

# Influence of the origin in the physical-chemical and sensory parameters of cocoa powder

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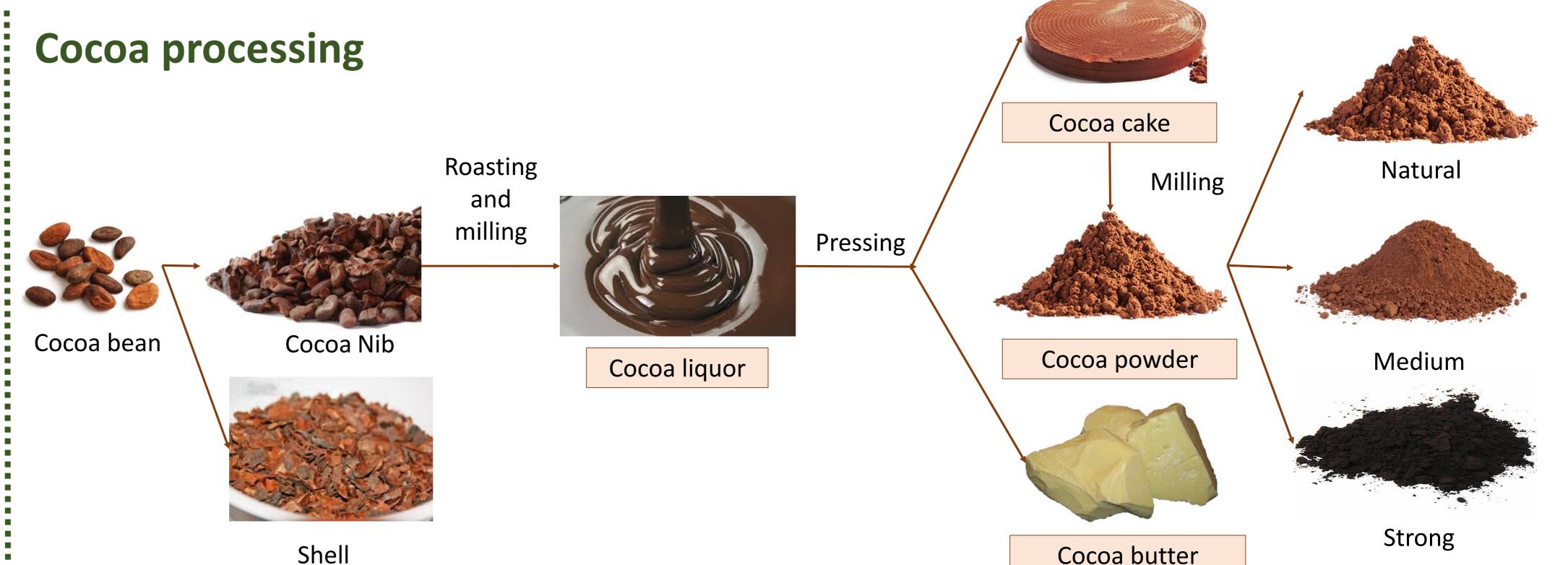
Olam Food ingredients, Cheste, Spain.



### Introduction

Cocoa origin has a demonstrated effect on cocoa powder properties. Thus, characterize the most common origins of cocoa in a cocoa transformation factory is essential to undersand the charasteristics of their final products.

Appart from that, cocoa can be alkalised by treating the cocoa beans, cake or powder with alkaly disolved in water at hight an temperatura and pressure, providing different cocoa powders:



- N: natural cocoa powder (no alkalized)
- L: light alkalized cocoa powder
- M: medium alkalized cocoa powder
- S: strong alkalized cocoa powder
- US: ultrastrong alkalized cocoa powder

## **Objectives**

powders with the 5 Prepare cocoa alkalization levels (N, L, M, S and US) from cakes of the most common origins employed in the Macao Factory: Ivory

# Results

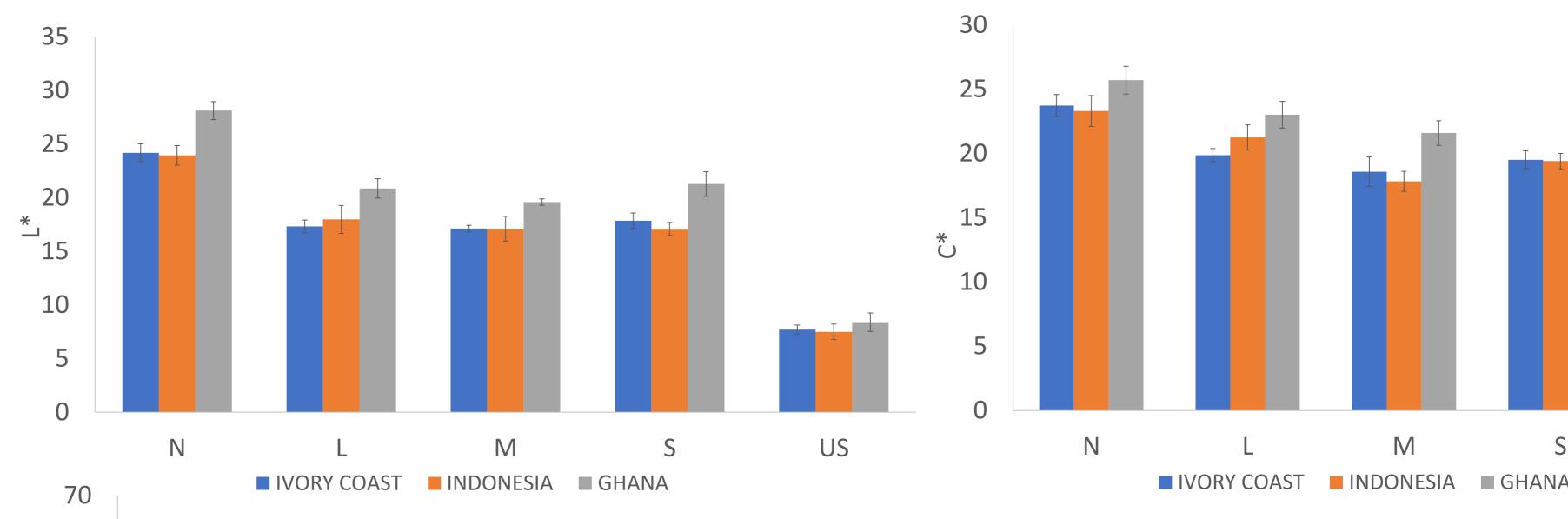
60

50

40

\* 30

#### Intrinsic color: color of the cocoa powder in water



L\* value (darkness): Ghana's samples are lighter than the others (higher L\* value) in all the alkalinization degrees

US

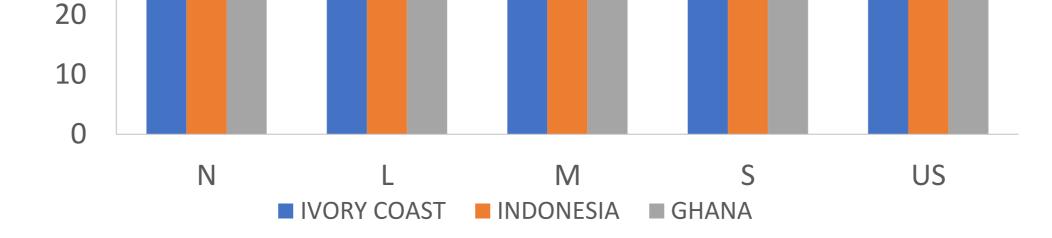
C\* (croma): Ghana's samples are purer than the others (higher C\* value)

### Coast, Indonesia and Ghana.

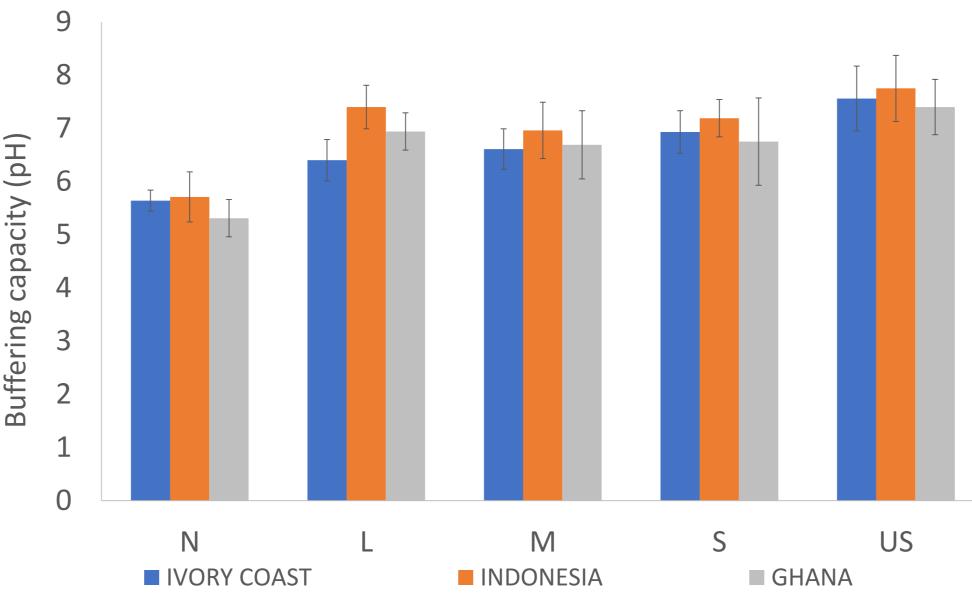
- Study the effect of origin and alkalization on the physico-chemical and sensory properties of the products.

## Conclusions

- **Intrinsic color:** Ghana is the lighter product in all the alkalinization degrees. Its chroma is also higher tan the others.
- **Buffering capacity:** Ghana origin exhibiths the lowest buffereng capacity.
- Soluble matter: Ghana samples are the most soluble and Indonesia the less soluble.
- Sensory profile: Ivory Coast is more



### **Buffering capacity**

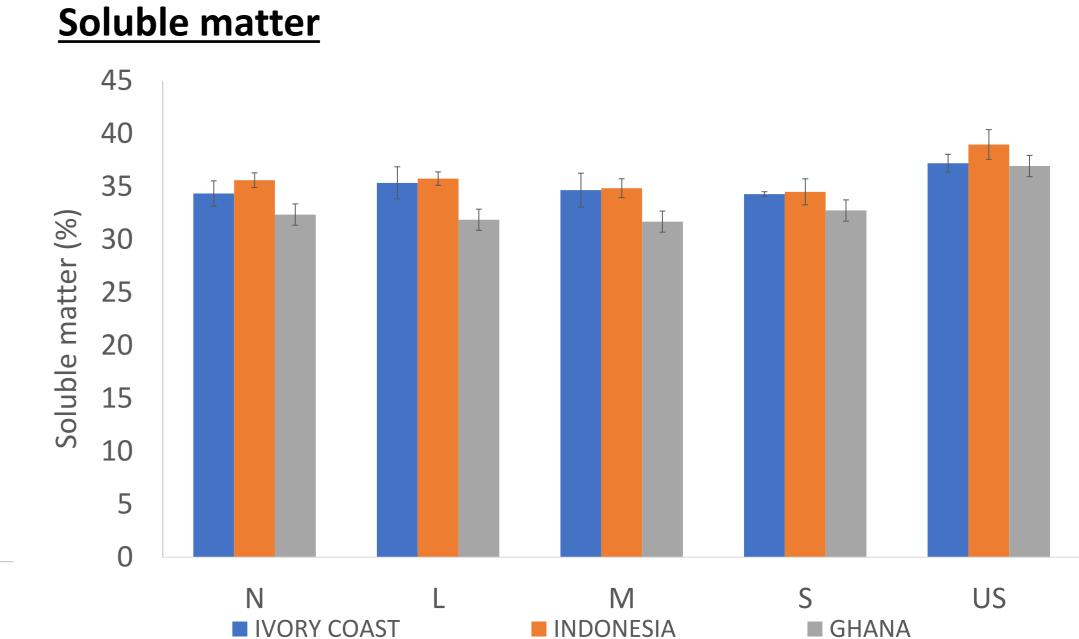


pH in Ghana's samples are always lower than in Ivory Coast or Indonesia Origin.

#### **Sensory**

#### Natural cocoa powders

#### h\* (hue): Ivory Coast's samples are more reddish than others (lower h value)



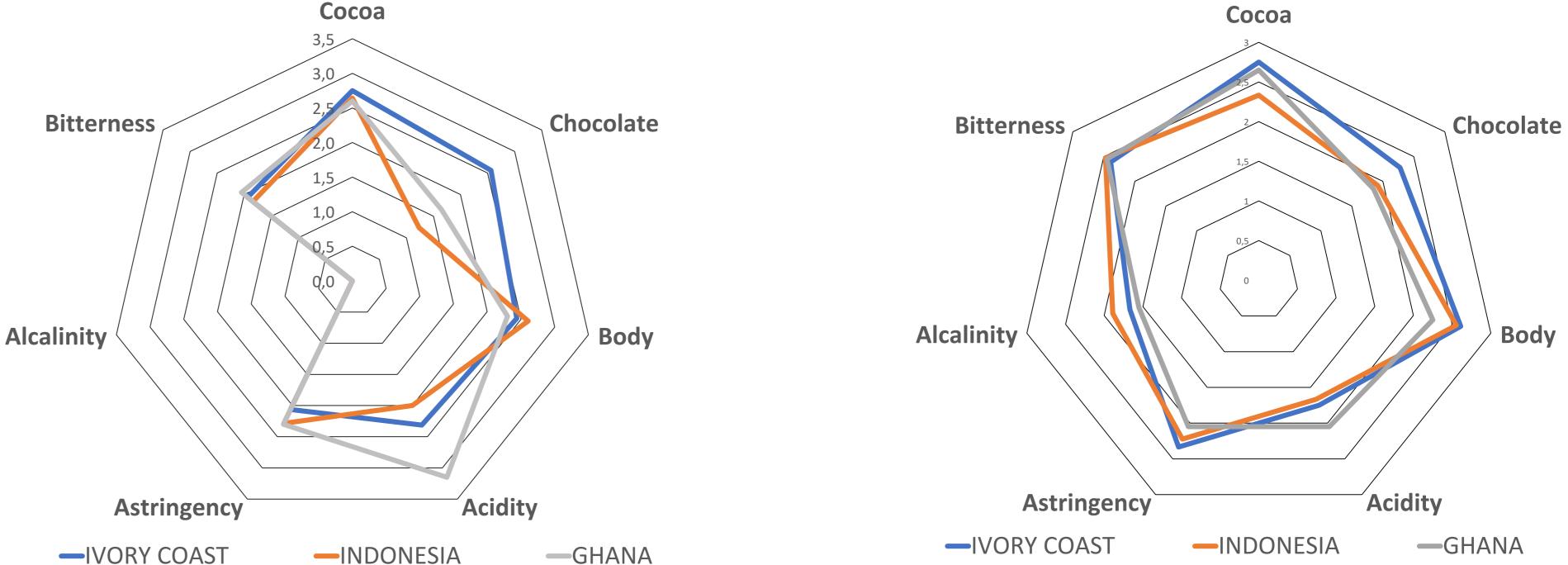
Origin of the cocoa powder seems to affect the ammount of soluble matter. Indonesia < Ivory Coast <<< Ghana

Medium alkalized cocoa powders

chocolaty and Ghana has more acidity. Similar body and cocoa flavour is found among origins.

### Acknowledgement

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Origin provides more differences in the natural cocoa powders than in the alkalized. Ghana has more acidity and Ivory Coast more chocolate flavour.