



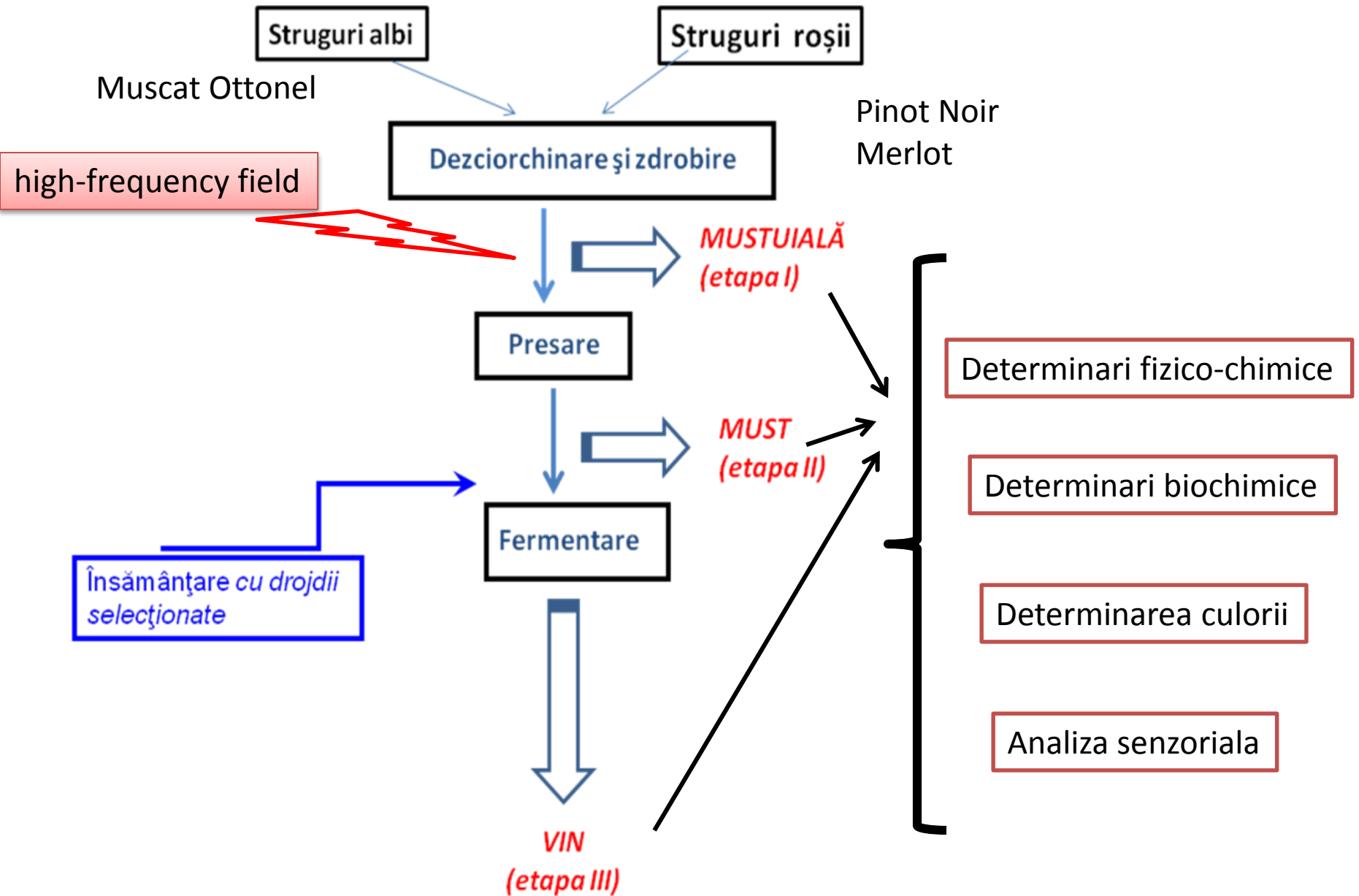
**UNIVERSITY OF ORADEA  
FACULTY OF ENVIRONMENTAL PROTECTION  
DEPARTMENT OF FOOD ENGINEERING**

***Raport stiintific  
privind implementarea  
proiectului in etapa I 2014***

**Metode electromagnetice pentru  
îmbunătățirea procedeelelor vinicole**

**Nr. proiect *PN-II-PT-PCCA-2013-4-2225/ 170 din 01/07/2014***

**27 noiembrie, ORADEA, 2014**



# Determinari fizico-chimice

pH

Aciditatea (g acid tartric/L)

Bx%

Indicele de refractie

Glucide (g/L)

Conductivitatea (mS)

Na<sup>+</sup> (ppm)

Cu<sup>2+</sup> (ppm)

## Determinari biochimice

### A. Determinarea compușilor bioactivi din vin:

1. Determinarea *polifenolilor totali* prin metoda Folin –Ciocâltău;
2. Determinarea *flavonoidelor totale*
3. Determinarea conținutului în *pigment antocianic monomeric total*.

### B. Determinarea capacității antioxidante a probelor, folosind următoarele metode:

1. **DPPH** – 2,2-Diphenylpicrylhydrazil Radical Scavenging Capacity;
2. **FRAP** – Ferric Reducin Antioxidant Power;
3. **ABTS** – Trolox Equivalent Antioxidant Capacity.

# Notiuni teoretice

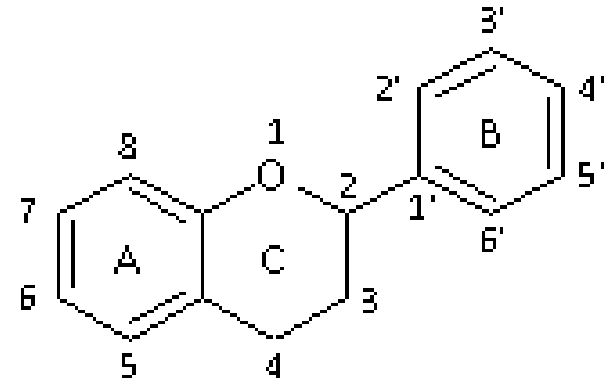
**Polifenolii** sunt un grup de substante (metaboliti secundari ) denumite fitochimicale prezenti in regnul vegetal.

## Clasificare

### Grupul flavonoidelor

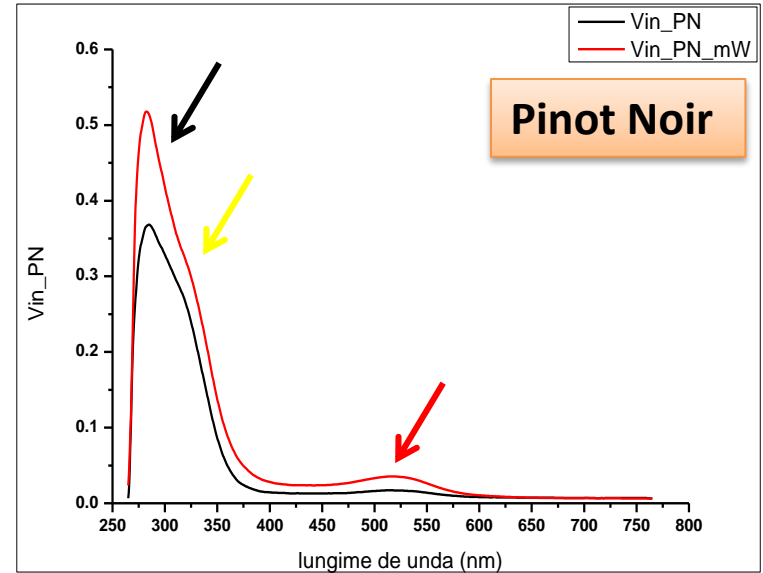
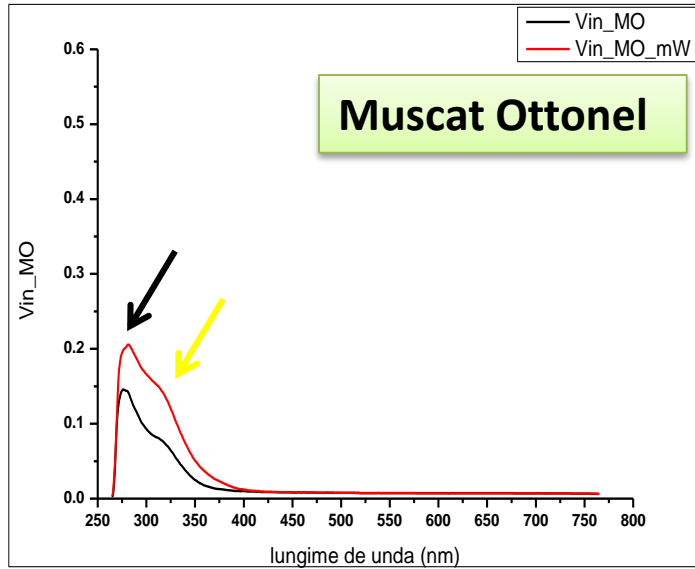
- Flavone
- Flavonoli
- Flavanone
- Flavanonoli
- Flavanoli (catechine)
- Anthocianine
- Izoflavone
- Neoflavonoide
- Chalcone

### Grupul nonflavonoidelor



simple phenols, phenolic acids, benzoic aldehydes, hydrolyzable tannins, acetophenones and phenylacetic acids hydroxycinnamic acids, coumarins, benzophenones, xanthenes stilbenes; lignans, secoiridoids

# UV-Vis Spectrometric Fingerprint (250-750 nm)



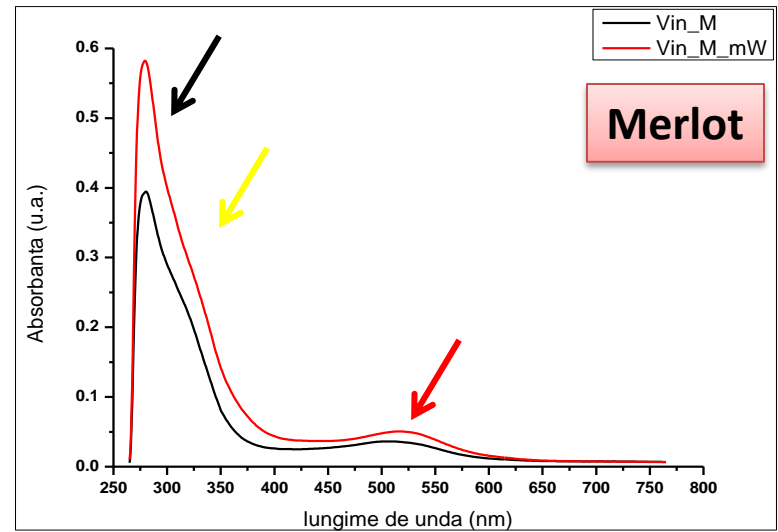
280 nm=Phenolic acid derivatives

280, 340 nm= Flavonoids

410-470 nm = Carotenoids

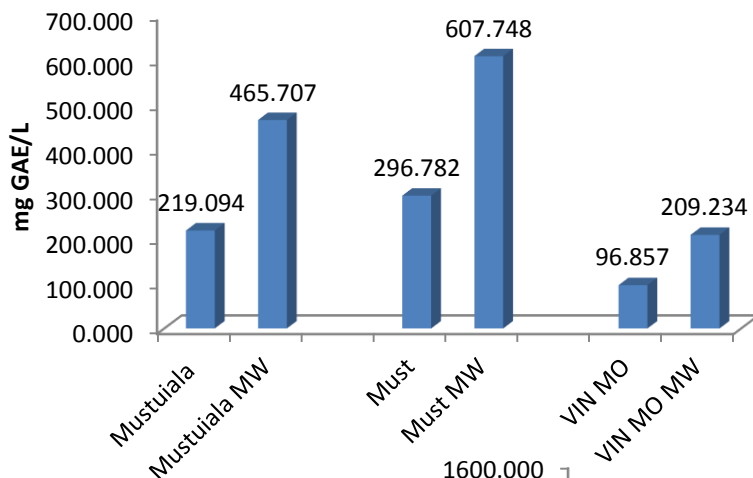
520-535 nm =Anthocyanins

647, 663 nm= chlorophylls

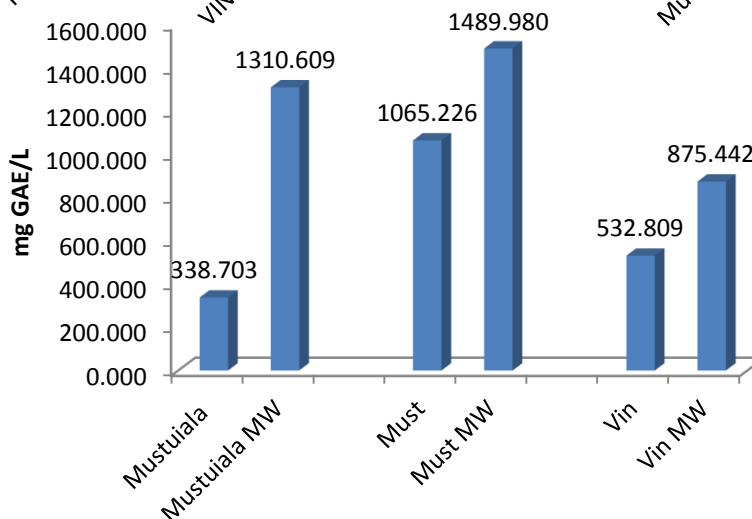
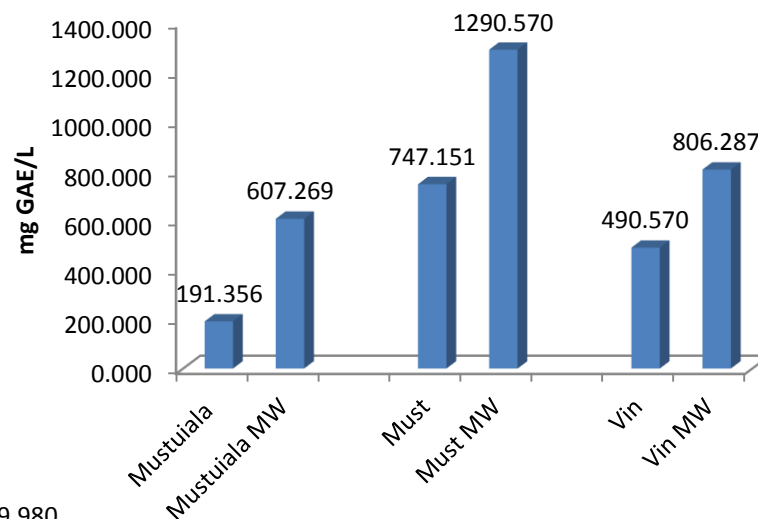


## Determinarea *polifenolilor totali* prin metoda Folin –Ciocâltău

### Muscat Ottonel



### Pinot Noir



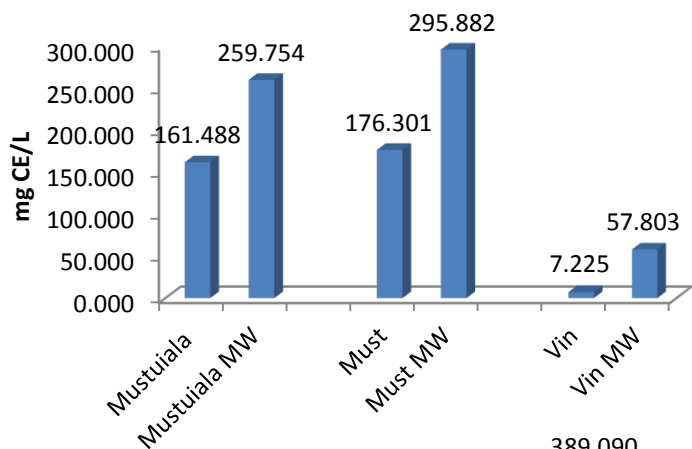
### Merlot

# Determinari biochimice

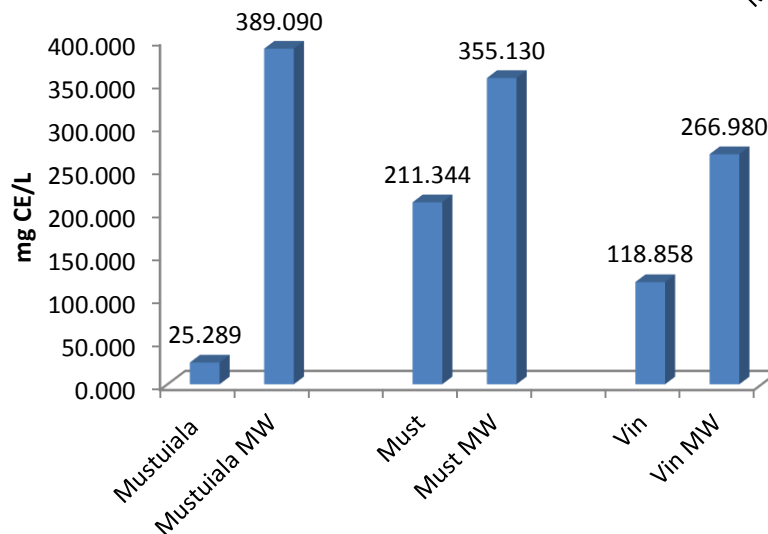
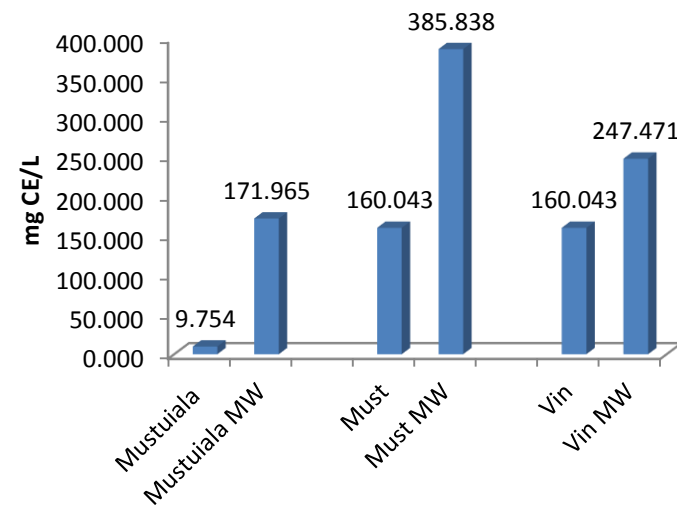
Rezultate

## Determinarea flavonoidelor totale

### Muscat Ottonel



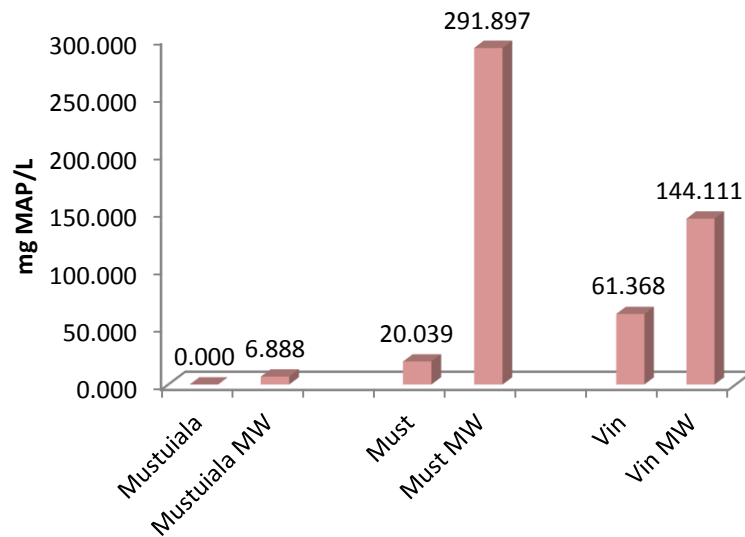
### Pinot Noir



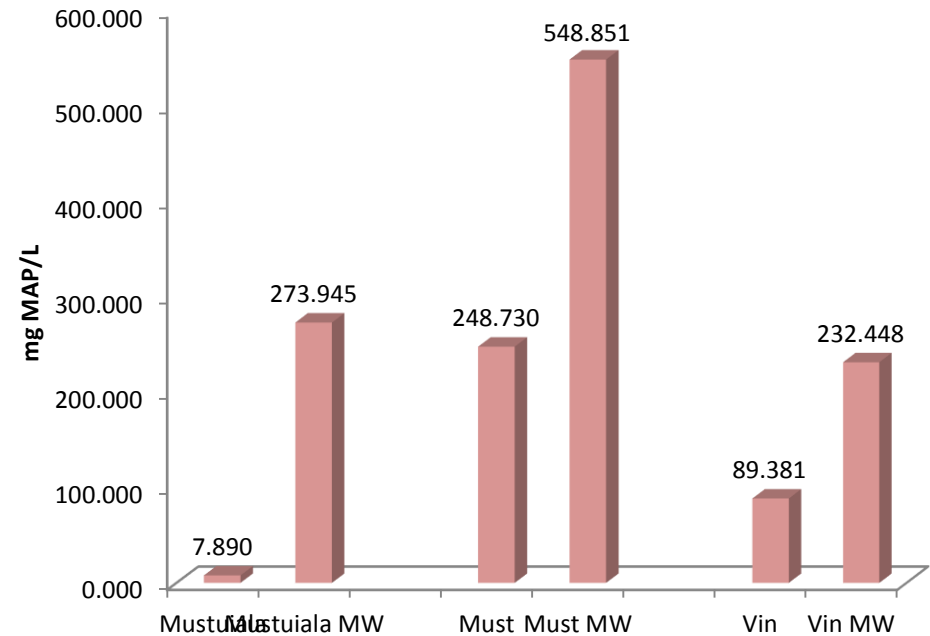
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Determinarea conținutului în *pigment antocianic monomeric total*.



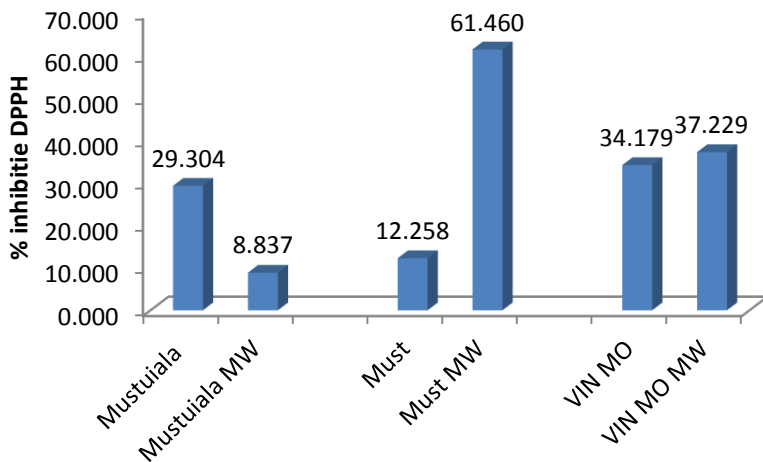
Pinot Noir



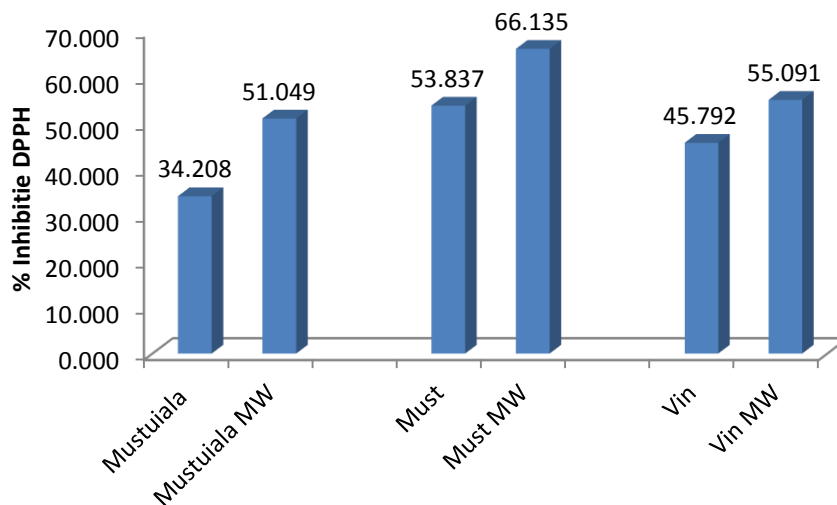
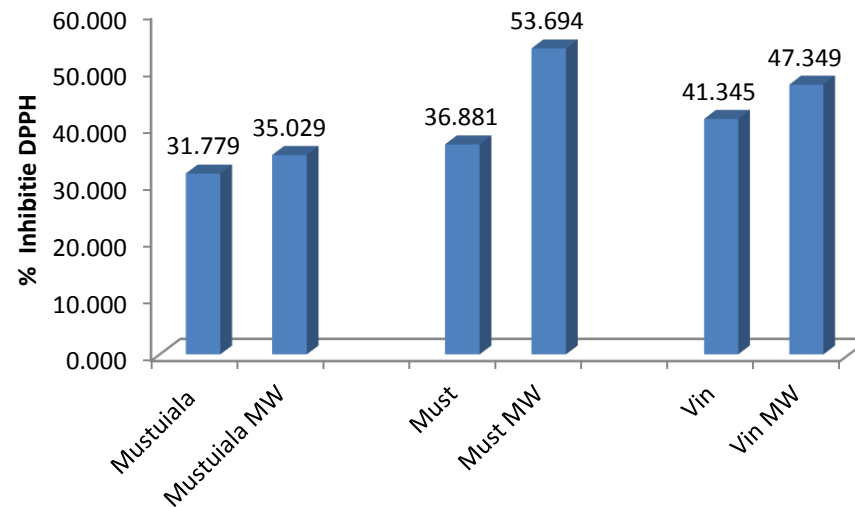
Merlot

## Determinarea activitatii antioxidante prin metoda DPPH

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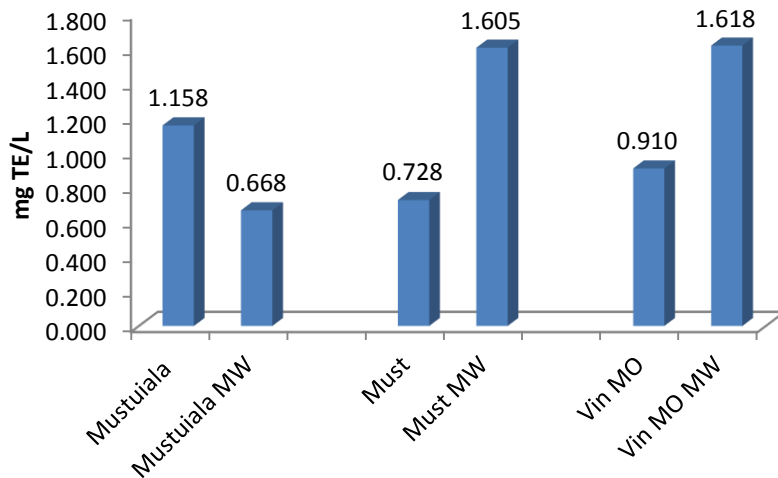
### Pinot Noir



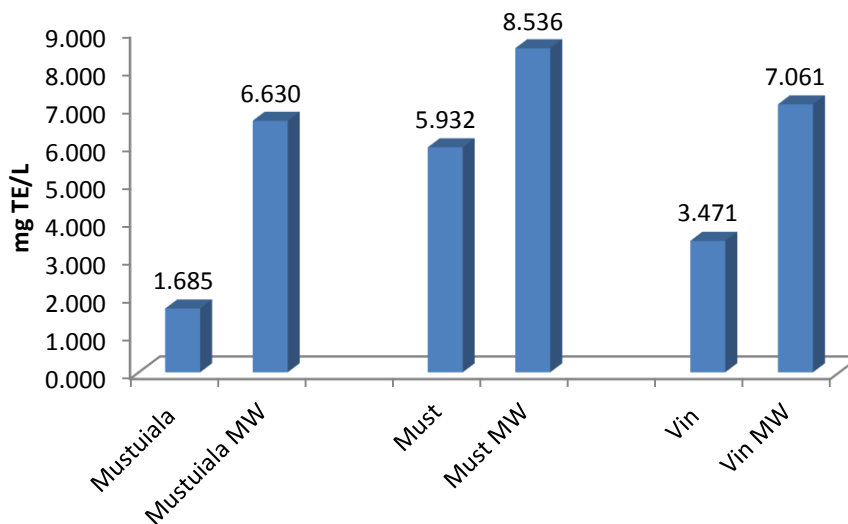
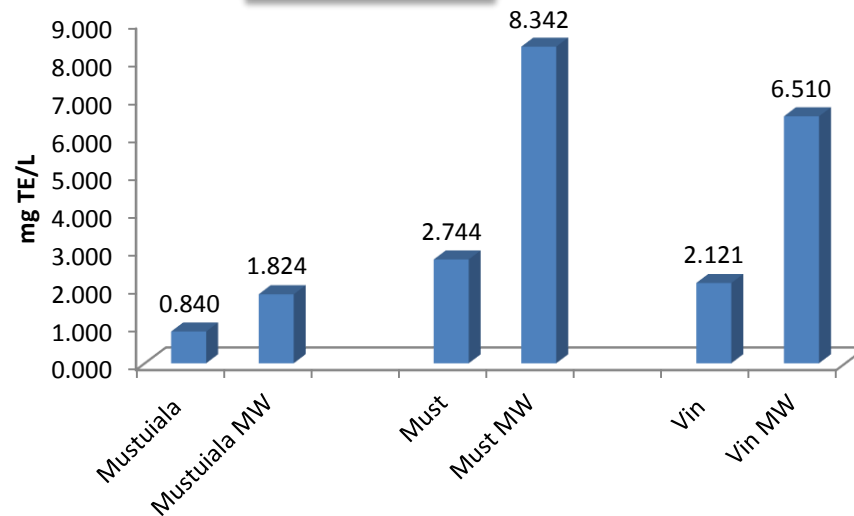
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## Determinarea activitatii antioxidante prin metoda FRAP

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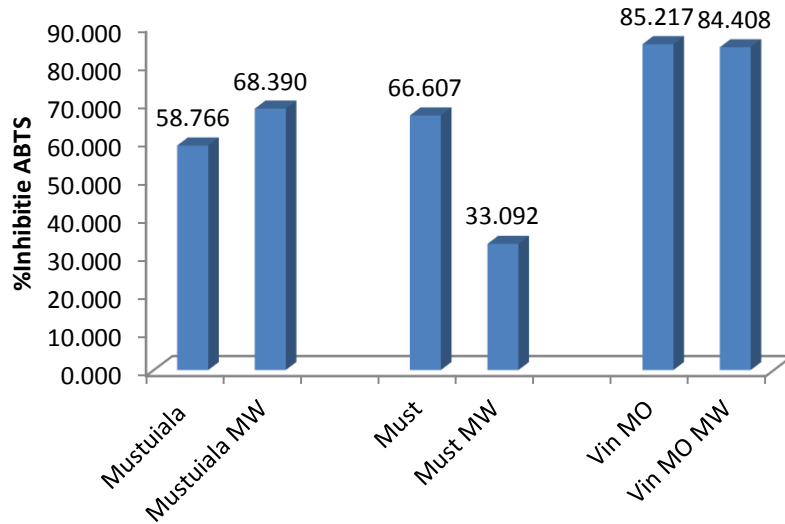
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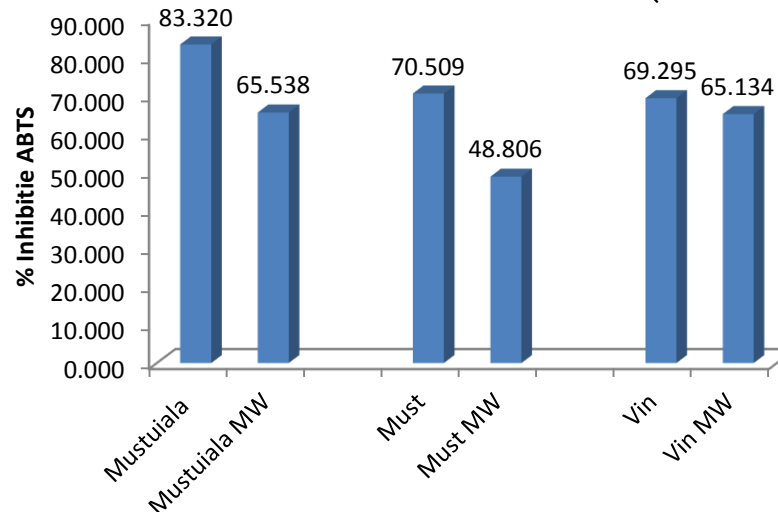
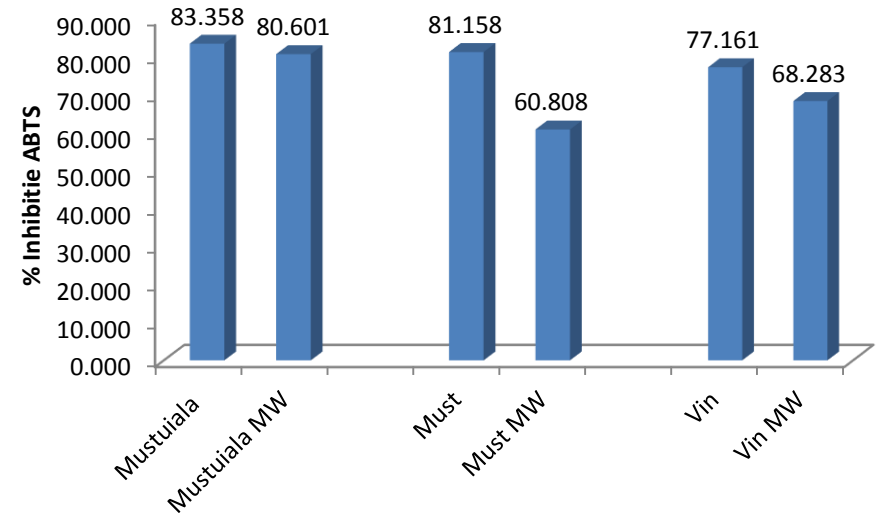
### Merlot

## Determinarea activitatii antioxidante prin metoda ABTS

### Muscat Ottonel



### Pinot Noir



### Merlot

**Va multumesc pentru atentie!**

***Această lucrare a fost realizată prin programul  
Parteneriate in domenii prioritare — PN II, derulat cu  
sprijinul MEN – UEFISCDI, proiect nr. 170/2014***