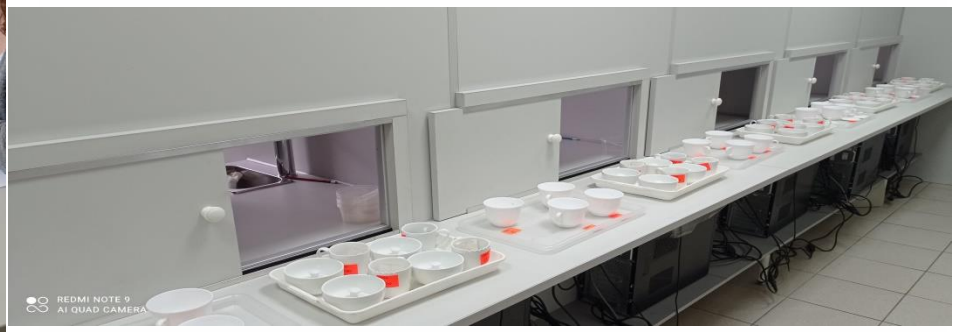


Sensory Analysis Laboratory

Dr Anna Wrzodak
National Institute of Horticultural Research
Skierniewice, 2021

SENSORY LABORATORY

Sensory analysis of fruit and vegetables are carried out in the laboratory:

- fresh
- processed: pastes, jams, juices, smoothies, concentrates, fermented
- stored

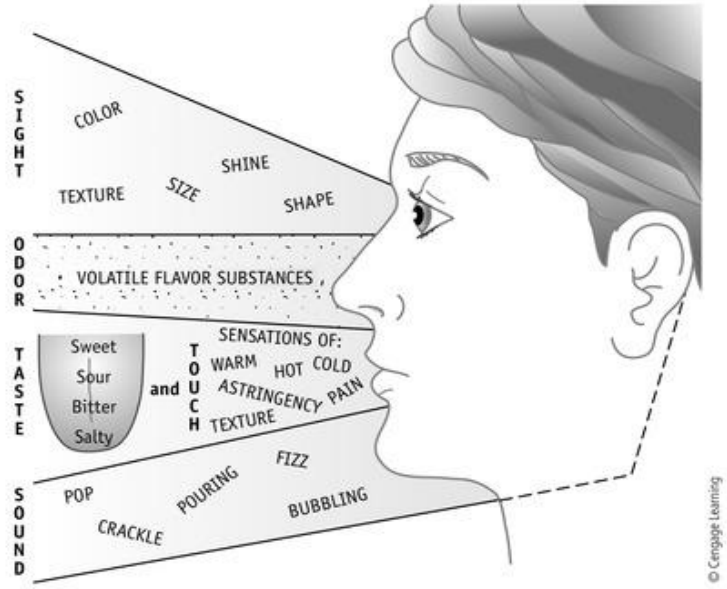
Projects completed and in progress

- TRICHODERMA „Polskie szczepy *Trichoderma* w ochronie roślin i zagospodarowaniu odpadów organicznych”, nr UDA-POIG.01.03.01-00-129/09-04.
- QUAFETY „Effects of hot water treatment on fresh-cut produce”, COST FA 1106 „An integrated systems approach to determine the developmental mechanisms controlling fleshy fruit quality in tomato and grapevine”,
- SUNNIVA “Sustainable food production through quality optimized raw material production and processing technologies for premium quality vegetable products and generated by-products”.
- BABY FOOD „Nowoczesne i innowacyjne produkty w ramach kategorii baby food”
- „PLANTLAB – innowacyjny system całorocznej produkcji sałaty rzymskiej oraz ryb słodkowodnych przy wykorzystaniu technologii aquaponicznej” współfinansowanego przez Unię Europejską z Europejskiego Funduszu Rozwoju Regionalnego w ramach Programu Operacyjnego Inteligentny Rozwój, nr umowy POIR.01.01.01-00-0579/19-00
- NORIS „Pilotażowa linia do produkcji przetworzonych grzybów uprawnych i leśnych o nowych cechach jakościowych”

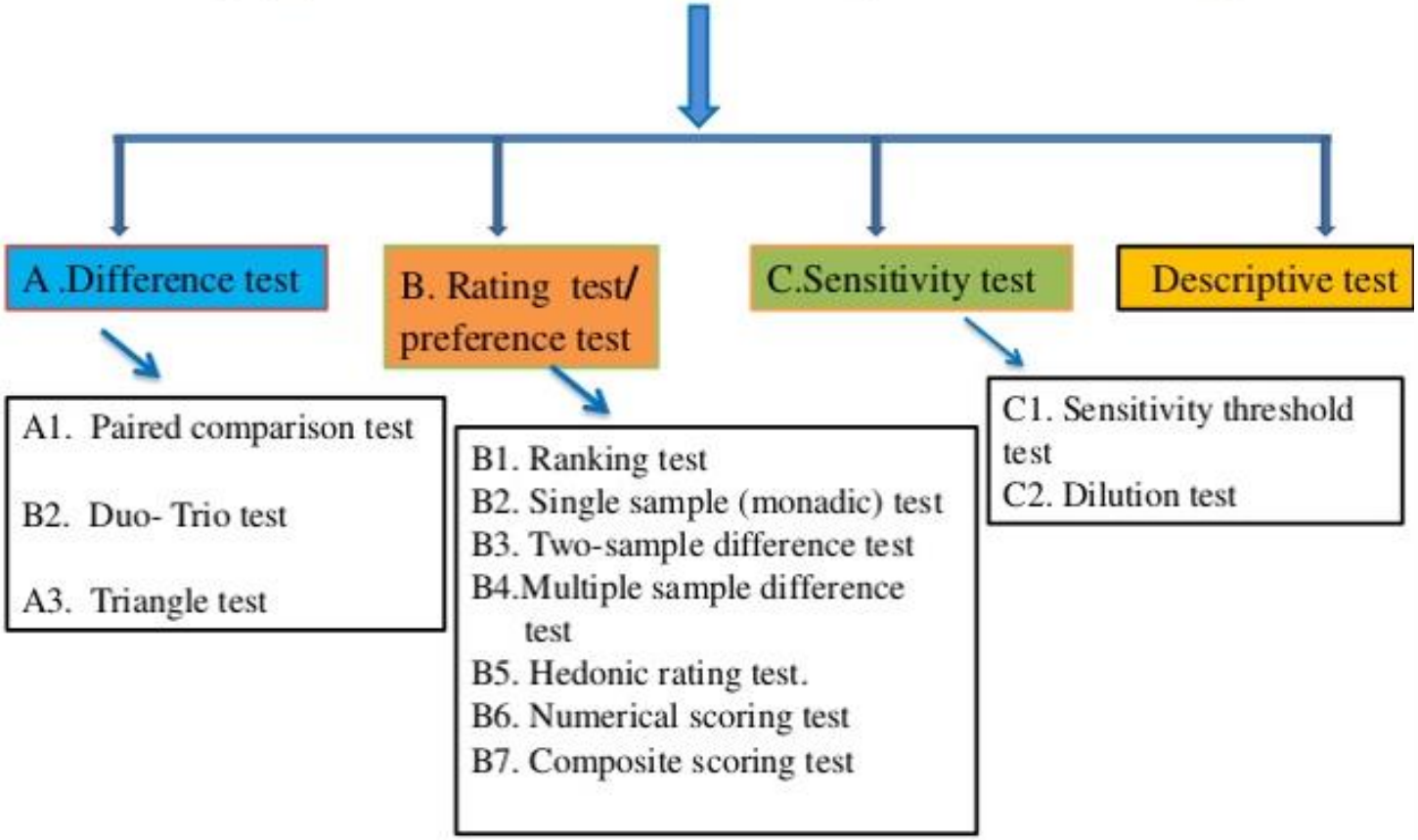
Sensory Analysis

- Sensory analysis is the science of measuring and evaluating the properties of products using one or more senses constituting a measuring apparatus. While maintaining the appropriate measurement conditions and requirements for the sensory efficiency of the people carrying out the analysis, it enables a subjective assessment of the product quality.

FIGURE 1-1 Sensory impressions of food provided by the five senses.

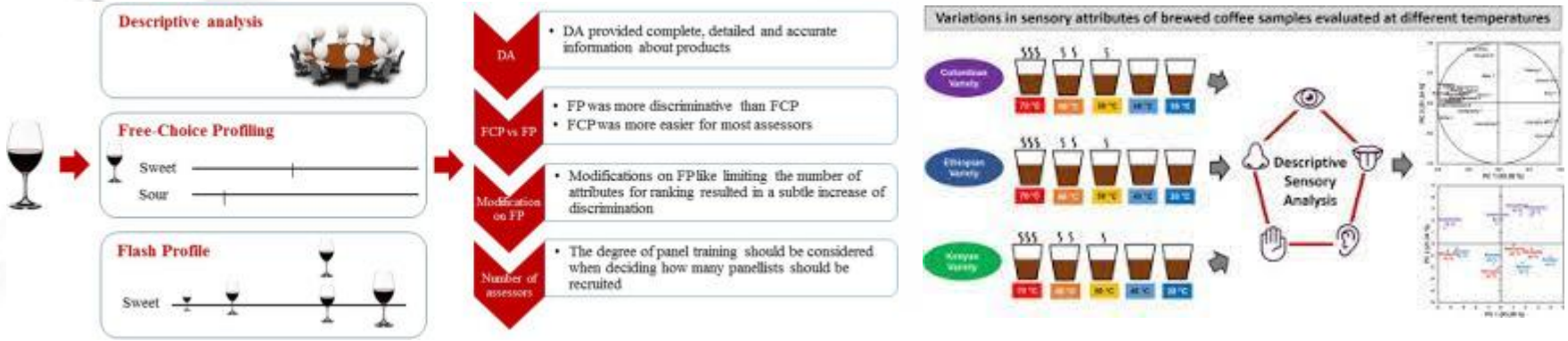


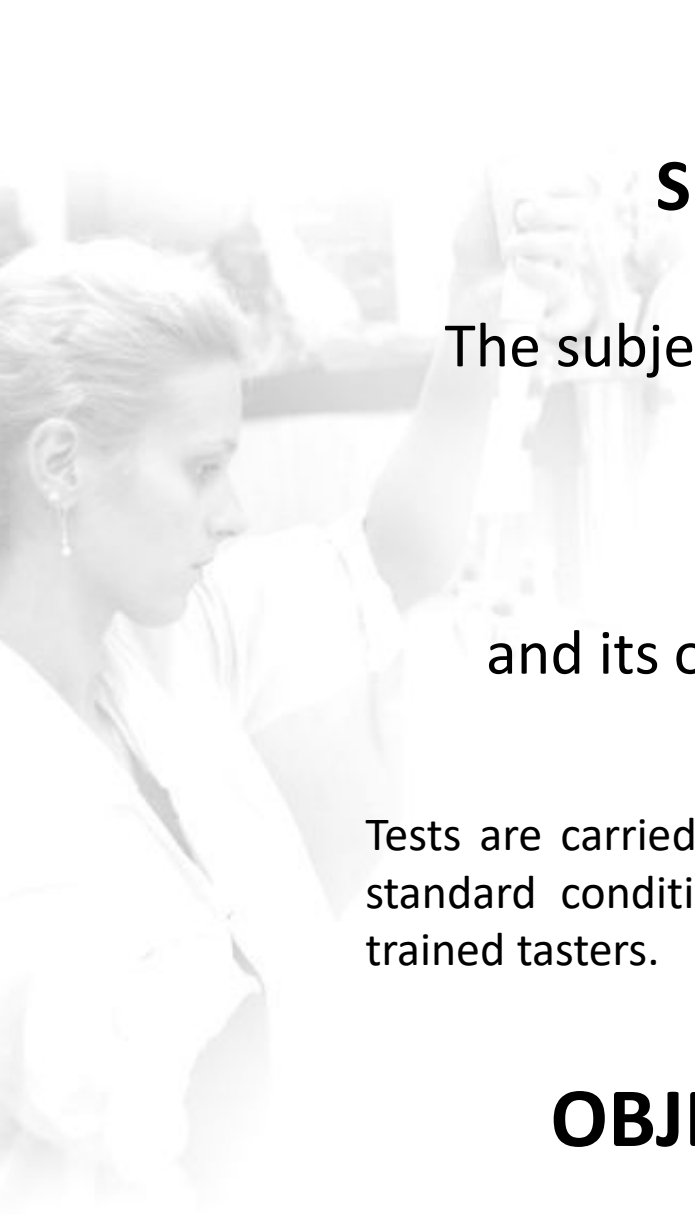
Types of sensory testing



Modern method of sensory analysis

Dynamic methods of measuring impressions in time TI TDS
Free Choice Profiling (FCP), Flash Profiling
Napping method CATA method (Check-All-That-Apply)
Face Reading method
Eye Tracking method





SENSORY ANALYSIS

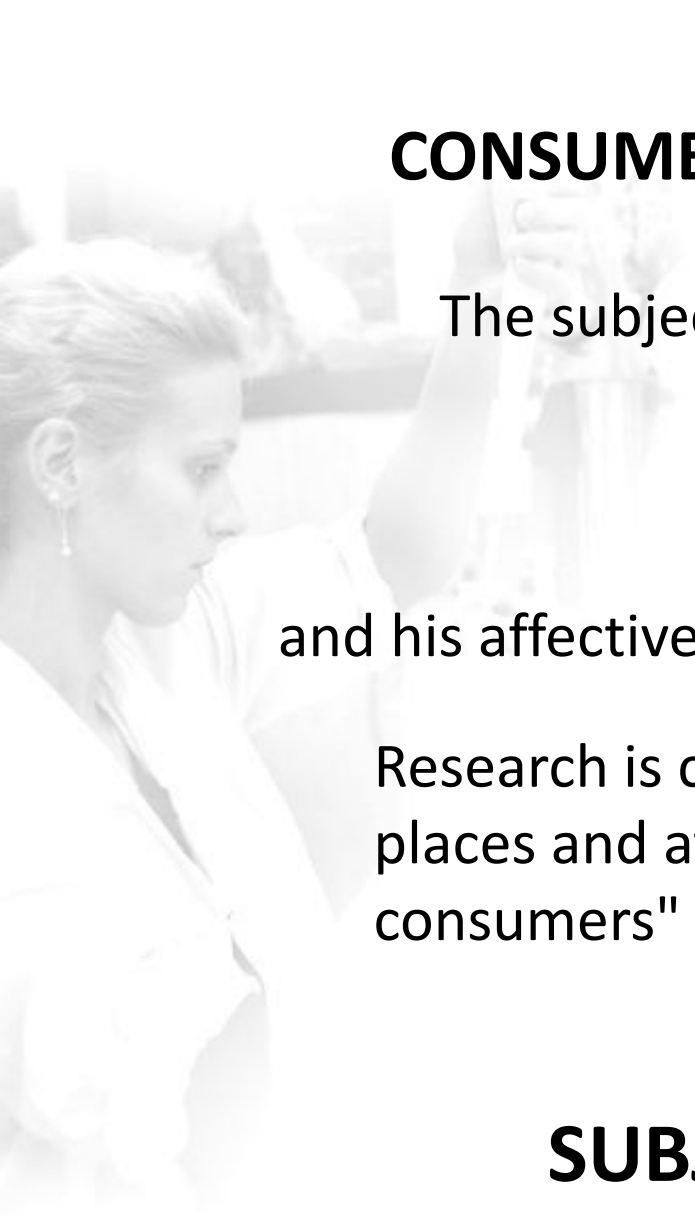
The subject of the analytical sensory test is

PRODUCT

and its objective sensory characteristics

Tests are carried out in specialized laboratories and under standard conditions, samples are assessed by a team of trained tasters.

OBJECTIVE EVALUATION



CONSUMER SESNORY EVALUATION

The subject of consumer evaluation is

CONSUMER

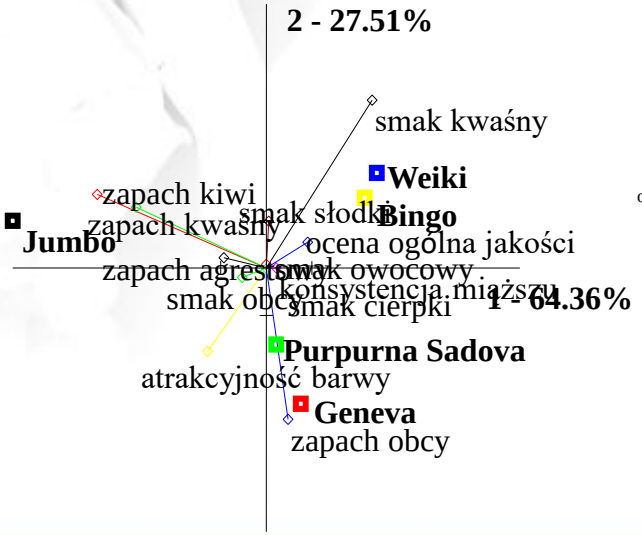
and his affective / hedonic reaction to the product

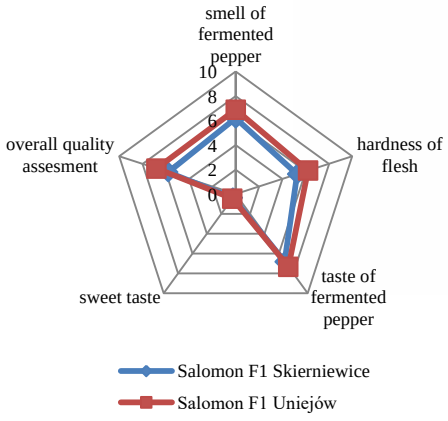
Research is conducted in laboratories, public places and at home. The raters are "average consumers" of > 30, 80-100, or more.

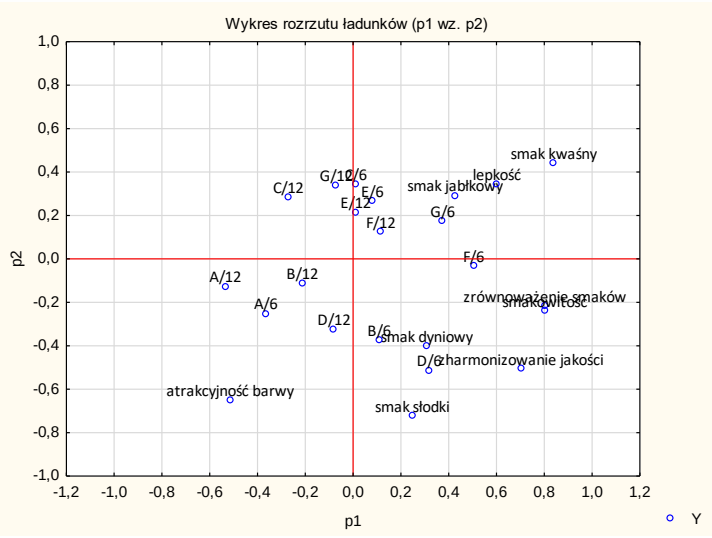
SUBJECTIVE EVALUATION

QDA - method

QDA (Quantitative Descriptive Analysis) is a descriptive method that represents one of the most advanced and comprehensive sensory methods. The main purpose of this method is to find the minimum number of terms that inform the maximum amount of information about the sensory properties of the product. In the profile analysis it is assumed that the flavour is not a single attribute of sensory quality, but a complex of many individual discriminants, separately assessed in terms of their quality and intensity.

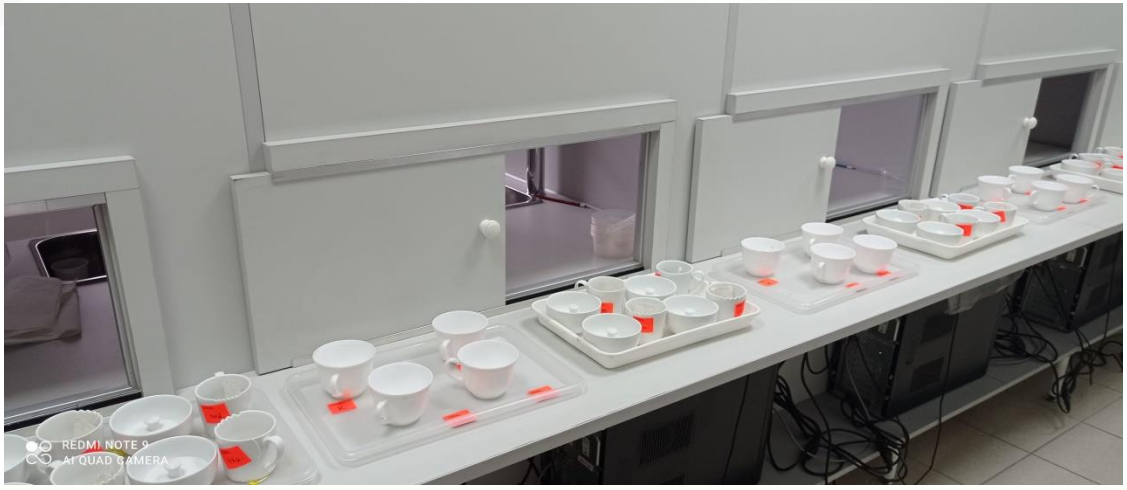






TEA DESRIPTORS

1. The intensity of the infusion the smell of tea:	0 imperceptible - 10 very intense
2. Floral, sweet, fruity smell :	0 imperceptible - 10 very intense
3. Herbal smell:	0 imperceptible - 10 very intense
4. Off-smell:	0 imperceptible - 10 very intense
5. Clear appearance :	0 not very clear- 10 very clear
6. Colour:	0 light brown / straw - 10 very intense dark
7. Tea taste:	0 imperceptible - 10 very intense
8. Bitter taste :	0 imperceptible - 10 very intense
9. Sour taste:	0 imperceptible - 10 very intense
10. Astringent taste:	0 imperceptible - 10 very intense
11. Off-taste:	0 imperceptible - 10 very intense
12. Overall quality score:	0 bad - 10 very good



COFFEE DESCRIPTORS

1. Aroma flavor of coffee	0 imperceptible - 10 very intense
2.Burnt coffe smell	0 imperceptible - 10 very intense
3. Cocoa/chocolate smell	0 imperceptible - 10 very intense
4. Earthy/dirty smell	0 imperceptible - 10 very intense
5. Fruity smell	0 imperceptible - 10 very intense
6. Nutty smell	0 imperceptible - 10 very intense
7. Off-smell	0 imperceptible - 10 very intense
8. Coffee impression	0 imperceptible - 10 very intense
9. Color coffee	0 little brown intense – 10 very intense brown
10. Viscosity	0 low viscosity / density – 10 high viscosity / density)
11. Taste flavor of coffee	0 imperceptible - 10 very intense
12. Bitter taste	0 imperceptible - 10 very intense
13. Sour taste	0 imperceptible - 10 very intense
14. Astringent taste	0 imperceptible - 10 very intense
15. Off-taste	0 imperceptible - 10 very intense
16. Overall quality score	0 bad - 10 very good

Multiple comparison test

Task: You have a control sample marked K and three test samples marked with a three-digit code in front of you. Evaluate the control sample first and then the first test sample. Mark the noticeable difference between these samples on the scale below, putting an "X" in the appropriate place. Proceed in the same way with subsequent samples.

B1) **Intensity of aroma tea**

Code……**T.321**…….

1 No difference	2 Very little difference	3 Slight difference	4 Little difference	5 Moderate difference	6 Greater difference	7 Big difference	8 Very big differtence	9 Completely different

Code……**T.332**…….

1 No difference	2 Very little difference	3 Slight difference	4 Little difference	5 Moderate difference	6 Greater difference	7 Big difference	8 Very big differtence	9 Completely different

Code……**T.343**…….

1 No difference	2 Very little difference	3 Slight difference	4 Little difference	5 Moderate difference	6 Greater difference	7 Big difference	8 Very big differtence	9 Completely different

TEA CUP

TEA

English Breakfast

REDMI NOTE 9
AI QUAD CAMERA

Lipton
YELLOW LABEL
REDMI NOTE 9
AI QUAD CAMERA

Lipton
YELLOW LABEL
REDMI NOTE 9
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REDMI NOTE 9
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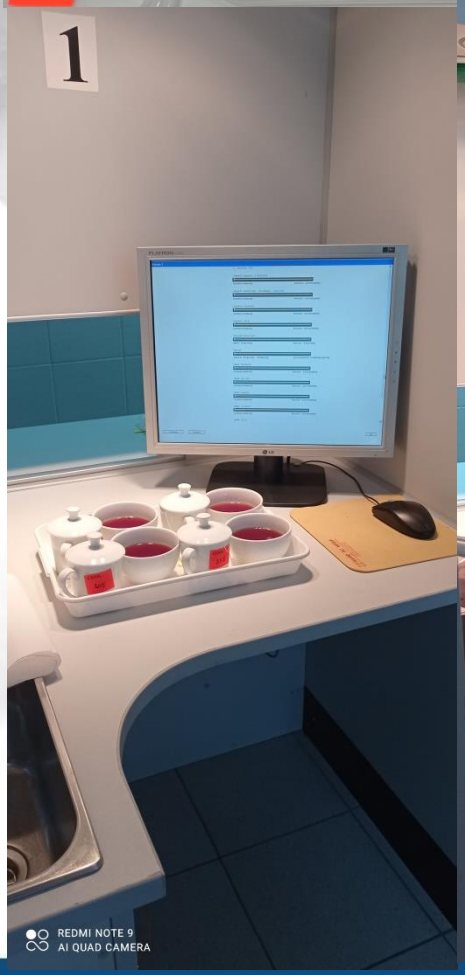
REDMI NOTE 9
AI QUAD CAMERA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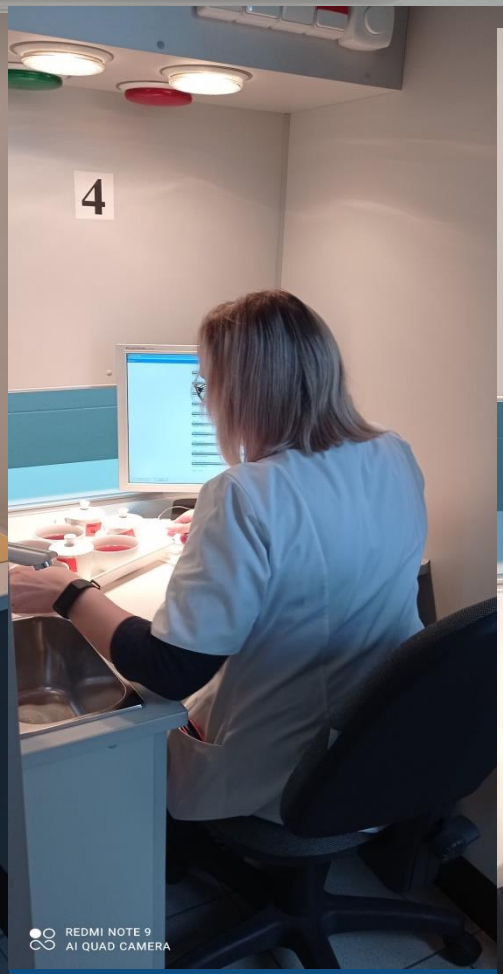
REDMI NOTE 9
AI QUAD CAMERA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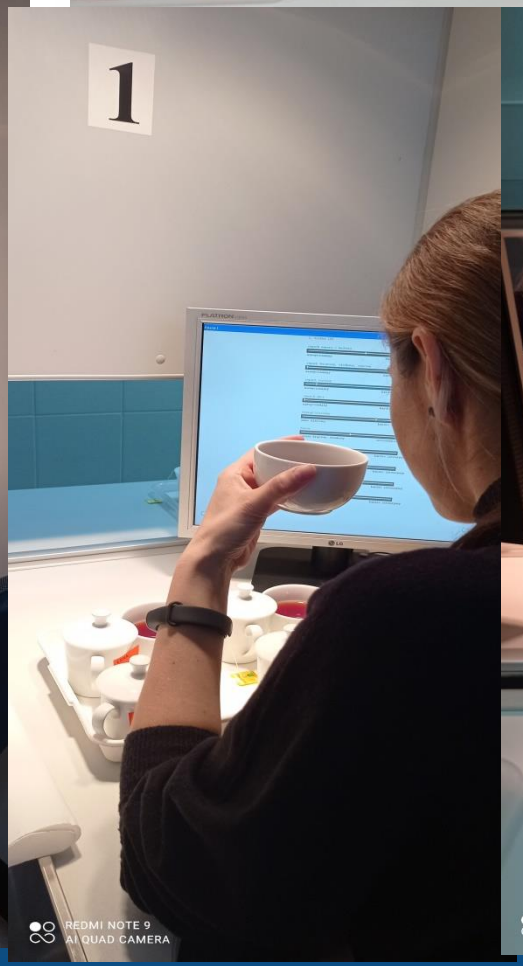
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COFFEE

JACOBS
KRÖNUNG
REDMI NOTE 9
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JACOBS
REDMI NOTE 9
AI QUAD CAMERA

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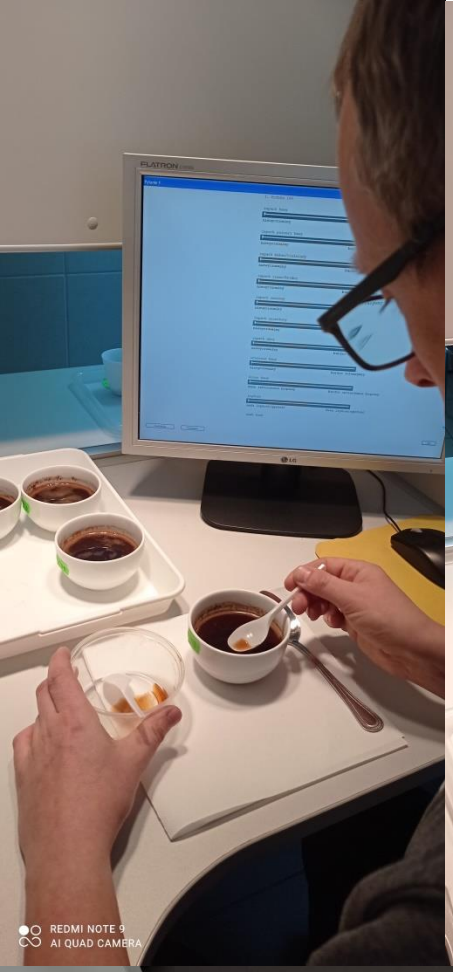
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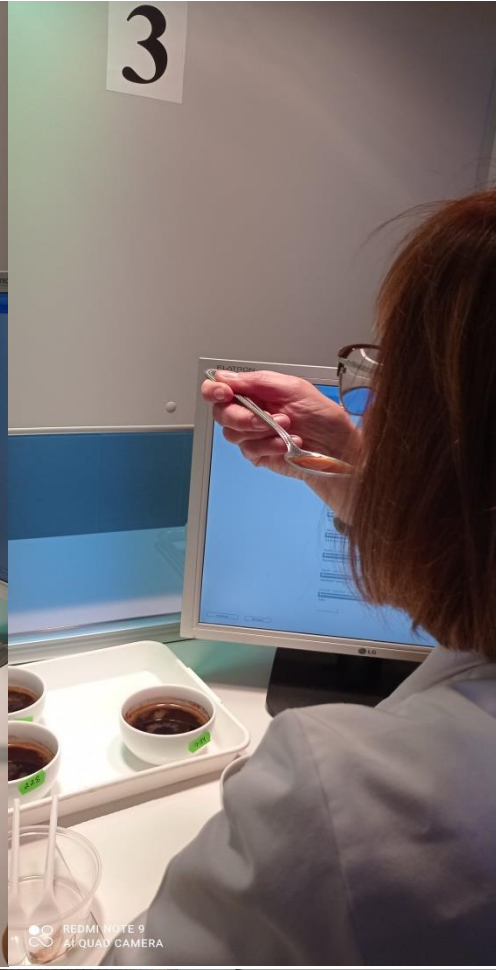
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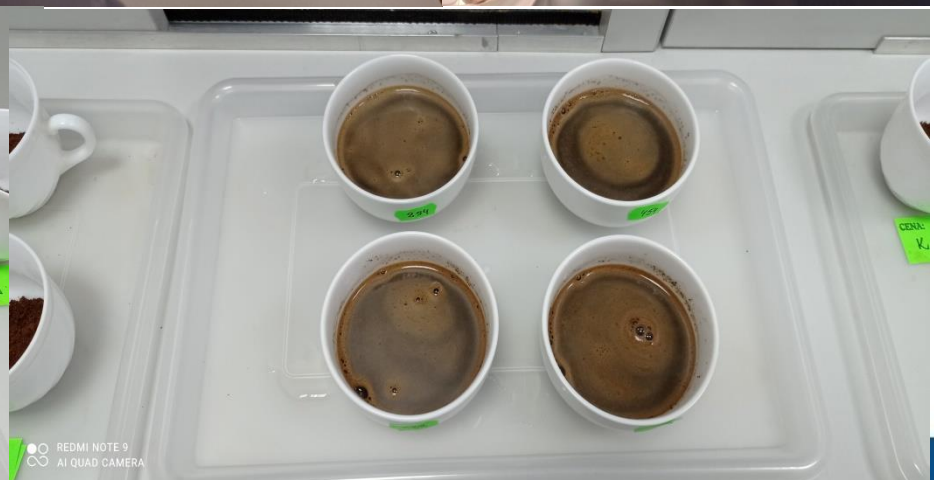
REDMI NOTE 9
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THANK YOU FOR ATTENTION!