

ALTERNATIVE SOLUTIONS FOR A CLEAN LABEL



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MAIN TOPICS



Marketing

The consumers

The market

What about clean label ?

What about clean label products ?



Food Additives

Colours

Flavours

Preservatives

Antioxidants

Emulsifiers

Thickeners

Sweeteners



Main Ingredients

Gluten

Other proteins

Trans fatty acids

THE CONSUMERS

Package and labelling are responsible for **the first contact between food companies and consumers**

- ▶ 64 % of consumers read labels *
- ▶ 51 % read the ingredients list *



* Source: Innova Market Insights for Beneo.

THE FREE FROM FOOD MARKET

- Growth: 5 – 20 % / year

Figure 1 Free-from foods sales



Source: Mintel

WHAT ABOUT CLEAN LABEL ?

- Additives free or Natural Additives: familiar ingredients
- Allergenic Free
- Free from sugar – saccharose
- Non-GMO
- Organic
- Vegan



WHAT ABOUT CLEAN LABEL PRODUCTS ?

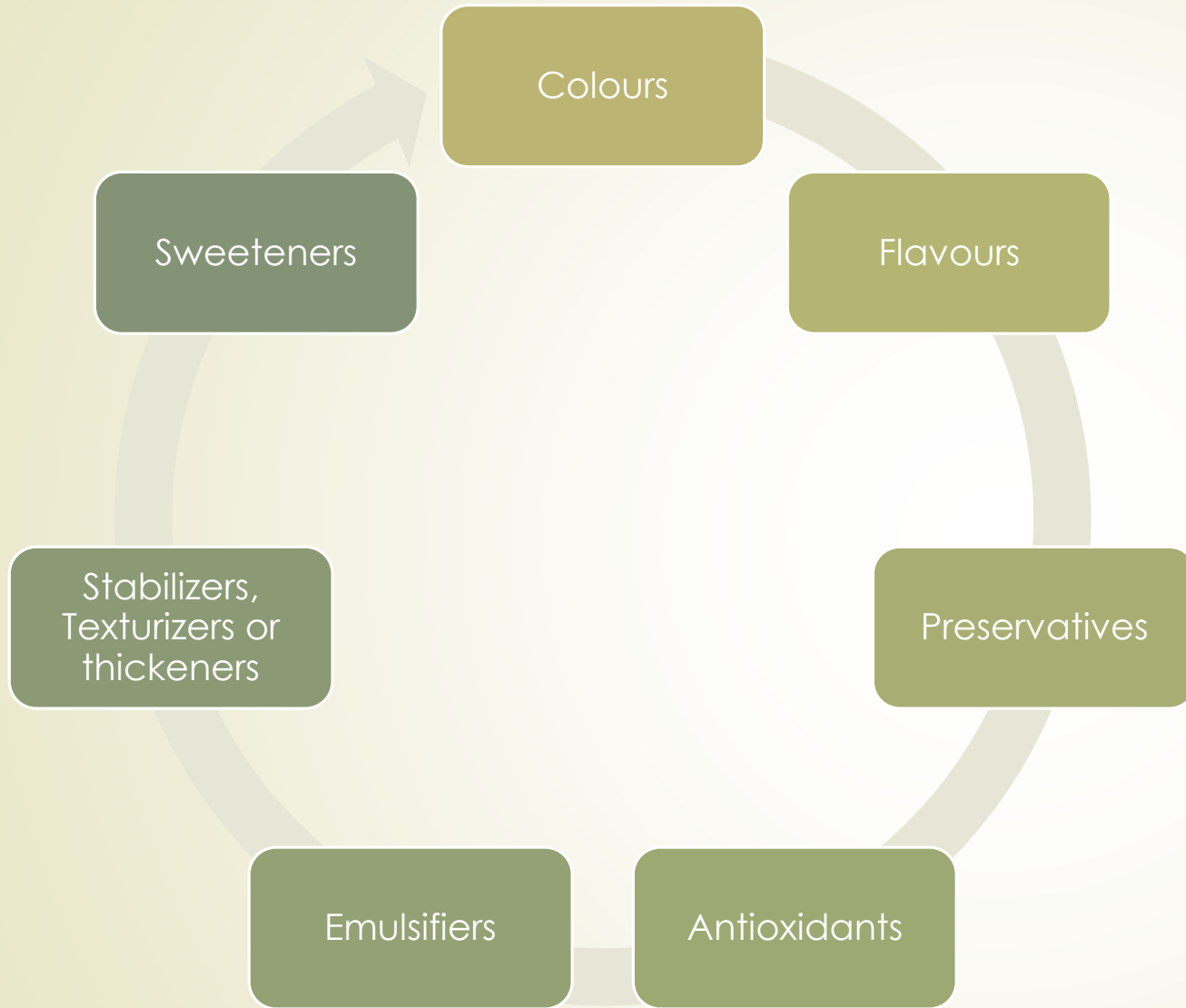
*“Despite their desire for more “natural” foods, the end **consumer doesn’t want to sacrifice taste or texture.**” **

So what can we do?

**Source: Avebe at:*

<https://www.avebe.com/news/free-from-foods-global-trend/>





ADDITIVES
REPLACEMENT



NATURAL COLOURS

Yellows: annato - from Bixa Orellana), turmeric

Violets and Pinks: beetroot, berries, hibiscos and grape

Reds: black currant, elderberry

Oranges: carrot (and Yellow + Red)

Blues: spirulin

Greens: green vegetables - source of chlorofil, lemmon (and blue+yellow)

Natural Colours

- ▶ Use the colours principles:



NATURAL COLOURS - ATTENTION TO:

Temperature:
some are not heat
stable.

- Prefer low temperatures and longer time of exposure on drying processes, very short time in baking processes.

Light: some get
brown when
exposed to light.

- Prefer opaque packaging materials and transparent plastic films, with UV protection.

pH: some are
affected by basic
or acid substrates,
that changes the
color.

- Apply natural colors after achieving final pH.

Chochineal:
beautiful pink.

- It is natural, but it is not vegan.



NATURAL FLAVOURS

- ▶ Natural flavors instead of artificial or synthetic flavors or even natural identical ones.
- ▶ Spices
- ▶ Concentrated Fruits
- ▶ Allergenic Free Flavours

BUTTER BUDS: Non Dairy Reaction Flavors - made from vegetable sources for dairy, cream or butter tastes.

NATURAL
FLAVOURS -
ATTENTION
TO:



Usage: higher concentration



Costs: higher costs



Spices – oxidation.



Reflexion: If everybody starts using only natural flavors, what is going to happen with the natural sources?



PRESERVATIVES

Aw: concentration of sugar and salt

But consumers are asking for sugar free and low sodium.

pH as one ally – 3,0

Ethanol – low concentrations

Enzymes: lysozym

Bacteriocins – Nisin: produced by microorganisms in the food

Essential oils of cinnamon and cloves



Physical Preservatives

- ▶ Pressure Treatment - HPP
- ▶ Heat Treatment – UHT
- ▶ Combined processes – Freeze Drying process
- ▶ Modified atmosphere: Nitrogen, CO₂.



Preservatives

Attention to:

- ▶ **Barriers or hurdle technology**

Sinergies between:

- ▶ Ingredients
- ▶ pH
- ▶ Packaging
- ▶ Heat treatment.
- ▶ Modified atmosphere.





NATURAL ANTIOXIDANT

To preserve freshness:

- Rosemary oil
- Grape oil

“Plant extracts have been prepared using different solvents and extraction methods. Grape seed, green tea, pine bark, rosemary, pomegranate, nettle and cinnamon have exhibited similar or better antioxidant properties compared to some synthetic ones”.

Source: “Plant extracts as natural antioxidants in meat and meat products” by Manzoor Ahmad Shah, Sowriappan John Don Bosco *, Shabir Ahmad Mir. Department of Food Science and Technology, Pondicherry University, Puducherry 605014, India.





NATURAL ANTIOXIDANT - ATTENTION TO:

Sometimes there is more water
then fat:

- Rosemary oil
 - KALSEC water soluble versions
- Very good in nut's flours and seeds.





EMULSIFIERS



Sunflower lecithin



Rice Lecithin



They don't contain GMO

THICKENERS AND STABILIZERS

- ▶ Natural fibers from sources like: apple, bambu, beetroot etc.
- ▶ Fibers from cellulose
- ▶ Seed flours from: linseed, chia, psyllium
- ▶ Starches: Tapioca flour, rice flour
- ▶ Fruits: Banana flour

THICKENERS AND STABILIZERS – ATTENTION TO

- ▶ There are many alternatives. It requires many experiments to find the right one or the right combination of them.
- ▶ Some of the Flours change the taste and the color of the product



NATURAL SWEETENERS

- ▶ Steviol Glycosides
- ▶ Taumatin
- ▶ Polyols



NATURAL SWEETENERS: ATTENTION TO

- ▶ Taumatin helps to decrease the after taste of stevia
- ▶ Polyols – they have a laxative effect
- ▶ Xylitol – cold effect when solved in the mouth



GLUTEN FREE

- ▶ Rice Flour
- ▶ Tapioca Flour
- ▶ Non GMO Corn Flour
- ▶ Fibers
- ▶ Enzymes

GLUTEN FREE – ATTENTION TO

- ▶ Native starches are different even if from the same vegetable.



GLUTEN FREE – ATTENTION TO

- ▶ It is a new Science.
Difficult to predict results.



This is all for the moment,
but we are just beginning.

Thank you very much!

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