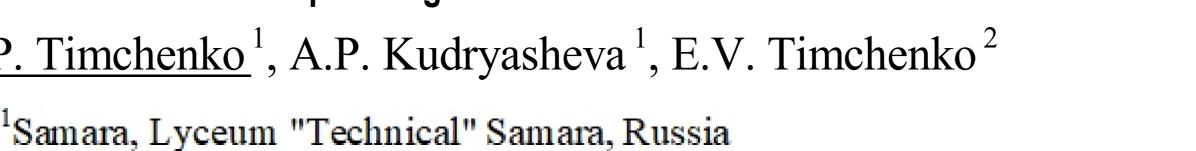


Comparative optical analysis of apples composition under different processing conditions

²Samara, Samara University Samara, Russia

L.P. Timchenko¹, A.P. Kudryasheva¹, E.V. Timchenko²

Methodology of conducting experiments: a) Stage 1 of research; b) Stage 2 of research \(\bar{1} \)





Research objects: ¶ green apple varieties "Kuibyshevskoe" ¶ and "Semirenko", ¶ redapple variety¶ "Konfetnoe"





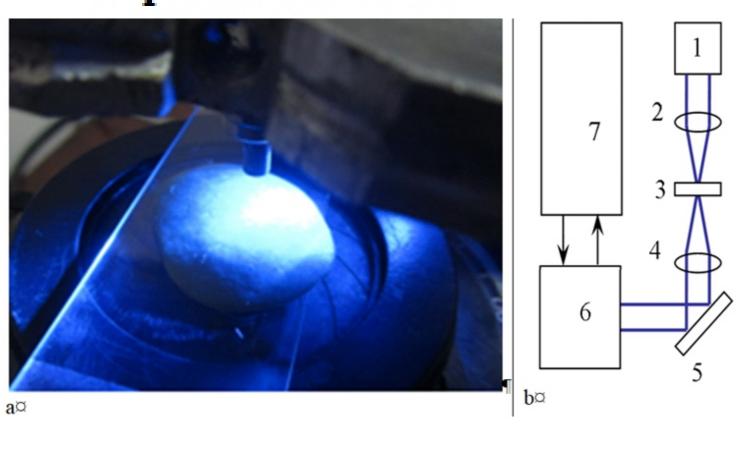




a)

b)

Optical methods



1 - halogen lamp,¶ 2-condenser,¶ 3-object,¶ 4-lens.5-rotatingmirror.¶

6-camera,

7-computer.

Optical coefficient

 $R = \cdot I_{685} / I_{469} \dots$

флуоресценции, отн. ед Длина волны, нм

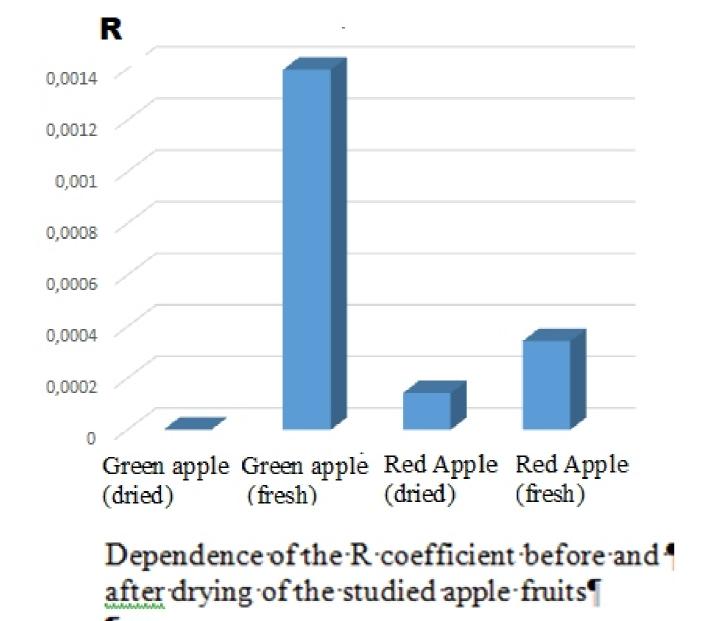
> Fluorescence intensity of the studied ¶ groups from the radiation wavelength: 1-apple fruits without packaging ¶

2-apples in packaging

1--apples without packaging End of experiments Beginning of experiments 2-apples in packaginga

Microscopic analysis

Fluorescence analysis



Fruits of the green variety of apple tree Fruits of the green variety of apple "Kuibyshevkoe" -- fresh¤ tree-"Kuibyshevskoe" -- dried = Fruits · of · the · red · variety · of · apple · tree "Candy"·-·dried¤ "Candy" -- fresh¤

Conclusions:

- 1) The work introduced an optical coefficient that determines the beneficial properties of apples
- 2) As a result of the experimental studies conducted using optical methods, it was found that the most optimal way to store all the studied varieties of apples is packaging, which allows preserving the beneficial properties of apples over a long period of storage,
- 3) Using optical methods, it was found that dried red apples retain more beneficial properties than green apples;
- 4) Comparative optical analysis of fresh and dried apples showed that fresh green apples are the most beneficial.