**NEW METHOD AND FUNCTIONAL SPECIFICATIONS FOR THE AIMED CHOCOLATE**

**Culture and industrial conditioning of beans**

**The aim is therefore to master the "aroma" via various aspects of which fermentation, drying, genetics as well as the terroir are already studied elsewhere.**

**NEW OBJECTIVES**

The objective is to: know, characterize, anticipate and control the parameters of fermentation that affect the aromatic quality of cocoa in order to offer premium chocolates in international markets of impecable quality.

**NEW ISSUES**

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**NEW TECHNICS**

Technology development and control of aromatic constancy (analysis and quantification) through the control of fermentation.

**NEW ECONOMICS**

Better fermentation efficiency (faster and less waste).

Opening of large export sales (China, USA).

**NEW SOCIAL-ECONOMICS**

Promoting the cultivation and processing of cocoa and improving the living conditions of Ivorian planter.

**WORK PROGRAM**

**WP 0: Project Management**

**WP 1: Needs analysis**

- Technical and functional specifications for the aimed chocolate (Premium)
- Specifications corresponding for the cocoa
- Specifications for the implementation of the starter in ivory conditions
- Regulatory framework for the starters' exploitation

**WP 2: Identification and validation of aromatic potential markers**

- Translate the sensory USA and China's profiles into analytical profiles
- Identified molecules as strong markers of the aromatic potential
- Sensory and analytical characterization of the quality of the "premium" cocoa beans

**WP 3: Isolate, identify and characterize the potential starters**

- Yeasts: pre-screening of the oenological database of Lallemand on precise criteria
- Wild yeasts: isolation, characterization, potential of production
- Select acetic bacteria into Cirad and Lallemand databank
- Modelling the growth of microorganisms according to parameters of culture

**WP 4: Starter production**

- Culture and industrial conditioning of yeasts sacch. and not sacch. (WP3 selection)
- Culture and industrial conditioning of acetic bacteria for the ivory condition

**WP 5: Validation of the starter in experimental/real conditions**

- Fermentation pilot in R&D Cémoi centre
- On-line control over the presence and the dynamics of the strains
- Comparison of beans obtained with the standard defined in WP2 at the aromatic level

**WP 6: Validation of the economic feasibility**

- Ratio capital-gain of the chocolate premium/cost of the starter (cost in the purchase and the quantity to be inoculated)
- Industrial feasibility for the production of the starter

**FIRST YEAR'S RESULTS**

**Determination of consumers' preference and profile characterization of Premium chocolate (WP 1 and 2)**

**Relation between volatile compounds and sensory perception (WP2)**

**Characterization of optimal conditions of growth and modelisation (WP3)**