ALLAND & ROBERT

Since 1884

SYNDEO® GELLING

A plant-based gelling agent *for ultimate textures*

DISTRIBUTORS SESSION INFORMATION

22 & 23th of June, 2023

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BIRTH OF THE IDEA - APPROCH

WHY GELATIN?

- Widely used all over the world
- Outstanding versatility
- No real interesting substitute
- Vegan and vegetarian trends
- Environmental reasons, animal well fare
- Religious reasons

➔ **BIG CHALLENGE**

BIRTH OF THE IDEA - APPROCH

WHY GELATIN?

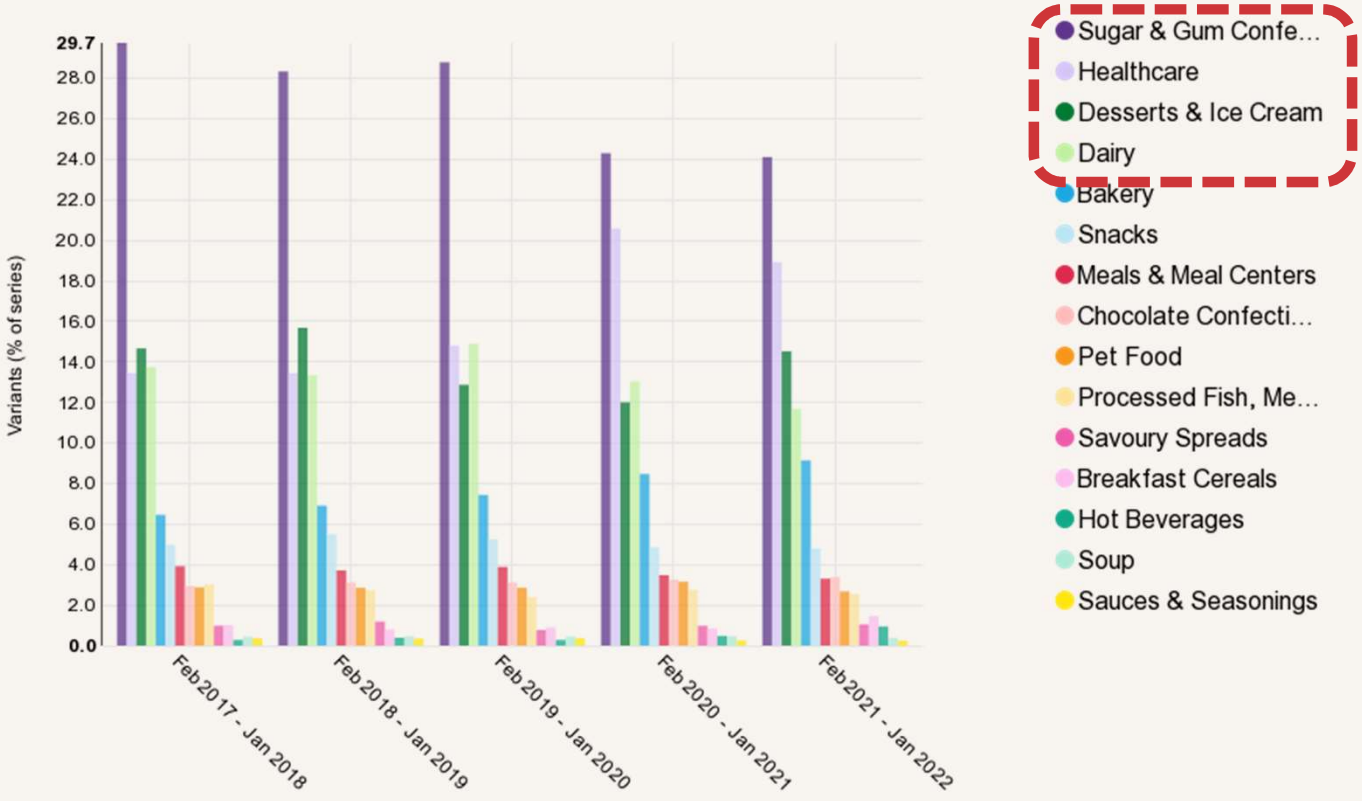
- Food industries = more than 50% of applications
- Many functionalities and properties like acacia gum = many options
- Clarifying agent, emulsifier, gelling or whipping agent, stabilizer, thickener

➔ **BIG CHALLENGE**

BIRTH OF THE IDEA - APPROCH

70% of products formulated with gelatin:

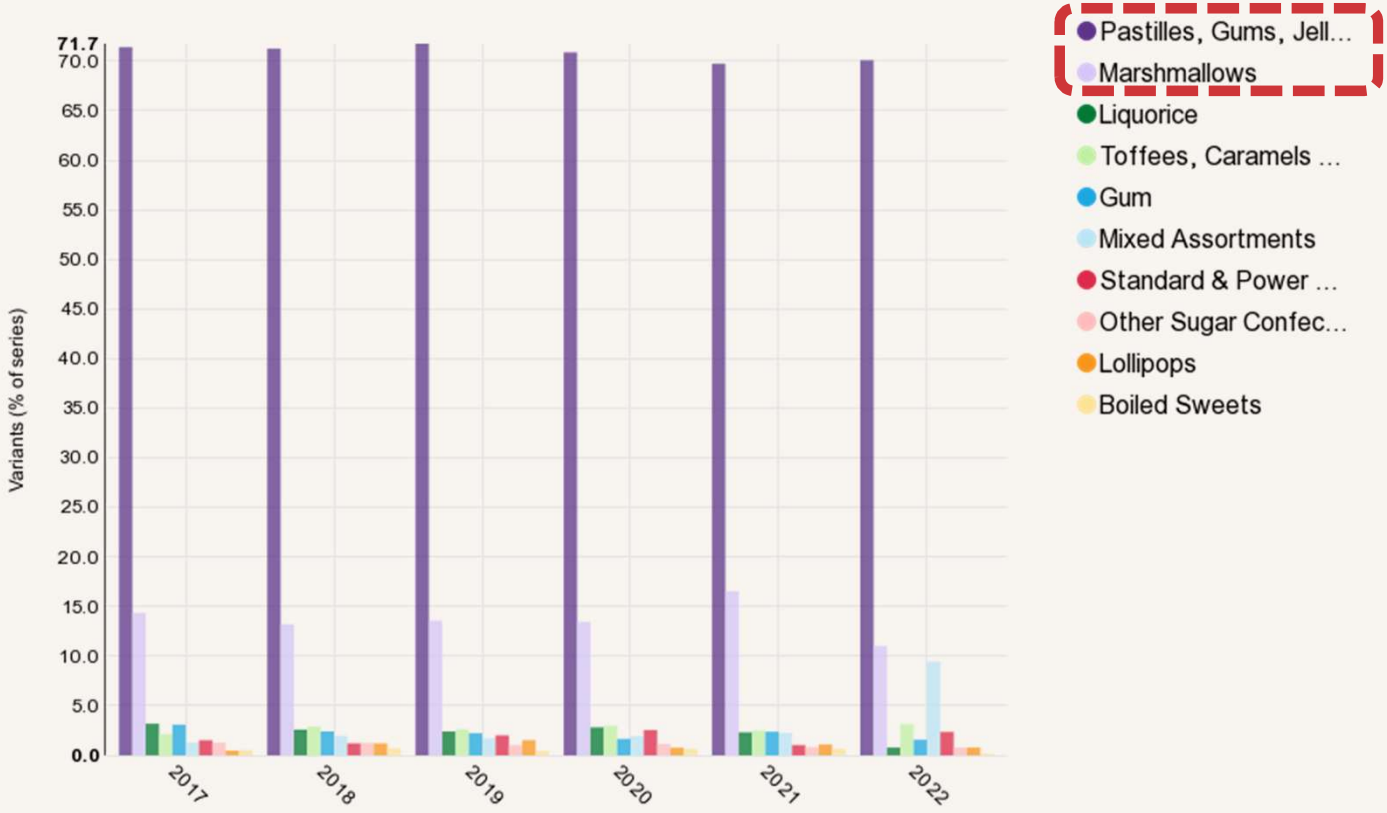
- Confectionery
- Healthcare
- Desserts & ice creams
- Dairies



BIRTH OF THE IDEA - APPROCH

80% of confectionery formulated with gelatin

- Pastilles, gummies
- Marshmallows



HUNDREDS OF LAB TESTS TO REACH THE RIGHT TEXTURE

- Asset : one technician specialized in gummies and candies (trained at German ZDS school)
- Tools: instrumental (texturometer) and sensorial tests
- Sensory analysis / trained internal panel
- A&R knowledge / hydrocolloids

GUMMIES

MARSHMALLOWS

MOUSSES

THE FORMULATION

- **Blend of :**

  Acacia gum – E414
  Carrageenans – E407
  Agar – E406

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SPECIFICATIONS
SYNDEO® GELLING
N° Spec. 1502013
Created on : 16.03.2023
Version : 4
Last Update : 12.05.2023

1. DESCRIPTION

The Syndeo® G is a combination of Acacia gum, Carrageenans, Agar-agar and dextrose. Syndeo® Gelling is an effective vegan gelling agent that brings texture and mouthfeel improvement to candies, marshmallows, jellies, mousses, and other products usually formulated with gelatine.

TYPICAL DOSAGE

Gummies: 3 to 4% with 0.4% salts (to functionalize) according to the desired texture.
Marshmallows : 2.5 to 3.5% with 0.4% salts (to functionalize) according to the desired texture.
Mousses : around 1% with 0.1% salts (to functionalize) in association with 2 to 3% of vegetal proteins.

RECOMMENDATIONS

Solubility : dispersible in cold water and totally soluble over 70°C.
Functionalization and gelling : functionalized in presence of salts and after boiling a few minutes over 90°C. Acids must be added at the end of the recipe to preserve gelling efficiency which may be altered in acid medium coupled with high temperature.

2. COMPOSITION

Ingredients : Acacia gum [E414], Carrageenans [E407], Agar-agar [E406], dextrose.

3. LEGAL REQUIREMENTS

- Commission Regulation (EU) No 231/2012 laying down specifications for food additives [E414], [E407], [E406] as amended.
- Other on request.

- **Hydrocolloids commonly used in food**
- **Part C - Group I of REGULATION (EC) No 1333/2008 on food additives**
- **Carrageenan controversy : not degraded in Syndeo G**

FORMULATION OF VEGAN GUMMIES

Recipe

Vegan jellified candies

Ingredients (in % weight)

Water	38.3
Sucrose	19.2
Glucose syrup 40 DE	11.5
Glucose syrup 60 DE	26.7
SYNDEO® GELLING	3.3
Citric acid (E330)	0.6
Sodium citrate (E331)	0.4

Instructions

1/ Mix water, glucose syrups and sodium citrate for 2 minutes at 80°C;

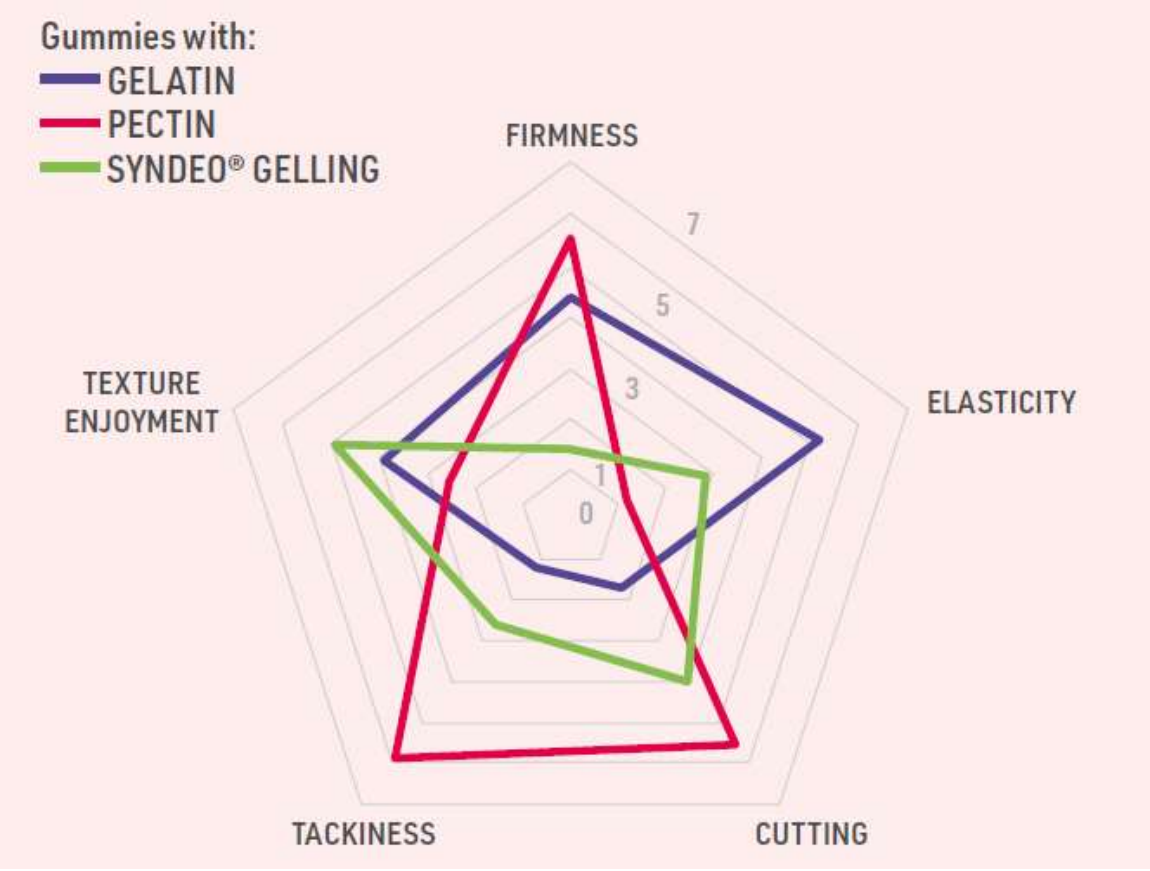
2/ Add sucrose and the SYNDEO® GELLING under stirring: blend 8 minutes at 120°C;

3/ Add and mix citric acid just before starch deposit step;

4/ Deposit in starch trays and dry jellies for 72 to 96 hours at 32°C.

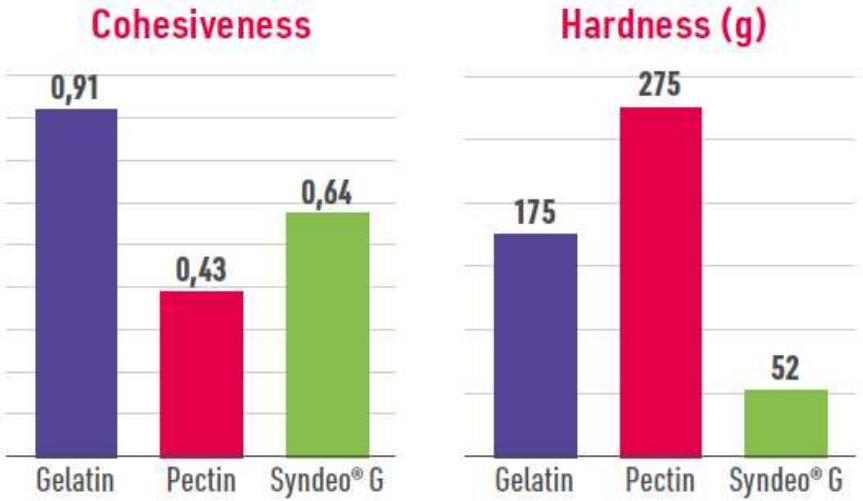
FORMULATION OF VEGAN GUMMIES

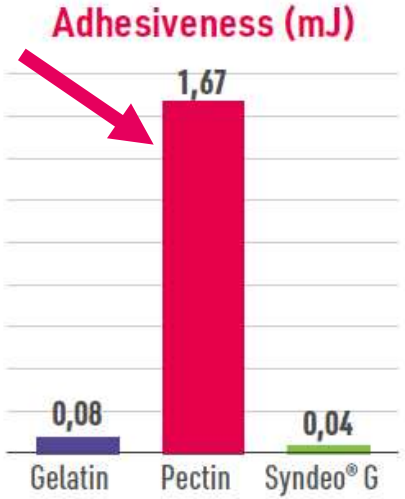
Sensory analysis



FORMULATION OF VEGAN GUMMIES

Texture Profile analysis





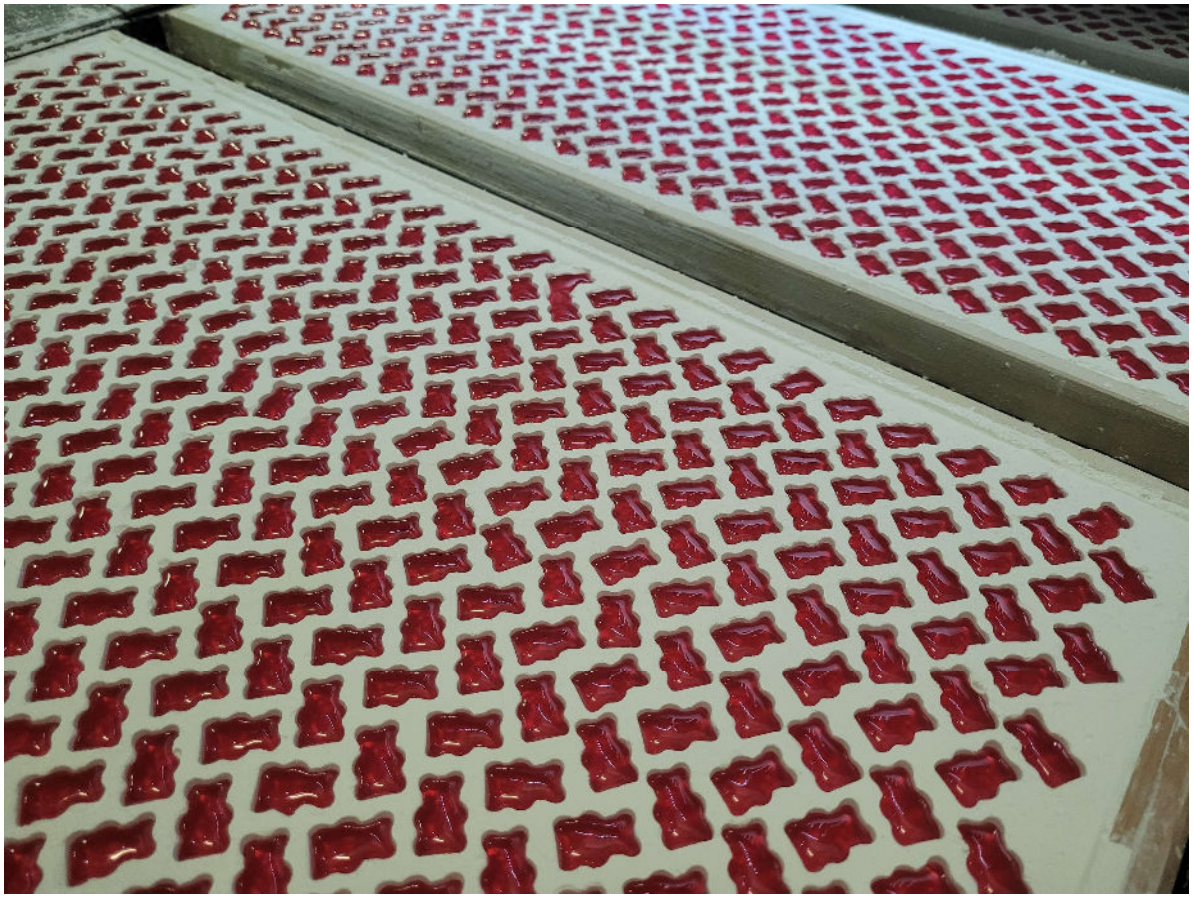
PRODUCTION OF VEGAN GUMMIES

Industrial scale / French confectionery

- Identical operating conditions compared to regular gummies formulated with gelatin
- Easy depositing step (nice rheology of syrup)
- Successful drying process (even at ambient temperature)
- Very good feedback from professionals
- To take into account : water could be decreased to favour the heating step and nice Brix

PRODUCTION OF VEGAN GUMMIES

Industrial scale / French confectionery



FORMULATION OF VEGAN MARSHMALLOWS

Recipe

Vegan marshmallows

Ingredients (in % weight)

BLEND 1	
Water	18.5
Sucrose	19.0
Glucose syrup 40 DE	11.9
Glucose syrup 60 DE	27.9
SYNDEO® GELLING	2.5
Sodium citrate (E331)	0.4
BLEND 2	
Water	9.2
Sucrose	9.4
Potato proteins	1.2

Instructions

1/ Blend 1: mix all the ingredients with a powerful heating mixer (speed 7) for 5 minutes at 120°C;

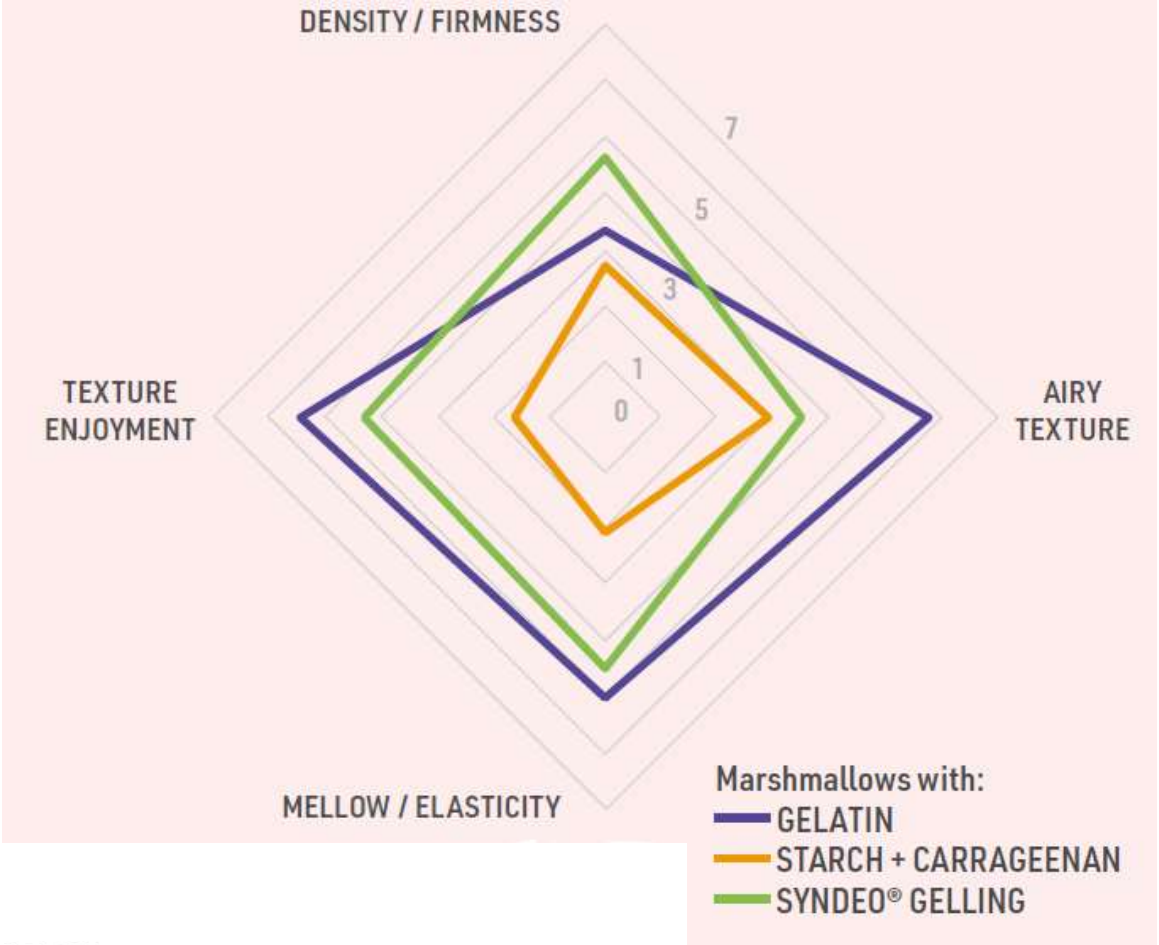
2/ Blend 2: mix all the ingredients with a powerful heating mixer (speed 7) for 5 minutes at 70°C;

3/ Mix the 2 blends with the mixer with a lower speed (3) for 2 minutes;

4/ Deposit in starch trays and dry marshmallows at least 24 hours at 32°C.

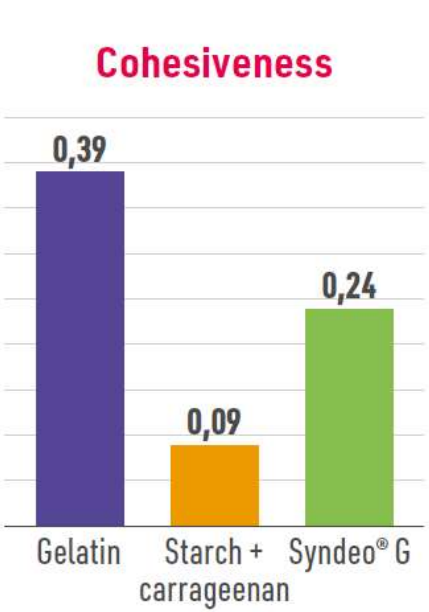
FORMULATION OF VEGAN MARSHMALLOWS

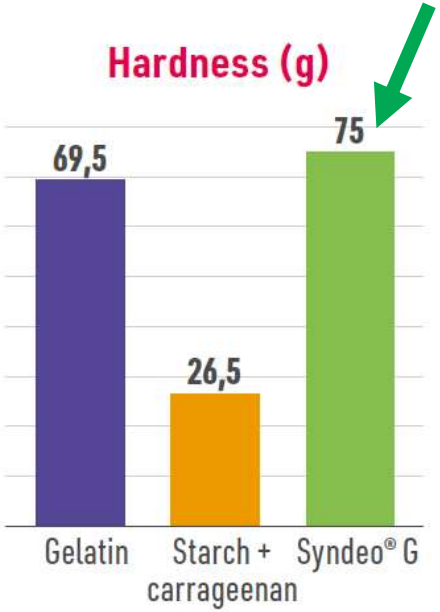
Sensory analysis

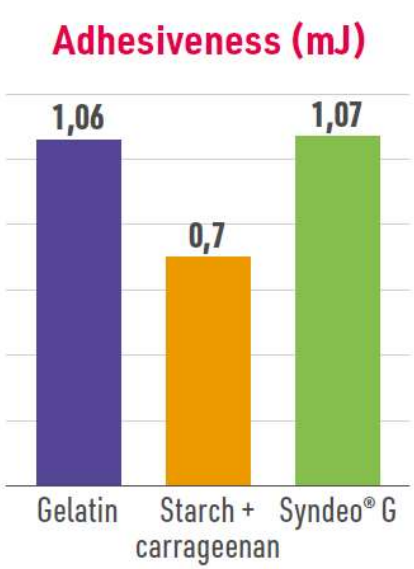


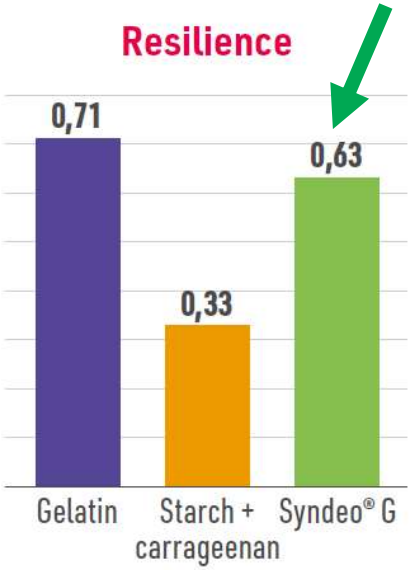
FORMULATION OF VEGAN MARSHMALLOWS

Texture Profile analysis









FORMULATION OF VEGAN MOUSSES

Recipe

Vegan mousses

Ingredients (in % weight)

BLEND 1	
Water	20
Vegetal protein	2.5
Icing sugar	2.5
BLEND 2	
Mango puree	37
Coconut milk	37
Sodium citrate (E331)	0.13
SYNDEO® GELLING	0.87

Instructions

Blend 1:

1/ Mix water and vegetal protein for 2 min at speed 5;
Whisk for 2 min at speed 8;
Add icing sugar and mix for 30 sec at speed 5;
Whisk for 2 min at speed 8;

Blend 2:

2/ Mix all the ingredient together for 1 min at speed 3;
Heat 90°C for 3 min at speed 3;

3/ Mix slowly together with a spatula until getting an homogeneous mousse;

4/ Pour into small glasses and refrigerate for at least 4 hours.

GENERAL CONSIDERATIONS

Highlights

- Syndeo® G dosing compared to gelatin : 2 to 3 times less depending on the final product
- Requires salts (Na+) to be functionalized
- Easy to dissolve (needs minimal temperature)
- May withstands high temperature and acidic conditions compared to gelatin much more sensitive
- The Bloom notion in reference to the setting strength of gelatin is not applicable to Syndeo® G.

GENERAL CONSIDERATIONS

Next steps

- Chewy candies whipped with gelatin

- Dairies : yoghurts

- Chilled desserts included plant-based trends : pannacottas, creams (spoonable or creamy)

GENERAL CONSIDERATIONS

Conclusion

- Mastery of new hydrocolloids in our lab
- Look forward to receiving feedback from you and potential customers (about gummies)
- A&R technical support to implement our Syndeo® Gelling

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THANK YOU FOR ATTENDING !

All our brochures, technical sheets, recipes…
can be **DOWNLOADED** in our distributor area on
www.allandrobert.com

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