THE MONITORING AND CHARACTERIZATION OF ORGANIC FRUIT QUALITY STORED AND PROCESSED IN DIFFERENT TECHNOLOGICAL CONDITIONS

http://ecotehnopomp4.usamv.ro/

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GENERAL DATA

- The objectives of study is to monitoring and characterize the organic fruit quality stored and processed in different technological conditions.

- This study is part of Component Project P4, Complex Project – ECOTEHNOPOM, nr. 12PCCDI/2018, with partners like: Research Institute for Fruit Growing Pitești Mărăcineni and Research Institute for Industrialization and Marketing of Horticultural Products "HORTING"

FRUIT SPECIES

Raspberry:

- ***Heritage***

Apples:

- ***Rubinola***
- ***Topaz***
- ***Gemini***
- ***Renoir***

Strawberry:

- ***Regina***

STORAGE METHODS APPLIED (I)

Cold storage (1°C, 95% RH), for:

- ***Heritage***
- ***Rubinola***
- ***Topaz***
- ***Gemini***
- ***Renoir***
- ***Regina***

STORAGE METHODS APPLIED (II)

Controlled atmosphere storage (1°C, 95% RH, 3%O2, 5% and 10% CO2), for:

- ***Apples***
- ***Strawberries***

STORAGE METHODS APPLIED (III)

Experiment 1 (PET and biofilm) - 14 days

Modified atmosphere (in PET trays and/or biofilm), for:

- ***Raspberries***
- ***Apples***
- ***Strawberries***

Experiment 2 (biofilm) - 2 moths

Experiment 3 (biofilm) – in progress

Eco-Fruit for a Better Life

Modified atmosphere - Packaging method

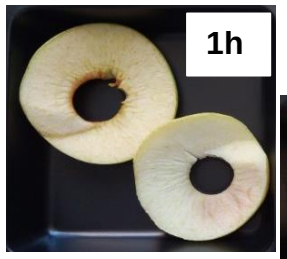
Pakaging

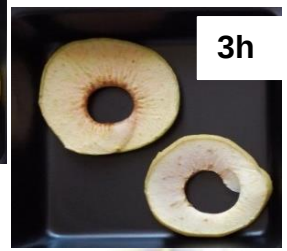
Weighed

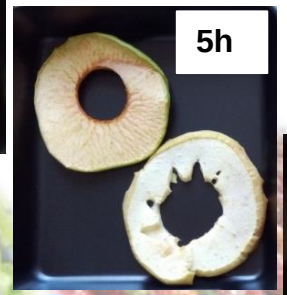
Stored at 1°C, 95% UR

PROCESSING METHODS (I)

Drying







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PROCESSING METHODS (II)

Freezing/Lyophilization

PROCESSING METHODS (III)

Pakaging

Weighing

Fast freezing and storage (-80°C)

Fast freezing (-80°C) for 24h, storage (-18°C)

Slow freezing and storage (-18°C)

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ANALYZING METHODS

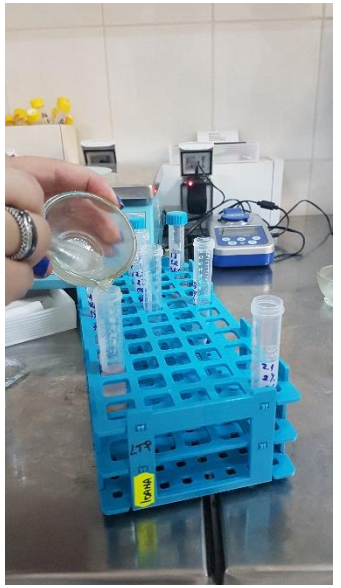
Phisical-chemical

- *pH value*
- *Total soluble solids*
- *Total titratable acidity*
- *Dry matter content*
- *Procentual losses due to dehydration*

Nutritional characterization

- *Ascorbic acid content*
- *Total anthocyanin content*
- *Chlorophyll a, b and total*
- *Total polyphenols content*

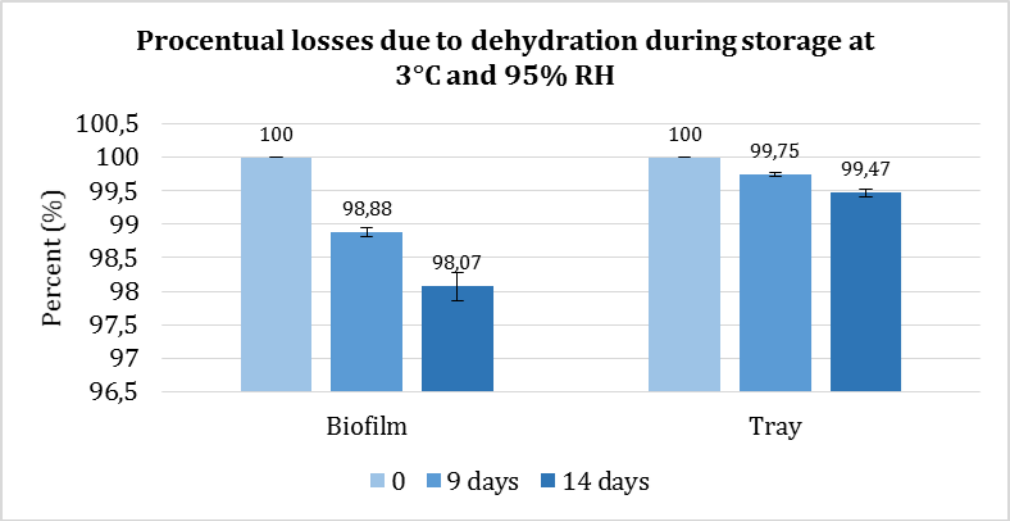
Extraction for ascorbic acid content

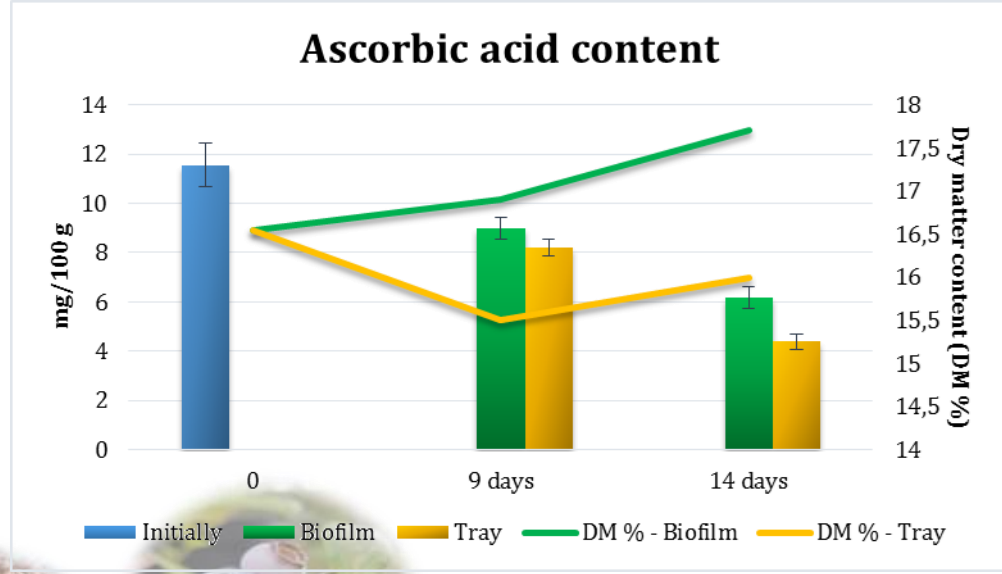


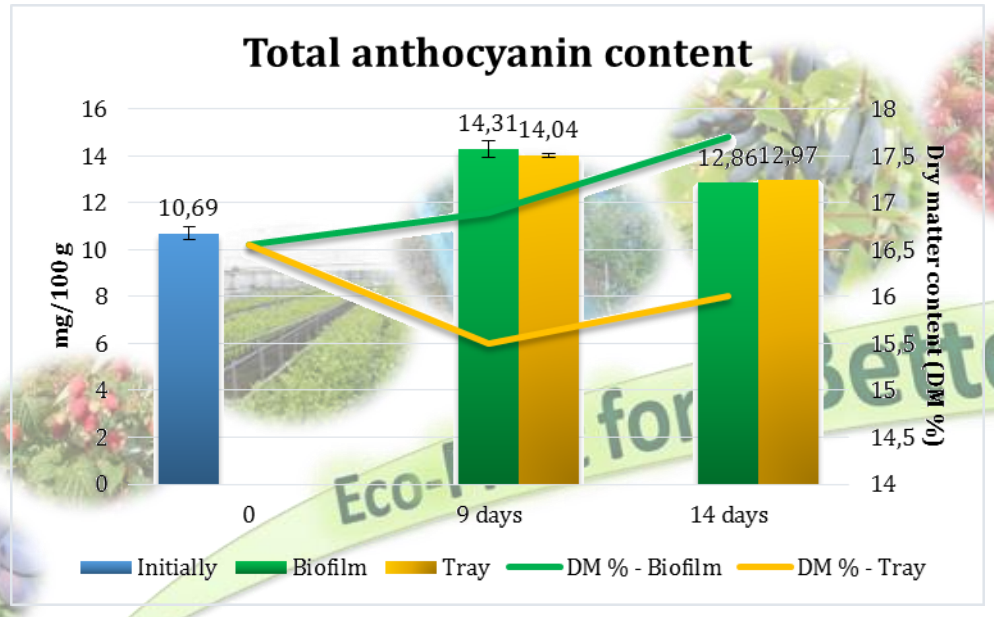
Total titratable acidity

Dry matter content

Raspberry results - pending publication







- **Procentual losses due to dehydration were slightly higher in biofilm comparing with PET trays.**
- **Ascorbic acid content was better maintained for raspberries packed in biofilm comparing with those in PET trays.**
- **Total anthocyanin content of raspberry registered similar behavior for both biofilm and PET tray.**
- **Finnaly this work suggest that biofilm preserve better the quality indicators of organic raspberries, but further studies and trials are required.**

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Thank you for attention!

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