



Pre-breeding strategies for obtaining new resilient and added value berries

BreedingValue Open Call #4

Development of methodological tool kits for sensorial quality assessment of berry genetic resources

Stefano Predieri

IBE - CNR



Open Call #4: Development of methodological tool kits for sensorial quality assessment of berry genetic resources



Open Call #4

Proposal:

- Provide training on methodologies for validating the sensory quality of pre-breeding materials, breeding materials, and commercial cultivars.
- 6 Company/Institutions Selected
- 3-years interaction

Angus Soft Fruits Ltd.	UK		
Centre de Recherche et d'Innovation Végétale	France		
Estonian University of Life Sciences	Estonia		
G-Berries	<u>Italy</u>		
Lithuanian Research Centre for Agriculture and Forestry	Lituania		
Royal Berry Hortifrut	<u>Spain</u>		



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Open Call #4



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January-March 2022

Discussions with participants on possibilities, needs, requirements and special issues connected to the evaluation of the quality of fresh berries. Detailed planning of the upcoming work (1 day).

A

April 2022

Training on sensory evaluation (2 days): selection, training and monitoring of a panel and evaluation methodology.

B

April - May 2023

Training on up-to-date consumer test methods (2 days): details on planning, performing tests and evaluation methodology.

D

June-September 2022

Execution of a supervised panel test at the applicant's site (1 day).

C

June-September 2023

Execution of a supervised mini-consumer test at the applicant's site (1 day).

E

October 2023-February 2024

Training on analysis methods of panel and consumer test results (3 days): data elaboration, basic statistics (R) tools: data analysis, description and visualization tools of sensory analyses.

F

P
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Statistics


1) Assessor → Trained Assessor (Supervision IBE Sensory Team)



Self-Experience key Sensory Tests and targeted Handbook:

- Discriminant
- Descriptive
- Dinamic
- Rapid

1st Call#4 Training Agenda



Sensory Evaluation Handbook
By Giulia M. Daniele

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1.1. Sensory analysis approach.....	2
1.2. Sensory evaluation roles.....	2
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1.6. Sensory tests.....	6
1.6.1. Discrimination Tests.....	6
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3. AIMS AND TRAINING DETAILS.....	12
4. PRACTICAL SESSION.....	13
4.1. Basic test recognition.....	13
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4.4. Sorting test.....	16
4.5. Descriptive analysis of berry.....	17
4.6. Temporal dominance (TDS) of sensation and Time intensity (TI).....	17
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2) Panel Leader – Trainer (in Company/Institution)

Plan and Apply Sensory Tests:

- Discriminant
- Descriptive
- Dinamic
- Rapid

3) Sensory Project Manager – Technical-Scientific Manager (in Company/Institution)

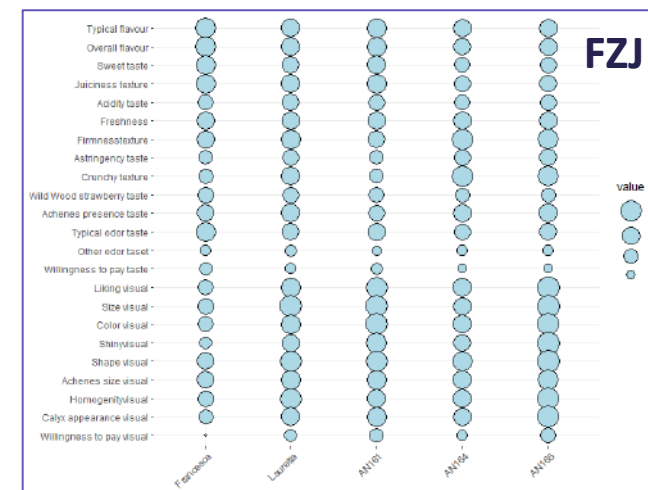
- Plan, Design, Apply:
- Laboratory analysis
- Panel test
- Consumer test
- ❖ Interpret, visualize and report results



PANEL
Check



jamovi



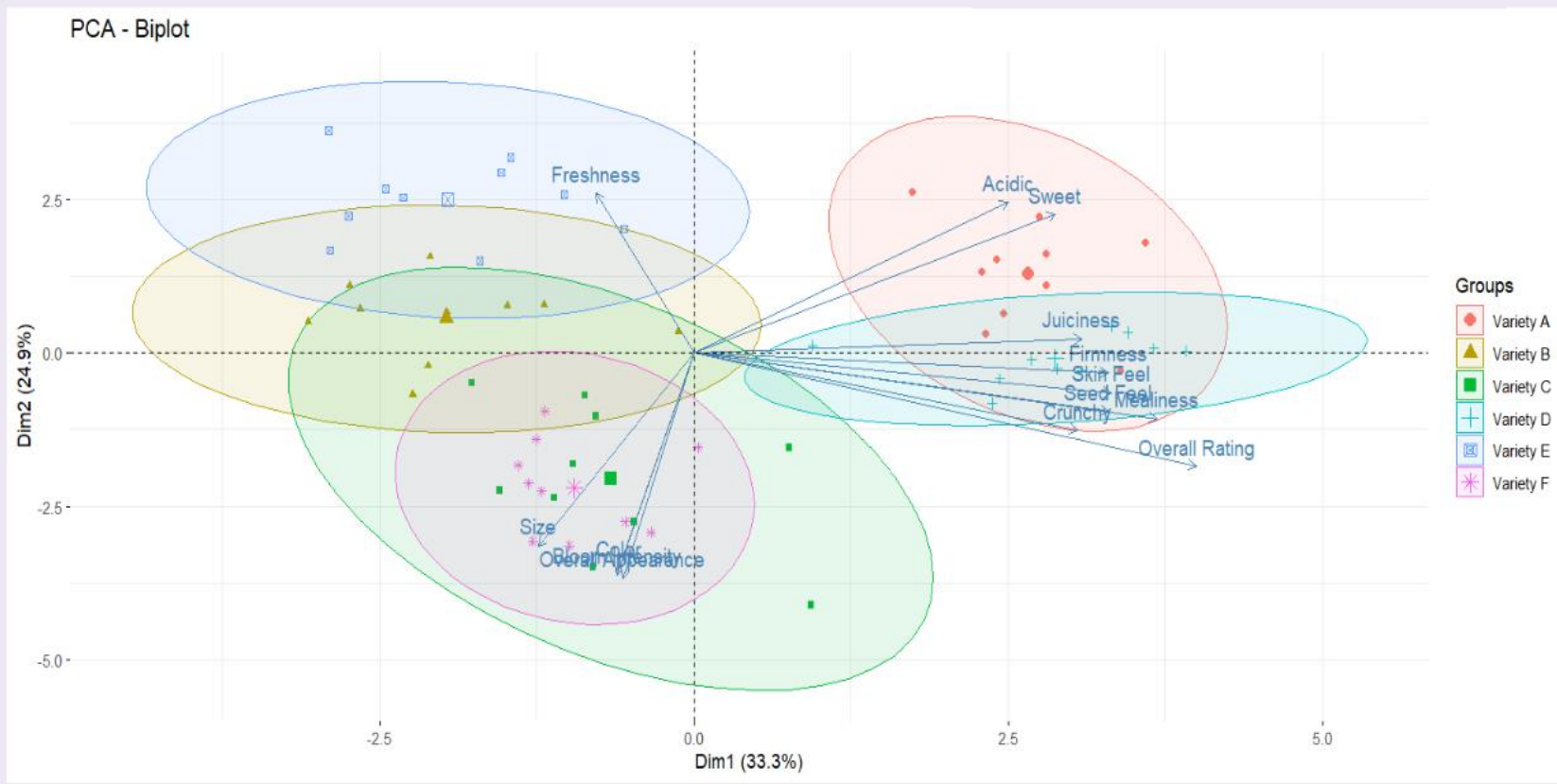


Consumer Studies

RATA TEST- PCA

- ROYAL BERRIES -

Philipp Schulze



Royal Berries Milestone 5

Ideal blueberry survey

Objective:

Create the sensory profile of the 'Ideal Blueberry'

Materials:

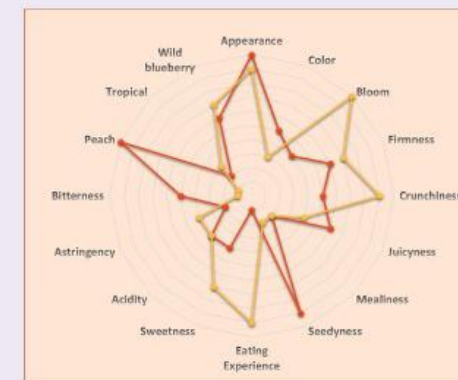
A selection of attributes from the Sensory Lexicon

Method:

A Zoho Creator survey

Result:

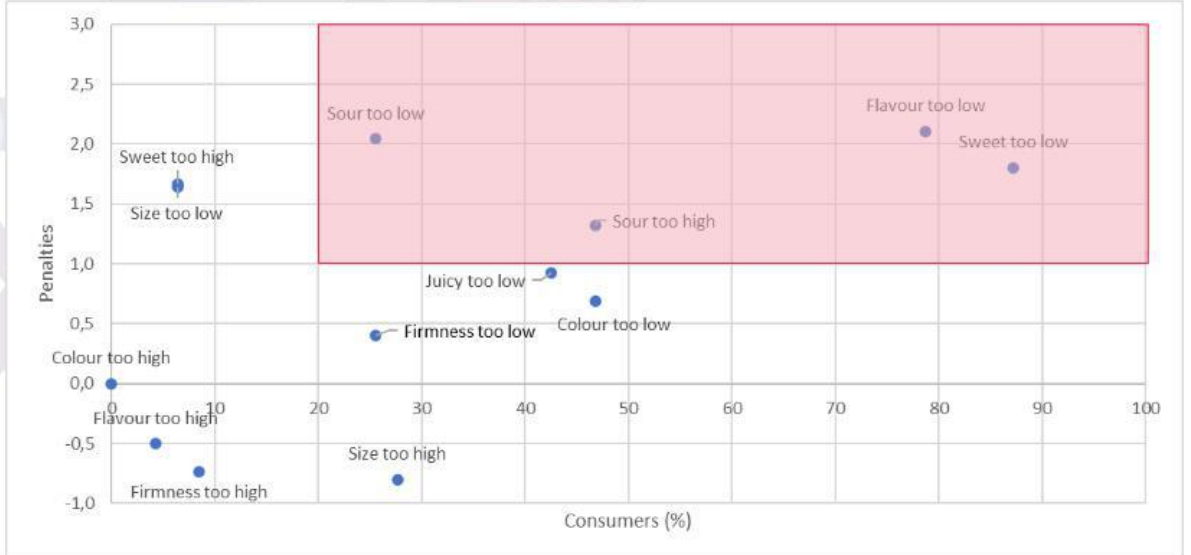
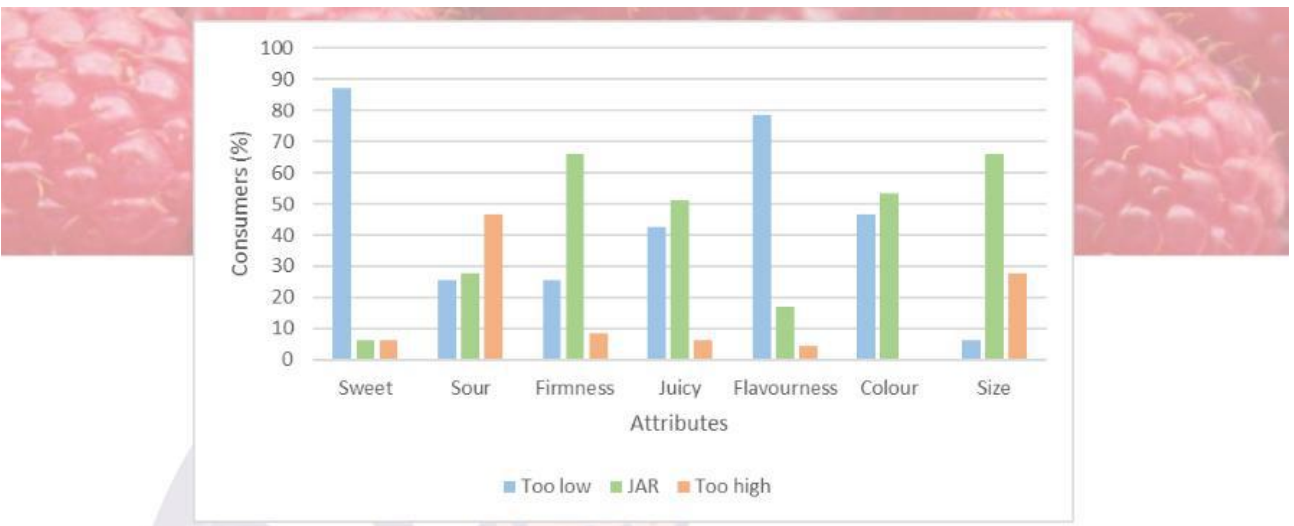
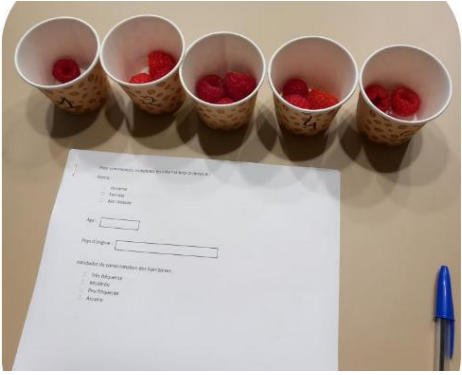
Spider-graphs, Bar charts, Penalty analysis, Multiple Factor Analysis, Etc.



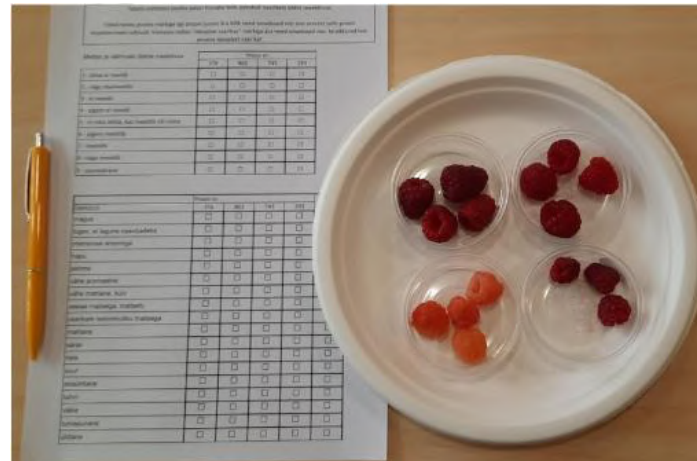
Célia Boissart
 Laurent Chausset
 Nolwenn Andouard



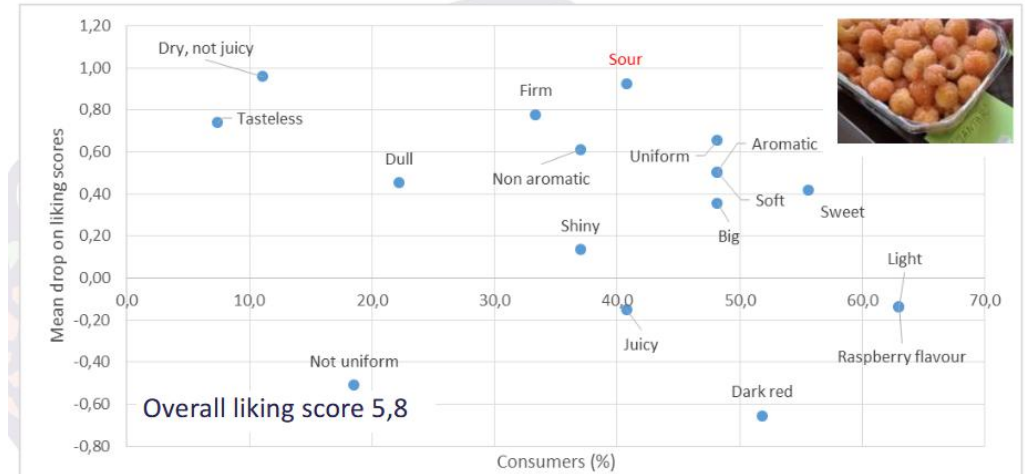
- Have more participants
- Limit attributes that are too similar like for the flavor in CATA test
- Make more than 3 fruits in the cups to help consumer
- Make the test at a better period to avoid disparities in the same cultivar and have more fruits with a better quality



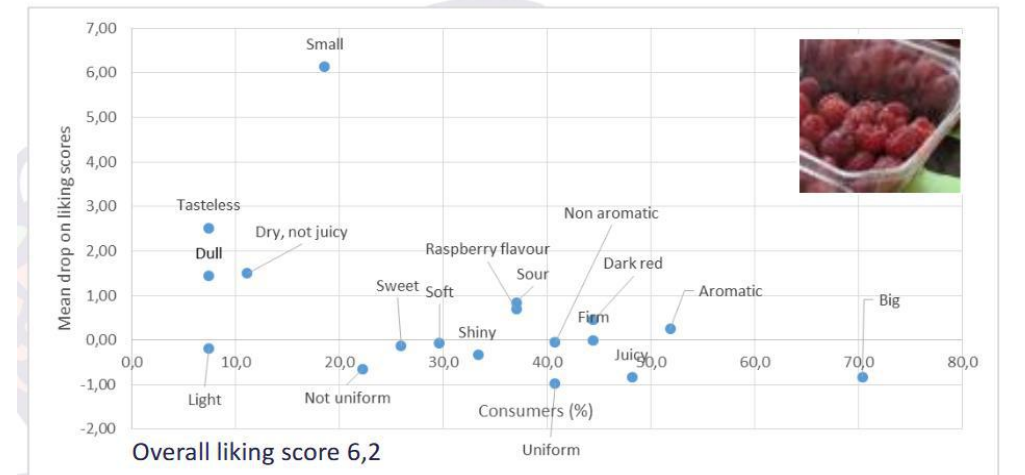
magus	Sweet
tugev, ei lagune osaviljadeks	Firm
intensiivse aroomiga	Aromatic
hapu	Sour
pehme	Soft
vähe aromaadne	Non aromatic
vähe mahlane, kuiv	Dry, not juicy
vesise maitsega, maitsetu	Tasteless
vaarikale iseloomuliku maitsega	Raspberry flavour
mahlane	Juicy
särav	Shiny
hele	Light
suur	Big
ebahütlane	Not uniform
tuhm	Dull
väike	Small
tumepunane	Dark red
ühtlane	Uniform



CATA results



CATA results



✓ Participants acquired the skills to establish a sensory judging panel capable of providing effective and scientifically sound sensory data.

✓ Gained technical and scientific knowledge for planning, conducting, and analyzing consumer tests using advanced, rapid methods

• Become proficient in using a comprehensive “Sensory Science Tool-Kit” including methodologies to characterize berry sensory quality, enhance genotype selection, and envision market potential.

Thank you!

