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CORE organic



Careful, Gentle, Minimal: What are the principles of organic processing?

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ProOrg: Background

- Goal:
 - Development of a practice-oriented guideline for the assessment of processing technologies
- Work packages
 - **Assesment framework**
 - Case studies
 - **Consumer studies qualitative and quantitative**
 - Identification of market trends
- For
 - Processing industry
 - Associations
 - Retail

Assesment framework

- The system should
 - be applicabel in practice
 - consider important aspects for organic products
 - provide guidance for decision to approve technologies

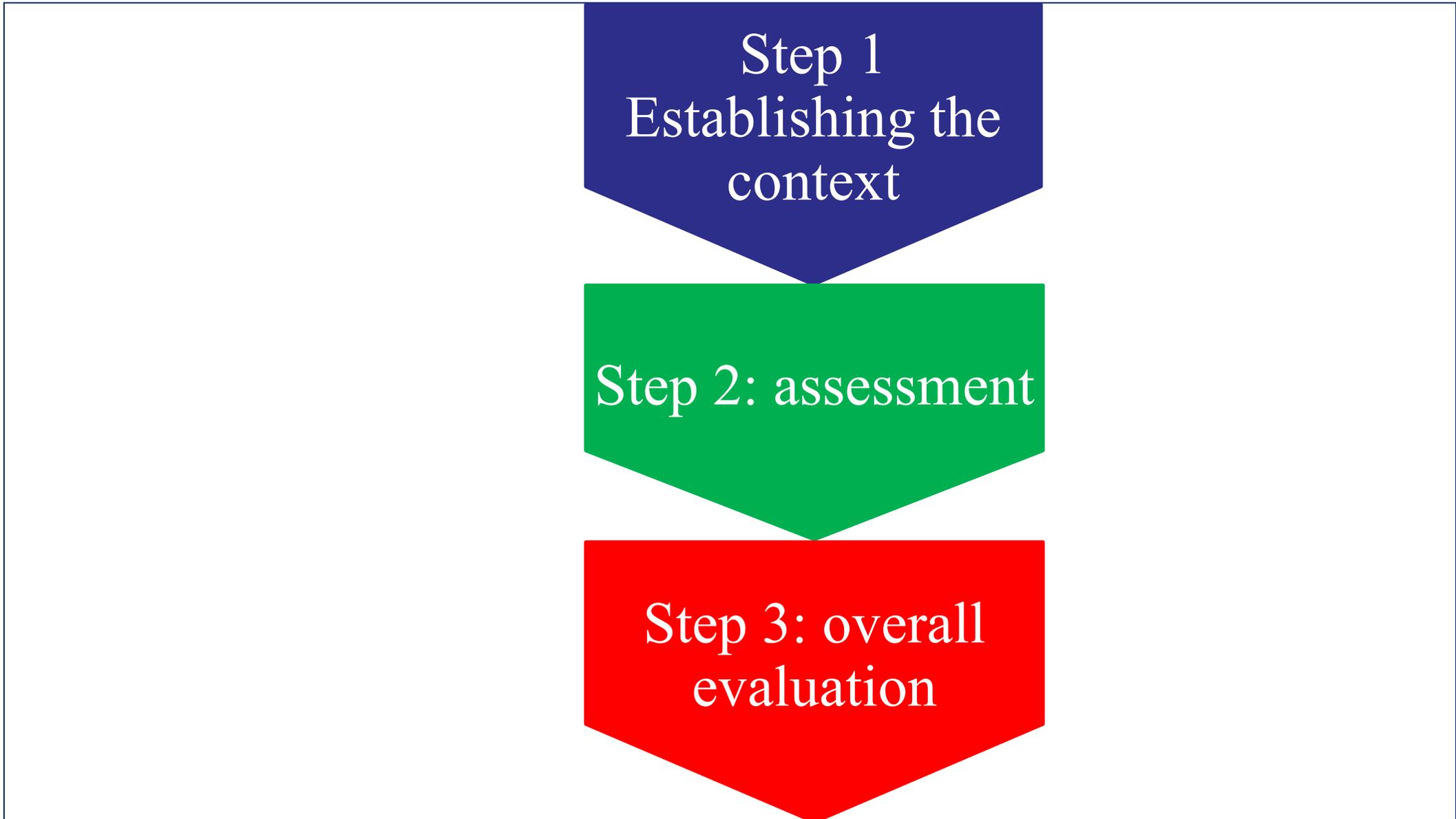
- The Assessment framework is available as draft and ready to test

Aspects describing organic food quality

The framework is based on the publications of Kahl et al (2011, 2013) on the quality of organic products:



Assessment Framework



Step 1 Establishing the context

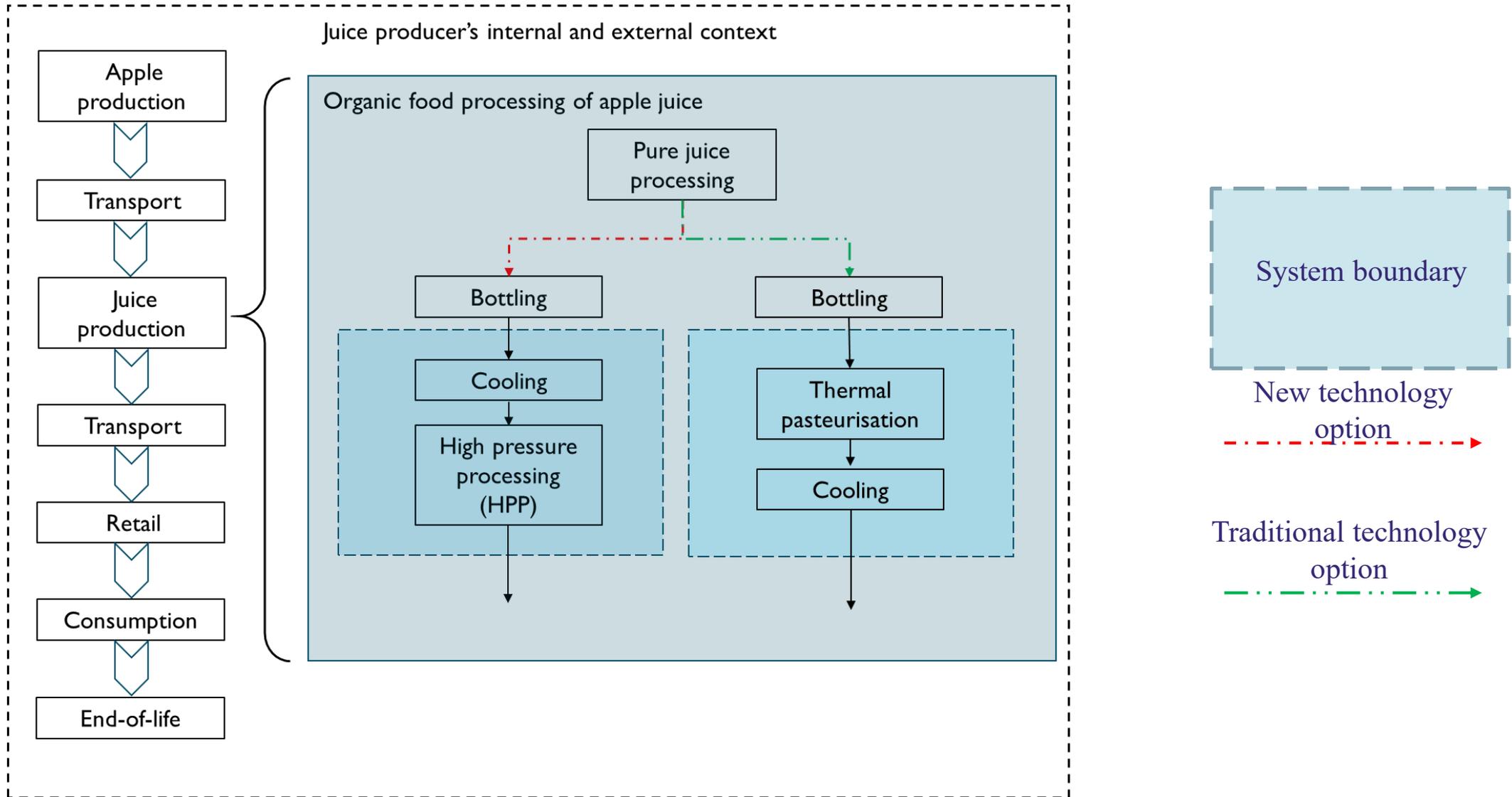
1.1 System understanding

1.2 Preliminary criteria
relevance check

1.3 System boundary
setting



Step 1: establishing the context, Example apple juice



Step 2: assessment

2.1 Detailed characterisation of relevant criteria

2.2 Selection of indicators and parameters

2.3 Analysis of the relevant indicators

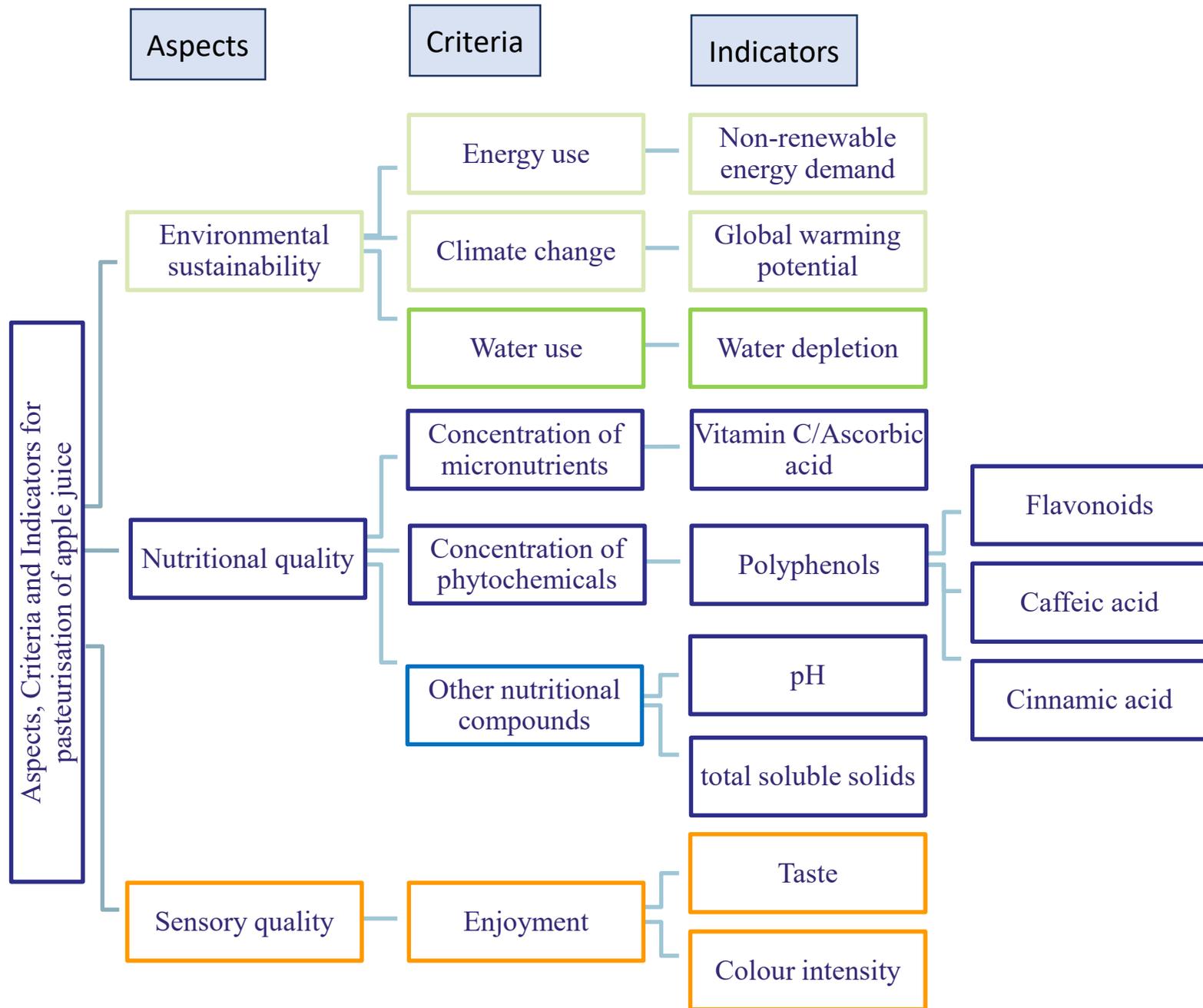
2.4 Comparison with alternative processing and raw materials

Selection and characterisation of the relevant criteria, indicators and parameters regarding the aspects (sensory, nutritional, ecological and social sustainability)

Criteria for the selection:

- if available: Experimental data from the literature, or own data
- If no experimental data are available: Expert Interviews

Step 2: Assessment (example apple juice)



Step 2: assessment

2.1 Detailed characterisation of relevant criteria

2.2 Selection of indicators and parameters

2.3 Analysis of the relevant indicators

2.4 Comparison with alternative processing and raw materials

1. two parallel steps:
 - comparison with existing/alternative technology
 - comparison with raw material or pre-processed food if possible («naturalness check»)
2. Normalysing the values: 0 – 100
3. Transfer to rated scale

Step 3: overall evaluation



3.1 Weighting of indicators



3.2 Weighting of different criteria



3.3 Weighting aspects



3.4 Benchmarking to organic principles



3.5 Inclusion of consumer perception and economic aspects



3.6 Decision on case

Step 3 overall evaluation: Naturalness check

- HPP versus untreated apple juice

Aspect	Aspect weighting factor	Aspect rating factor	Criteria	Criteria weighting factor	Indicator	Indicator weighting factor	Rating Criteria
Nutrition quality	50%	-1.166	Conc. of micronutrients	33%	Vitamin C	100%	-1
			Conc. of phytochemicals	33%	Polyphenols	100%	-2
			Other nutritional compounds	33%	pH	50%	-1
					Total soluble solids	50%	0
Aspect rating							-1.166
Sensory quality	50%	0.000	Enjoyment	100%	Taste	50%	-1
					Colour intensity	50%	1
Aspect rating							0.000
Overall rating			-0.58				

Step 3 overall evaluation: Naturalness check

- Thermal pasteurisation versus untreated apple juice

<i>Aspect</i>	<i>Aspect weighting factor</i>	<i>Aspect rating</i>	<i>Criteria</i>	<i>Criteria weighting</i>	<i>Indicator</i>	<i>Indicator weighting factor</i>	<i>Rating Criteria</i>
<i>Nutrition quality</i>	50%	-1.665	<i>Conc of micronutrients</i>	33%	<i>Vitamin C</i>	100%	-2
			<i>Conc of phytochemicals</i>	33%	<i>Polyphenols</i>	100%	-2
			<i>Other nutritional compounds</i>	33%	<i>pH</i>	50%	-1
					<i>total soluble solids</i>	50%	-1
Aspect rating -1.665							
<i>Sensory quality</i>	50%	0.000	<i>Enjoyment</i>	100%	<i>Taste</i>	50%	-1
					<i>Colour intensity</i>	50%	1
Aspect rating 0.000							
Overall rating			-0.83				

Conclusion: naturalness check

- Naturalness check: HPP -0.58; TP -0.83
- The assessment shows: HPP performs better than thermal pasteurisation regarding the selected criteria and indicators in comparison with untreated apple juice

But

- Weighting of aspects is not confirmed by the organic sector
- Benchmarking to the organic principles is missing
- consumer perception and economics have to be added

Assessment Framework: Summary

Substeps

Step 1 Establishing the context

- 1.1 System understanding
- 1.2 Preliminary criteria relevance check
- 1.3 System boundary setting

Step 2: assessment

- 2.1 Detailed characterisation of relevant criteria
- 2.2 Selection of indicators and parameters
- 2.3 Analysis of the relevant indicators
- 2.4 **Comparison with alternative processing (overall rating) and raw materials («naturalness check»)**

Step 3: overall evaluation

- 3.1 Weighting of indicators
- 3.2 Weighting of different criteria
- 3.3 **Weighting aspects and aggregating to overall score and naturalness score**
- 3.4 Benchmarking to organic principles
- 3.5 Inclusion of consumer perception and economic aspects
- 3.6 Decision on case

