREDIENTS:</b> FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME	<b>INGREDIENTS:</b> (FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12	<b>INGREDIENTS:</b> (FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D-ALPHA-TOCOPHEROL (VITAMIN E)	<b>INGREDIENTS:</b> ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENOMETHYLONINE (SELENIUM), ZINC OXIDE, FOLIC ACID, VIT B12	<b>INGREDIENTS:</b> FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D2, VIT B12

Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<b>Nutritional Facts</b> % Daily Value Energy (kj) = 365	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 440	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 460	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 256	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 1165	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 571
<b>Total Fat</b> 0g 	<b>Total Fat</b> 4.3g 	<b>Total Fat</b> 4.5g 	<b>Total Fat</b> 2.5g 	<b>Total Fat</b> 29g 	<b>Total Fat</b> 2.5g 
<b>Total Carbohydrates</b> 12g 	<b>Total Carbohydrates</b> 13g 	<b>Total Carbohydrates</b> 8g 	<b>Total Carbohydrates</b> 9g 	<b>Total Carbohydrates</b> 5g 	<b>Total Carbohydrates</b> 28g 
<b>Protein</b> 9g 	<b>Protein</b> 8.5g 	<b>Protein</b> 8g 	<b>Protein</b> 1g 	<b>Protein</b> 0g 	<b>Protein</b> 0.5g 
<b>Calcium, natural</b> 300mg 	<b>Calcium, natural</b> 300mg 	<b>Calcium, added</b> 200mg 	<b>Calcium, added</b> 312mg 	<b>Calcium, added</b> ? 	<b>Calcium, added</b> 277mg 
<b>INGREDIENTS:</b> FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)	<b>INGREDIENTS:</b> FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME	<b>INGREDIENTS:</b> (FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12	<b>INGREDIENTS:</b> (FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D-ALPHA-TOCOPHEROL (VITAMIN E)	<b>INGREDIENTS:</b> ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENOMETHYLONINE (SELENIUM), ZINC OXIDE, FOLIC ACID, VIT B12	<b>INGREDIENTS:</b> FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D2, VIT B12










Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<b>Nutritional Facts</b> % Daily Value Energy (kj) = 365	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 440	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 460	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 256	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 1165	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 571
<b>Total Fat</b> 0g 	<b>Total Fat</b> 4.3g 	<b>Total Fat</b> 4.5g 	<b>Total Fat</b> 2.5g 	<b>Total Fat</b> 29g 	<b>Total Fat</b> 2.5g 
<b>Total Carbohydrates</b> 12g 	<b>Total Carbohydrates</b> 13g 	<b>Total Carbohydrates</b> 8g 	<b>Total Carbohydrates</b> 9g 	<b>Total Carbohydrates</b> 5g 	<b>Total Carbohydrates</b> 28g 
<b>Protein</b> 9g 	<b>Protein</b> 8.5g 	<b>Protein</b> 8g 	<b>Protein</b> 1g 	<b>Protein</b> 0g 	<b>Protein</b> 0.5g 
<b>Calcium, natural</b> 300mg 	<b>Calcium, natural</b> 300mg 	<b>Calcium, added</b> 200mg 	<b>Calcium, added</b> 312mg 	<b>Calcium, added</b> ? 	<b>Calcium, added</b> 277mg 
<b>INGREDIENTS:</b> FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)	<b>INGREDIENTS:</b> FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME	<b>INGREDIENTS:</b> (FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12	<b>INGREDIENTS:</b> (FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D-ALPHA-TOCOPHEROL (VITAMIN E)	<b>INGREDIENTS:</b> ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENOMETHYLONINE (SELENIUM), ZINC OXIDE, FOLIC ACID, VIT B12	<b>INGREDIENTS:</b> FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D2, VIT B12

Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<b>Nutritional Facts</b> % Daily Value Energy (kj) = 365	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 440	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 460	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 256	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 1165	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 571
<b>Total Fat</b> 0g 	<b>Total Fat</b> 4.3g 	<b>Total Fat</b> 4.5g 	<b>Total Fat</b> 2.5g 	<b>Total Fat</b> 29g 	<b>Total Fat</b> 2.5g 
<b>Total Carbohydrates</b> 12g 	<b>Total Carbohydrates</b> 13g 	<b>Total Carbohydrates</b> 8g 	<b>Total Carbohydrates</b> 9g 	<b>Total Carbohydrates</b> 5g 	<b>Total Carbohydrates</b> 28g 
<b>Protein</b> 9g 	<b>Protein</b> 8.5g 	<b>Protein</b> 8g 	<b>Protein</b> 1g 	<b>Protein</b> 0g 	<b>Protein</b> 0.5g 
<b>Calcium, natural</b> 300mg 	<b>Calcium, natural</b> 300mg 	<b>Calcium, added</b> 200mg 	<b>Calcium, added</b> 312mg 	<b>Calcium, added</b> ? 	<b>Calcium, added</b> 277mg 
<b>INGREDIENTS:</b> FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)	<b>INGREDIENTS:</b> FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME	<b>INGREDIENTS:</b> (FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12	<b>INGREDIENTS:</b> (FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D-ALPHA-TOCOPHEROL (VITAMIN E)	<b>INGREDIENTS:</b> ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENOMETHYLONINE (SELENIUM), ZINX OXIDE, FOLIC ACID, VIT B12	<b>INGREDIENTS:</b> FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D2, VIT B12

Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<b>Nutritional Facts</b> % Daily Value Energy (kj) = 365	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 440	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 460	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 256	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 1165	<b>Nutritional Facts</b> % Daily Value Energy (kj) = 571
<b>Total Fat</b> 0g 	<b>Total Fat</b> 4.3g 	<b>Total Fat</b> 4.5g 	<b>Total Fat</b> 2.5g 	<b>Total Fat</b> 29g 	<b>Total Fat</b> 2.5g 
<b>Total Carbohydrates</b> 12g 	<b>Total Carbohydrates</b> 13g 	<b>Total Carbohydrates</b> 8g 	<b>Total Carbohydrates</b> 9g 	<b>Total Carbohydrates</b> 5g 	<b>Total Carbohydrates</b> 28g 
<b>Protein</b> 9g 	<b>Protein</b> 8.5g 	<b>Protein</b> 8g 	<b>Protein</b> 1g 	<b>Protein</b> 0g 	<b>Protein</b> 0.5g 
<b>Calcium, natural</b> 300mg 	<b>Calcium, natural</b> 300mg 	<b>Calcium, added</b> 200mg 	<b>Calcium, added</b> 312mg 	<b>Calcium, added</b> ? 	<b>Calcium, added</b> 277mg 
<b>INGREDIENTS:</b> FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)	<b>INGREDIENTS:</b> FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D3, LACTOSE ENZYME	<b>INGREDIENTS:</b> (FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D1, VIT B2, VIT B12	<b>INGREDIENTS:</b> (FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECHITIN, VIT A PALMITATE, VIT D1, D-ALPHA-TOCOPHEROL (VITAMIN E)	<b>INGREDIENTS:</b> ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D2, L-SELENOMETHYLONINE (SELENIUM), ZINX OXIDE, FOLIC ACID, VIT B12	<b>INGREDIENTS:</b> FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D2, VIT B12



# Composition comparison

Fat-free MILK	Lactose-free MILK	Soy beverage MILK	Almond beverage MILK	Coconut beverage MILK	Rice beverage MILK
					
<p><b>INGREDIENTS:</b></p> <p>FAT-FREE MILK (SA MILK NOT FORTIFIED WITH VITAMIN D)</p> 	<p><b>INGREDIENTS:</b></p> <p>FORTIFIED MILK, VITAMIN A PALMITATE, VITAMIN D<sub>3</sub>, LACTOSE ENZYME</p>	<p><b>INGREDIENTS:</b></p> <p>(FILTERED WATER, WHOLE SOY BEANS); CANE SUGAR, SEA SALT, CARRAGEENAN, NATURAL FLOUR, TRI-CALCIUM PHOSPHATE, CALCIUM CARBONATE, VITAMIN A PALMITATE, VITAMIN D<sub>1</sub>, VIT B<sub>2</sub>, VIT B<sub>12</sub></p>	<p><b>INGREDIENTS:</b></p> <p>(FILTERED WATER, ALMONDS) EVAPORATED CANE JUICE, CALCIUM CARBONATE, SEA SALT, POTASSIUM CITRATE, CARRAGEENAN, SUNFLOWER LECITHIN, VIT A PALMITATE, VIT D<sub>1</sub>, D-ALPHA-TOCOPHEROL (VITAMIN E)</p>	<p><b>INGREDIENTS:</b></p> <p>ORGANIC COCONUT (WATER, ORGANIC COCONUT CREAM), ORGANIC DRIED CANE SYRUP, CALCIUM PHOSPHATE, CARRAGEENAN, GUAR GUM, VITAMIN A PALMITATE, VITAMIN D<sub>2</sub>, L-SELENOMETHYLONINE (SELENIUM), ZINX OXIDE, FOLIC ACID, VIT B<sub>12</sub></p>	<p><b>INGREDIENTS:</b></p> <p>FILTERED WATER, BROWN RICE (PARTIALLY MILLED), EXPELLER PRESSED HIGH OLEIC SAFFLOWER OIL AND/OR SUNFLOWER OIL AND/OR CANOLA OIL, TRI-CALCIUM PHOSPHATE, SEA SALT, VIT A PALMITATE, VIT D<sub>2</sub>, VIT B<sub>12</sub></p>

# In Summary

Plant-based drinks are not **MILK ALTERNATIVES** and should not be called milk



# Plant-based BEVERAGES

- may be a drink of choice for some and be incorporated as part of a mixed diet


HOWEVER

- they are very different food types to that of milk
- can not replace milk in the diet
- you can not compare a whole natural **food matrix** to an artificially composed drink
- plant-based drinks are highly formulated foods and should not be considered as natural
- for the South African population plant-based drinks are not financially accessible or affordable and the cultural exceptability is questionable




# European dairy industry calls on bloc to get tough on 'misleading' labels

Three European trade bodies have issued a reminder to member states not to go soft on misleading practices.



CNN

Live TV 

## Non-dairy beverages like soy and almond milk may not be 'milk,' FDA suggests

DairyHub



74°  The Telegraph

FULL MENU LOCAL NEWS SPORTS OBITUARIES SHOPPING

WINNERS OF THE BEST SELLING ARE NOW ONLINE

Continuing to use this site, you give your consent to our use of cookies for analytics, personalization and ads. [LEARN MORE](#)

**IFT** Network, learn, and engage with food industry, policy, and research professionals from around the globe. [Join IFT for only \\$99 a year.](#) 

## FDA to crack down on misuse of 'milk'



# Labelling of plant-based dairy: a complex matter



NC State University will build a dairy education center and on-campus cafe off Lenoir Road at the site of the university's dairy farm. There, the public will be able to learn about the university's herd, its milk and ice cream processing facilities. By Travis Long

NATIONAL

### If it doesn't come from a hooved animal, you can't call it 'milk,' NC bill says

**IFT**  
Get the insights and research you need to stay informed

Where You Belong. Join Today



VIDEOS



# REGULATORY matters



International Regulatory references:

- **Codex GSUDT** → Dairy terms should not be applied to plant-based products
    - GENERAL PRINCIPLES : Foods shall be described or presented in such a manner as to ensure **the correct use of dairy terms** intended for milk and milk products, to **protect consumers from being confused or misled** and to ensure **fair practices in the food trade**.
    - 4.6.1 The names referred to in Sections 4.2 to 4.5 **may only be used as names or in the labelling of milk, milk products or composite milk products**.
    - 4.6.3 In respect of a product which is not milk, a milk product or a composite milk product, no label, commercial document, publicity material or any form of point of sale presentation shall be used **which claims, implies or suggests that the product is milk**, a milk product or a composite milk product, or which refers to one or more of these products
  - **Codex GS for the Labelling of Prepackaged Foods** → Plant-based drinks should not be presented or labelled in any way as to suggest they are linked with milk and milk products
    - 3. GENERAL PRINCIPLES
      - 3.1 Prepackaged food shall not be described or presented on any label or in any labelling in a manner that is **false, misleading or deceptive or is likely to create an erroneous impression** regarding its character in any respect.
      - 3.2 Prepackaged food shall not be described or presented on any label or in any labelling by words, pictorial or other devices which refer to or are **suggestive either directly or indirectly**, of any other product **with which such food might be confused**, or in such a manner **as to lead the purchaser or consumer to suppose that the food is connected with such other product**
-



# REGULATORY matters:

What about 'lactose free' or cholesterol free claims

- **CODEX Guidelines on claims:**

vi) Claims which highlight the absence or non-addition of particular substances to food may be used provided that they are not misleading and provided that the substance:

- (a) is not subject to specific requirements in any Codex Standard or Guideline
- (b) **is one which consumers would normally expect to find in the food;**
- (c) has not been substituted by another giving the food equivalent characteristics unless the nature of the substitution is clearly stated with equal prominence; and
- (d) is one whose presence or addition is permitted in the food.

➔ Plant based products DO NOT CONTAIN MILK or milk products : lactose is not expected to be in the food = which would not authorize the use of "lactose-free" claim.



# OBJECTIVE of the Global Dairy Industry

Global voice and global aim:

To **protect the consumer** against misleading messages

Provide **science-based communication** to state the facts and dispel the myths



Milk South Africa



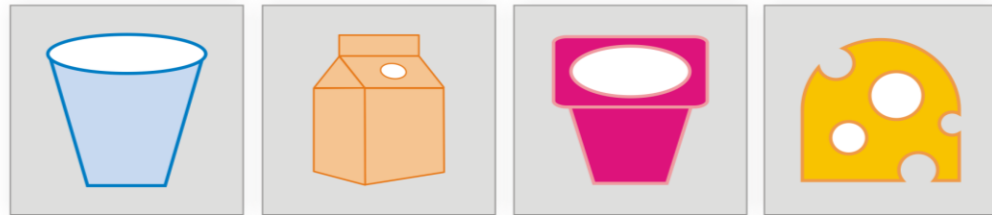


Consumer Education Project of Milk SA

# Thank you



maretha@dairycep.co.za



## Communicating the nutritional and health benefits of dairy

[www.rediscoverdairy.co.za](http://www.rediscoverdairy.co.za)  
[www.dairygivesyougo.co.za](http://www.dairygivesyougo.co.za)