

SEASONINGS AND FLAVOURS FOR TORTILLA CHIPS

DESIGN AND APPLICATION

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Internal

AGENDA



Seasoning design



**Seasoning application
and functionality**



**IFF technology
for seasonings**

Internal



SEASONING DESIGN

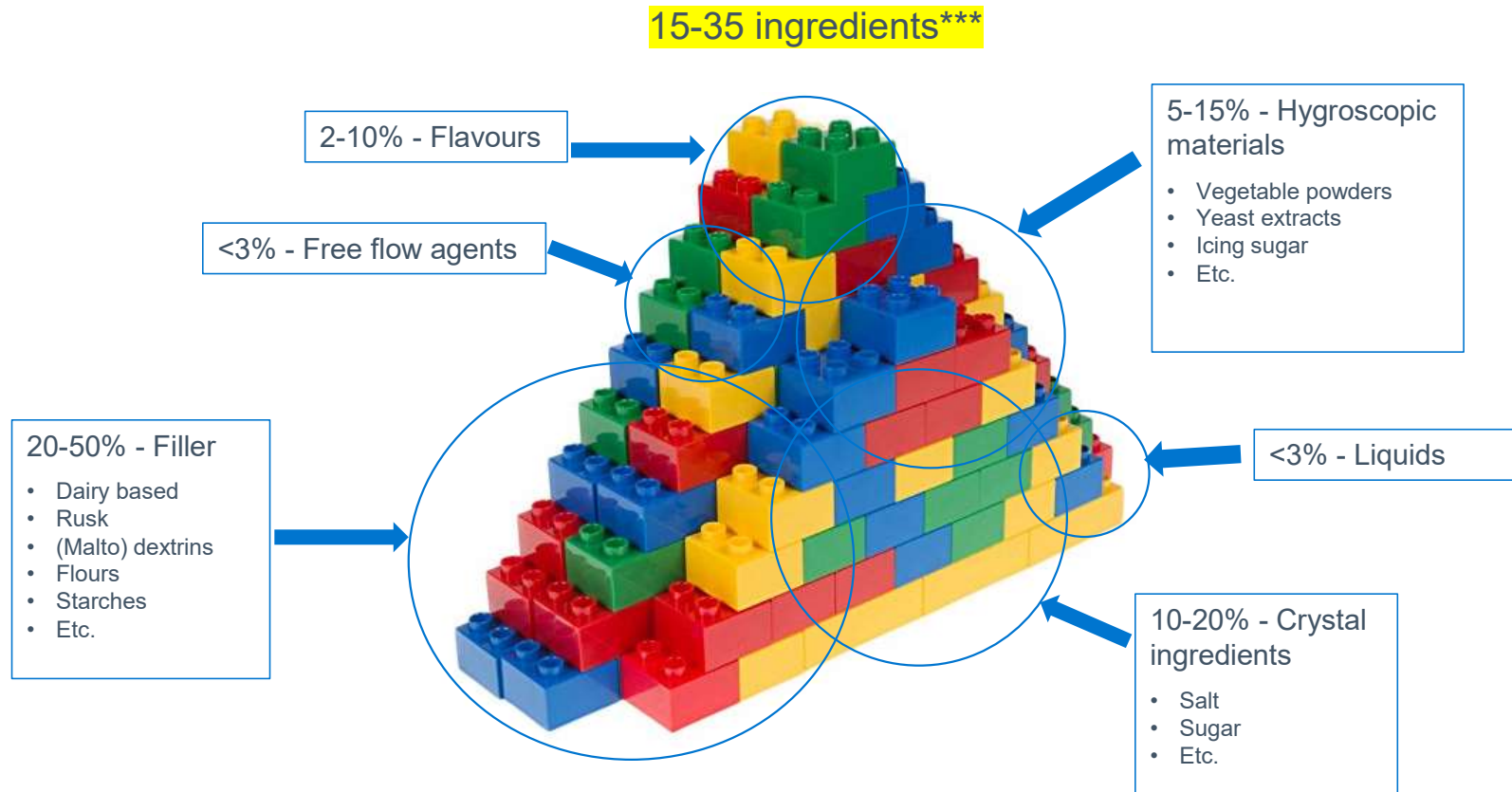
A seasoning is a blend of herbs, spices, flavours and condiments that plays a critical role in the flavour and appearance of salty snacks and acceptance by consumers by providing:

Aroma; Flavour; Colour → Character!

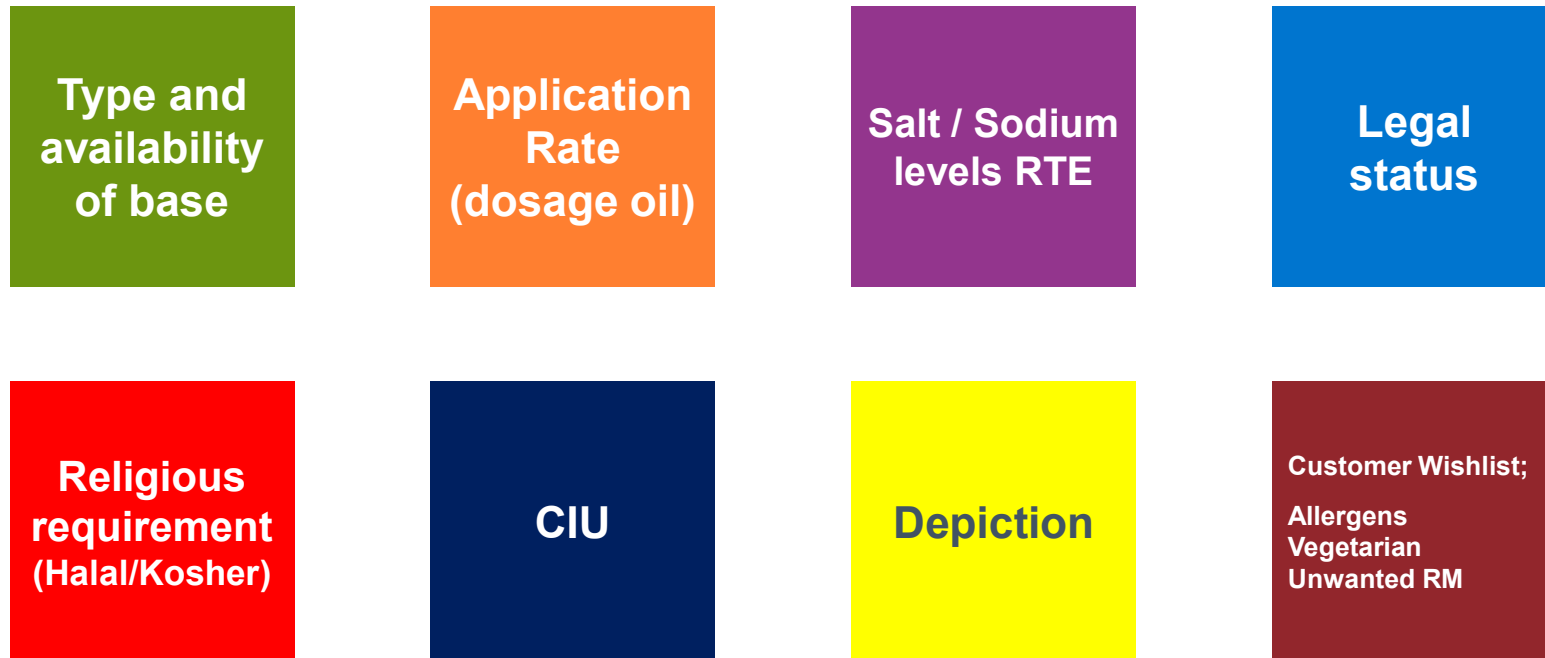
SEASONING COMPOSITION

Build up of a typical seasoning

*** top level addition!

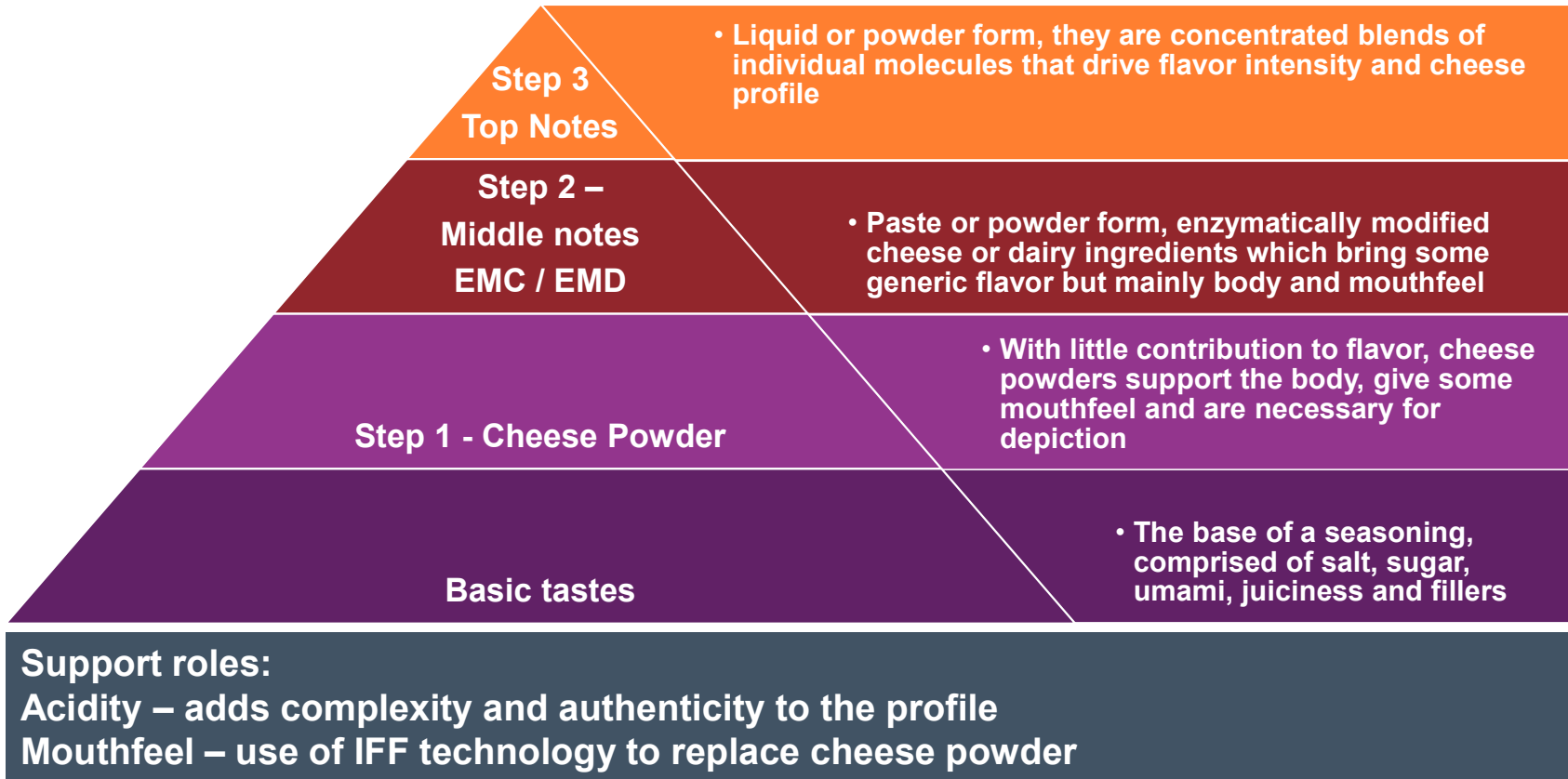


RAW MATERIAL CHOICE INFLUENCED BY...





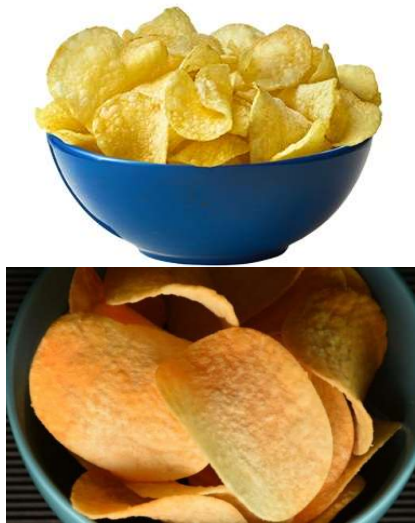
THE FLAVOR PYRAMID



SEASONING APPLICATION AND FUNCTIONALITY

APPLICATION OF A SEASONING

Topical



Oil spray +
Topical



Slurry



Application and dosage influences flavor delivery!!

IN DOUGH SEASONING/FLAVOURING

Not only snacks!!

Concentrated seasonings/flavourings can be added to a dough or formed snack before forming/baking.

Low dosage

Can provide both colour and flavour

Can be both savoury or sweet or enhance a basic taste (salt, umami)

Requires bake stability

More on this tomorrow!



SEASONING FUNCTIONALITY

A key operational consideration

- **Seasoning flow**
- **Caking and patchiness**
- **Adhesion to base**
- **Seasoning dustiness**



These aspects are not independent but interlinked and in balance



Influenced by

- **Particle size distribution**
- **Humidity (ingredients)**
- **Free flow/anticaking agents**
- **Oils/fats**



May be controlled by ingredient choice, within limitations (legal, taste, cost)

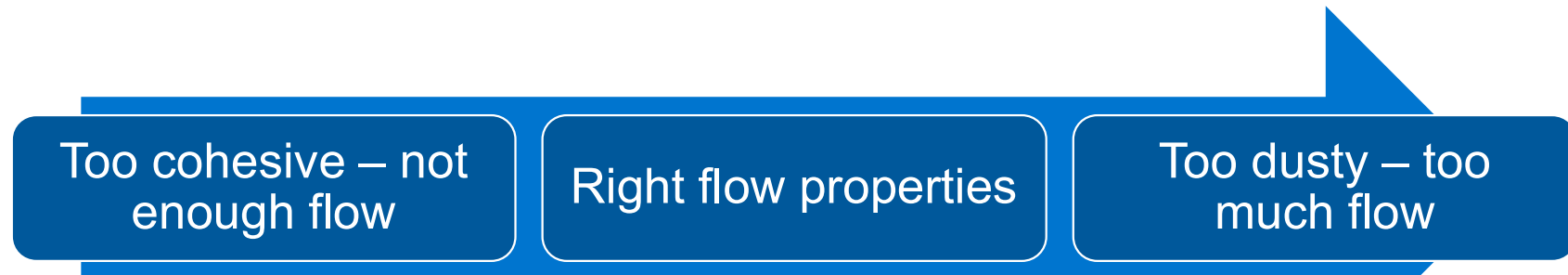
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- **Production environment and setup**



Hard to control, varies between seasons and among plants

FLOWABILITY, COHESIVENESS AND DUSTINESS

The flowability scale



Possible causes:

- Inadequate particle size distribution
- Too much coating oil
- Not enough free flow agent
- Too much moisture

Possible causes:

- Inadequate particle size distribution
- Too little coating oil
- Too much free flow agent
- Too dry

Note: this scale is not necessarily linear! It is possible to have a seasoning that does not flow well and yet is dusty!

MEASURING FUNCTIONALITY

Many tests help build the full picture – a complex and inexact science



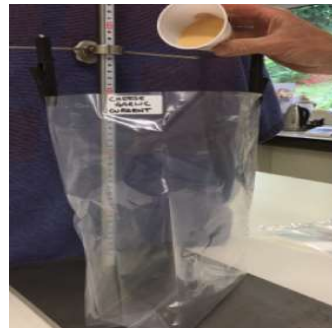
Hot box test

Accelerated shelf life testing at 40 degrees and under pressure



Humidity chamber

Shows the powder properties when moisture absorption occurs



Bag Test

Empirical test to measure the amount of dust liberated when the seasoning is poured



Powder Flow Tester (Brookfield)

Measures the yield stress required for the powder to flow over itself



Particle size

Measured by laser light scattering of the suspended particles

IFF TECHNOLOGY FOR SEASONINGS

RE-IMAGINING THE FUTURE OF TASTE

Continuous Innovation Pipeline for end to end portfolio



RE-IMAGINE
WELLNESS™

Taste Modulation:
IFF FLAVORFIT™

Sensorial
Experiences:
IFF BUZZPOTENT™

Botanical Health
Extracts



RE-IMAGINE
CLEAN™

IFF TASTE
ORIGINS™

Stories with a Flavor



RE-IMAGINE
WASTE™

Upcycled Flavors



RE-IMAGINE
PROTEIN®

Plant Based



RE-IMAGINE
DELIVERY®

Clear Emulsions:
IFF TRU2CLEAR™

HP EMULSIONS

IFF TRU2NATURE™

Robust Emulsions



RE-MASTER
CITRUS™

Sustainable Citrus



RE-MASTER
VANILLA™

For milk alternatives



SODIUM REDUCTION

Enhancing the perception of saltiness in a low salt seasoning

Nacho Cheese reference product

Salt on Finished Product label: 1,15%

Nacho Cheese with technology
IFF FLAVORFIT™ Salt tools

Salt on Finished Product label: 1,15%



CLEAN LABEL

Full recipe remodel

Barbeque Original product

Declaration: Flavouring, smoke flavouring

Salt content: 1,4% (finished product)

**E#'s present: E160c; E330; E508 (LABEL)
E414; E504(i); E341(iii); E551
(PROCESS AIDS)**

Barbeque Clean Label

Declaration: Natural Flavouring

Salt content: 1,05% FP (25% reduction)

**E#'s retained: E160c (LABEL)
E414; E504(i) (PROCESS AIDS)**



**Uncommon answers start
with bold questions!**