



## CONTEXT

The F&V are the most consumed organic products by the consumers since 2015 in France (Agence Bio, 2019) and the organic market is still expanding. Food processors need thus to develop new products and processes to meet the increasing demand. The European regulation (CE 889/2008) provides positive lists for the use of food additive and processing aids in organic processed foods, but imposes thus few limits in terms of processing types.

In the meantime, consumers are more and more exacting regarding organic products. For example, French consumers expect to eat organic food with high nutritional quality (69%) and good taste (58%) and that are eco-friendly (56%) (Agence Bio, 2019). They have therefore strong expectations in terms of nutritional, organoleptic and environmental qualities of organic products.

**Aim:** to provide tools to the processors of organic food, in order to help them to choose a process in accordance with the organic principles and with the consumers' expectations. In the framework of the RMT Actia TransfoBio, an assessment methodology was constructed and applied to organic apple juice.



RMT Actia TransfoBio: a French thematic network  
⇒ Clustering of technical experts on subjects related to organic farming and processing in all food industries

## APPLICATION : ORGANIC APPLE JUICE

### 1. Process diagram of organic apple juice

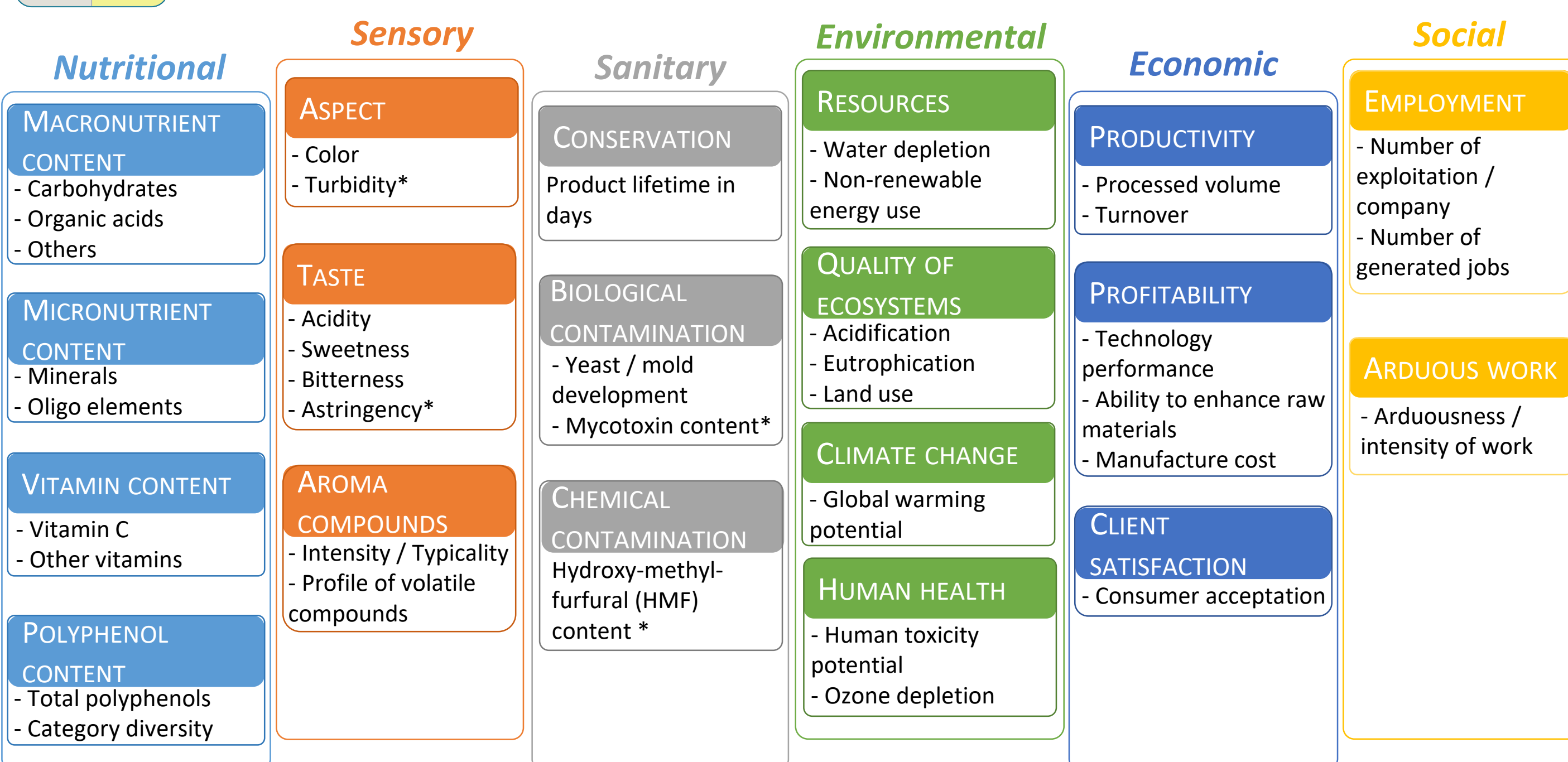
Established with the help of experts (Emilie Korbel – Oniris and Rémi Bauduin – IFPC)

2 major steps were considered :

- Production of raw material
- Processing step (from apple to juice)

For each step, every alternatives were examined.

### 2. Evaluated criteria and indicators on 6 aspects

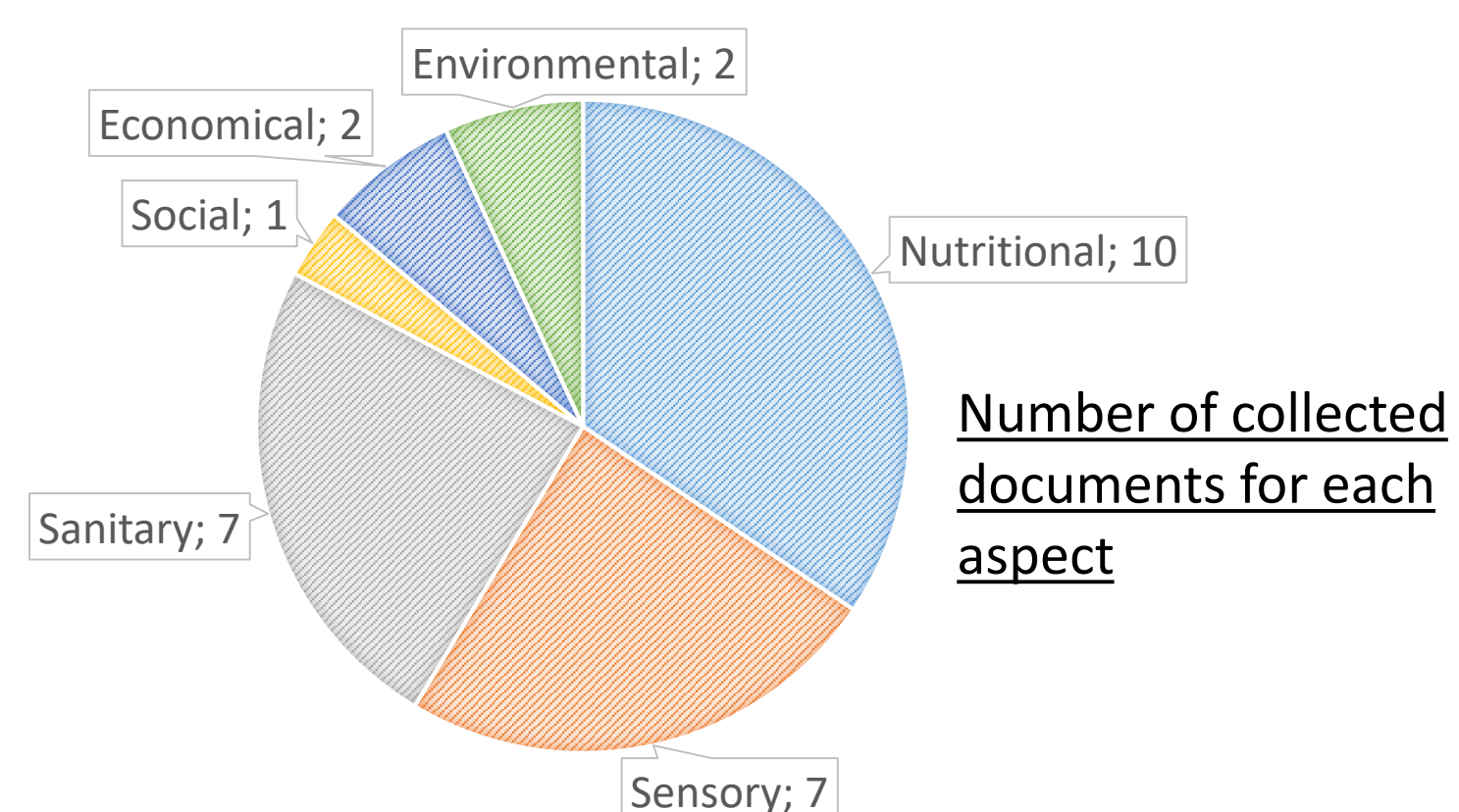


**Criteria (in capital letters):**  
Variables by which something may be judged or described. Criteria decompose the studied aspect. They can be measured by indicators.

**Indicators (in lowercase letters):**  
Variables that can be measured, in order to evaluate the criteria.

### 3. Collection of data

19 scientific and technical documents were collected



### 4. Identification of critical steps

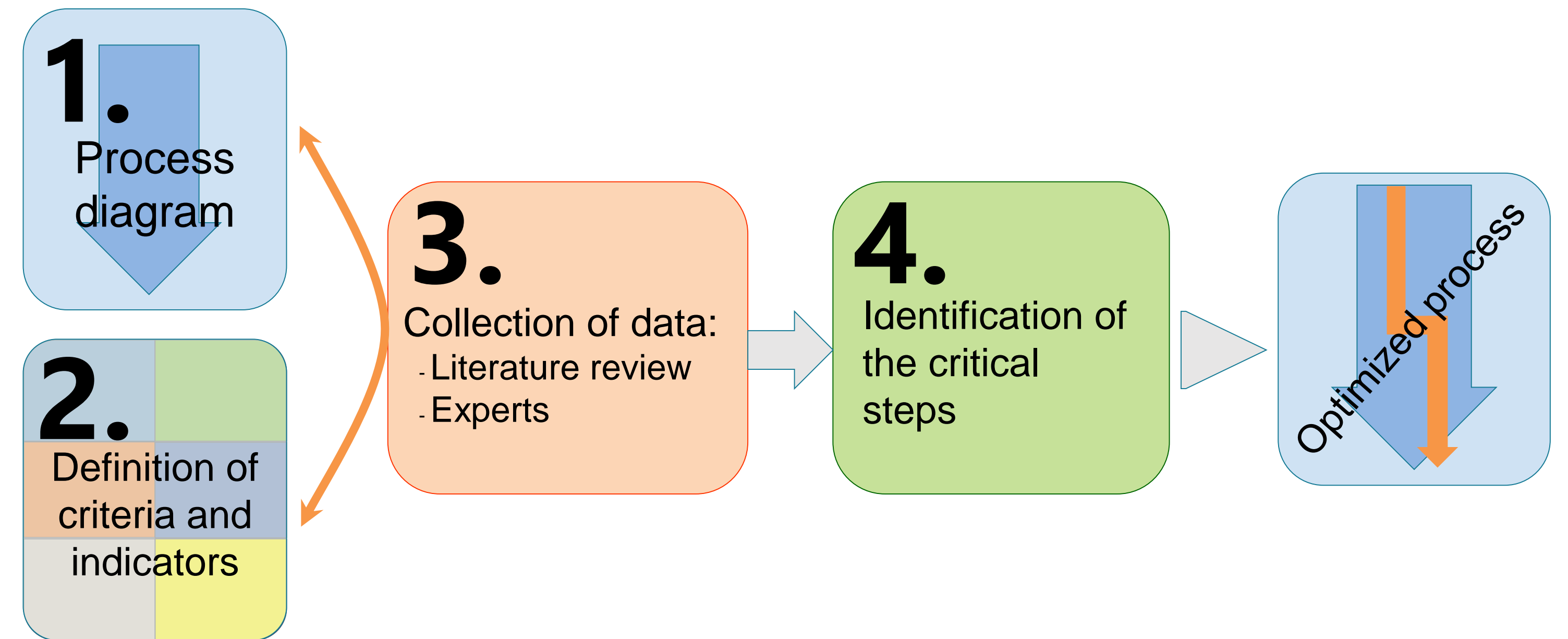


**Critical step :**  
Step involving a higher potential degradation of the initial food qualities than the other steps.

- Nutritional aspect → Cultivar choice
- Sensory aspect → Cultivar choice, juice clarifying, stabilization process
- Sanitary aspect → Type of harvest, cleaning/sorting, storage, stabilization process

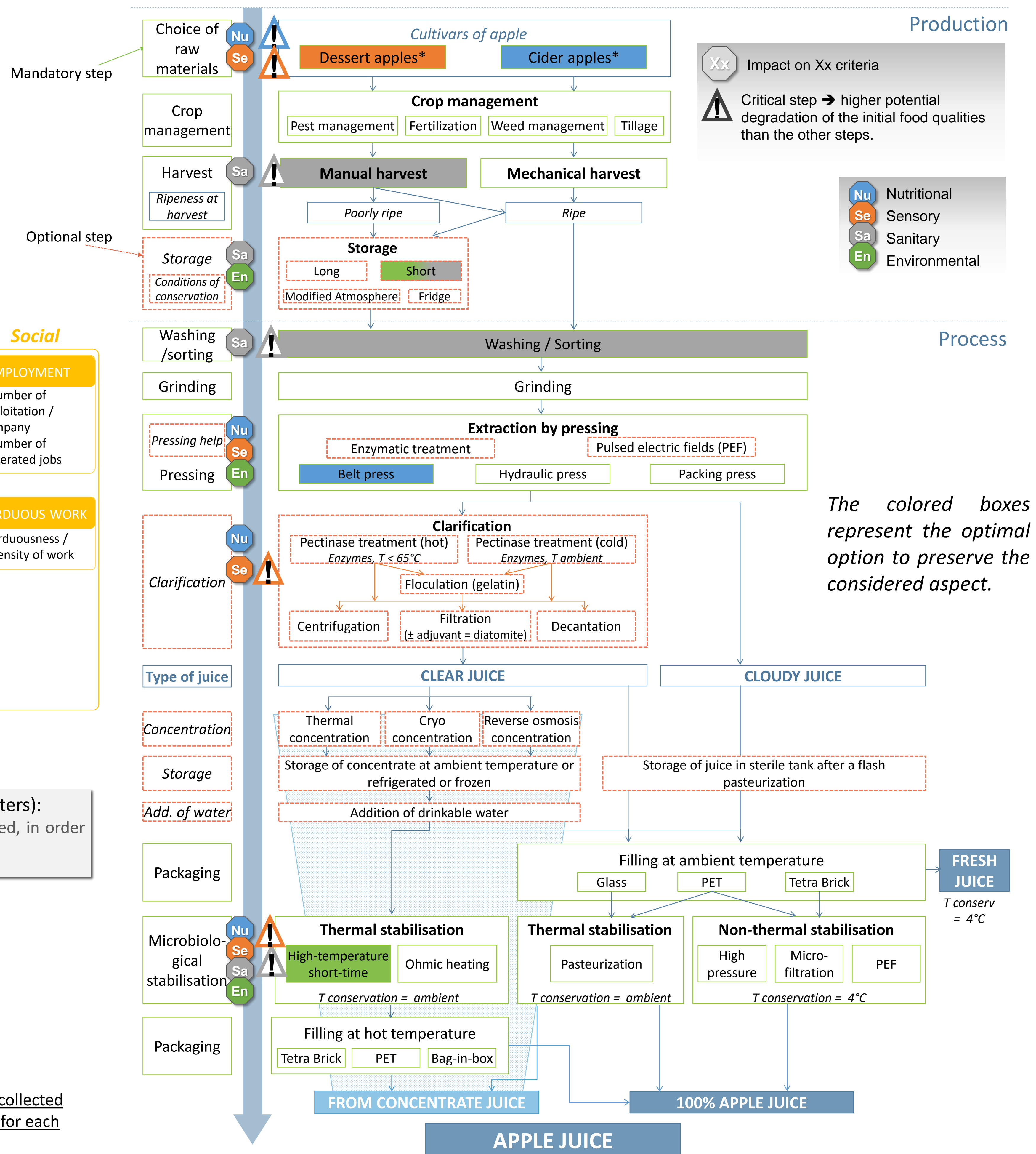
## METHODOLOGY

Assessment of the different steps of a food process on the 6 following aspects: nutritional, sensory, sanitary, environmental, social and economic aspects.



### Process assessment

for nutritional, sensory, sanitary and environmental aspects



## CONCLUSION

The assessment methodology was successfully applied to the apple juice processing for nutritional, sensory and sanitary aspects. However, more data is still needed to perform a complete environmental and socio-economic assessment.

The process diagram shows several optional steps, and lets appear a minimally processing way to produce apple juice.