

Today, we are going to reinforce our knowledge and appreciation of chocolate.

Fifth edition of Agrotecnio's Early Career Forum

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Food Bioactive Compounds





**RAW CACAO
CACAO BEAN**



1 COCOA BEAN

Please,

- Smell the cocoa bean, the nib and the cocoa liquor.
- Chew them.
- Perceive aroma and astringency

Despite the high fat content, the bitterness masks it.

CONVERTING CACAO SEEDS INTO THE RAW MATERIAL FOR THE CHOCOLATE INDUSTRY.



2. COCOA NIB



**3. COCOA LIQUOR
/MASS**



COCOA LIQUOR /MASS

Second taste:

- Place a small piece of cocoa butter (4) in your mouth. Allow it to melt by gently heating it.
- Crush it between your tongue and the roof of your mouth, observing as it disappears.
- Smell by retronasal way the chocolate aroma
- Finally, taste the cocoa powder (5)



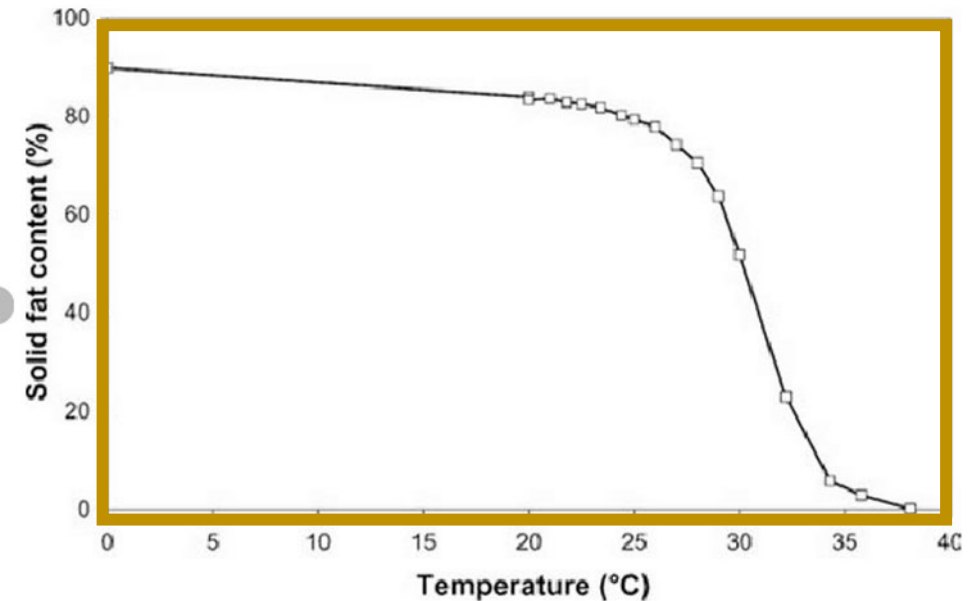
4 COCOA BUTTER



COCOA CAKE



5. COCOA POWDER



Cocoa butter has a particular fusion



HOW CHOCOLATE IS MADE?

THE MANUFACTURING OF CHOCOLATE



- **MIXING**
- **INGREDIENTS**
- **PARTICLE**
- **REDUCTION**
- **CONCHING**



TEMPERING

Heating and cooling chocolate to make glossy candies and confections with a good texture.



Cocoa butter > 20%



Sugar < 55 %



**Power milk > 14 %
with 4,5 % fat**

White chocolate



Noir/Black Chocolate



**>35%
Solids > 14 %
Butter > 18%**

Chocolate with milk



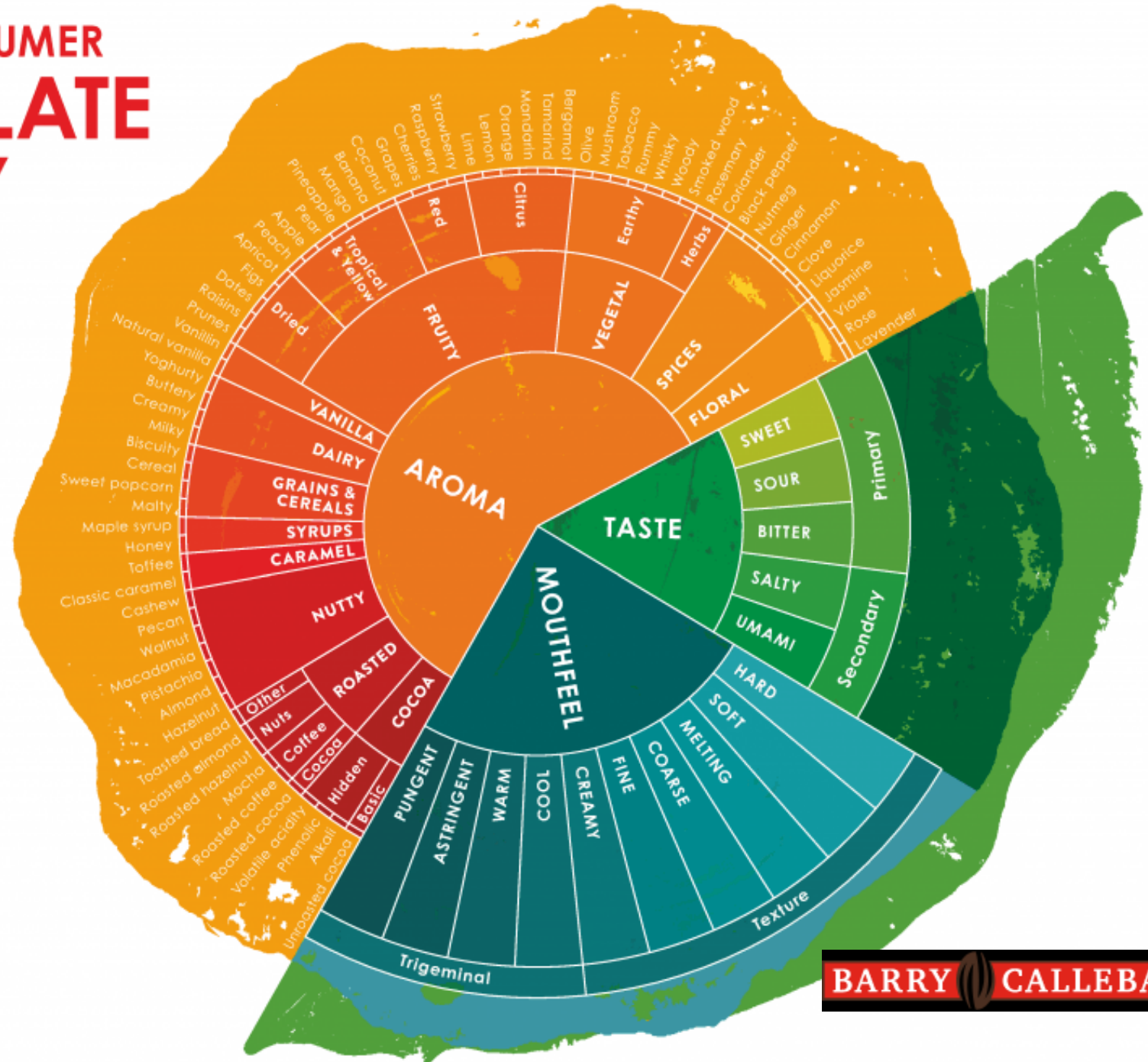
**>25 % cocoa solids
> 2,5 % Defatted cocoa solids
Total fat > 25%
Milk solids >14%**



THIS IS THE CONSUMER CHOCOLATE SENSORY WHEEL

WE ARE GOING TO
TASTE 4 CHOCOLATES

- 6 White chocolate
- 7 Chocolate with milk
- 8 Dark chocolate 55
- 9 Dark chocolate 70





(6) White chocolate with sweetener

Cocoa solids 27 %
Total fat 32 %

Nutritional fats

Fats 32 %
Saturated 23%
Carbohydrates 57 %
Sugar 7%
Polialcoholes 50 g
Fibra 4
Protein 5



(7) 823 Milk callets Nutritional fats

Cocoa solids >33,6
Total fat 36 %
Milk solids 20,8 %

Fats 36,2
Saturated 22%
Carbohydrates 51 %
Sugar 50%
Protein 7,0



(8) Dark 811

Nutritional fats

Cocoa solids >54,5

Total fat 37 %

Fats 36,6 %

Saturated 22 %

Carbohydrates 46 %

Sugar 43 %

Protein 5,1

(9) Dark callets 70-30-38

Nutritional fats

Cocoa solids > 70,5 %

Total fat 39 %

Fats 38,9 %

Saturated 23%

Carbohydrates 31 %

Sugar 23%

Protein 8,8



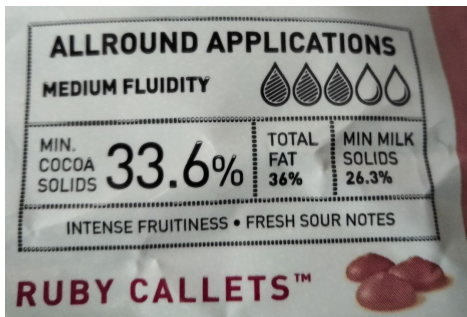
Ruby chocolate (10)

- Sugar
- Cocoa butter
- Skimmed milk powder
- Whole milk powder
- Cocoa mass
- Emulsifier: lecithin
- Citric acid**
- Natural vanilla flavouring



Nutritional fats

- Cocoa solids > 33,6 %
- Total fat 36 %
- Milk Solids > 26,3 %
- Fats 35,9 %
- Saturated 22%
- Carbohydrates 49 %
- Sugar 48%**
- Protein 9,3 %





Commercial Reference = Cocoa solids + Sugar + Moisture (<3-4%)

56 % Nutritional facts

Fats 41,1 %

Saturated 25,3%

Carbohydrates 40,8 %

Sugar 37,6 %

Protein 5,5 %

74 % Nutritional facts

Fats 42 %

Saturated 26%

Carbohydrates 32 %

Sugar 26%

Protein 9,6%

95 % Nutritional facts

Fats 51,1 %

Saturated 31%

Carbohydrates 12,7 %

Sugar 2,3%

Protein 12,5 %



**Please, compare White collets
with sample 6**

How much sugar / cocoa solids
are in White W2?

Sugar content : 52 %

Cocoa solid (butter) : 28 %



**Each person is going to receive a
sample of dark chocolate. They
should compare it with samples 8
and 9**

How much cocoa sugars/solids do
you think are in the new sample?

THANKS!

Practice for the 2nd Edition of
AGROGOURMET CONTEST

