

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



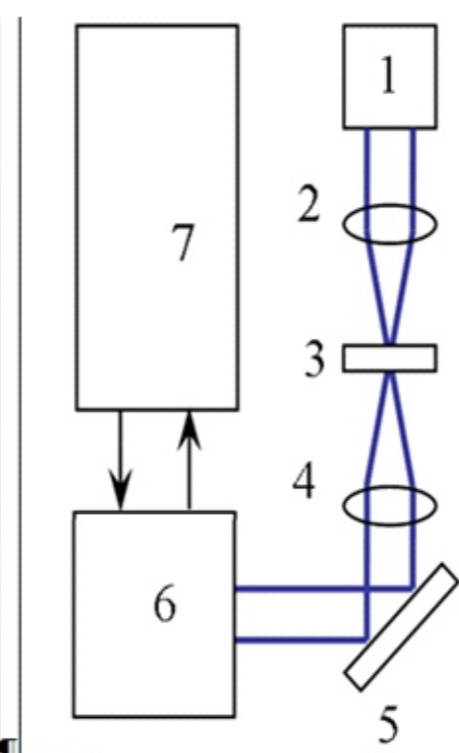
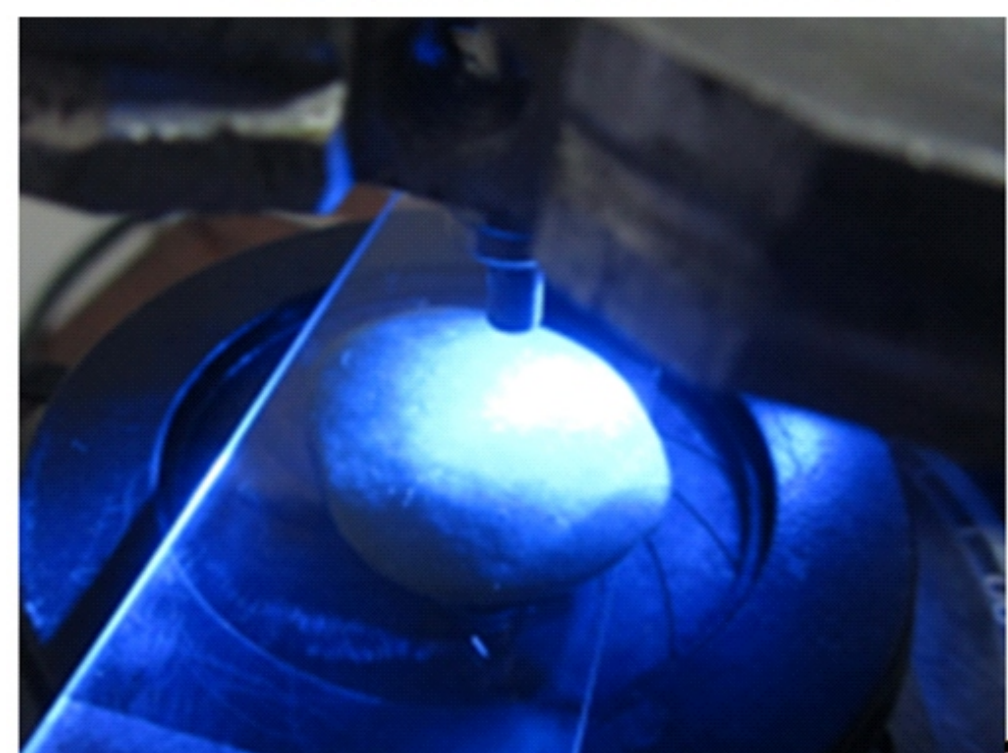
a)



b)

Methodology of conducting experiments: a) Stage 1 of research; b) Stage 2 of research

### Optical methods

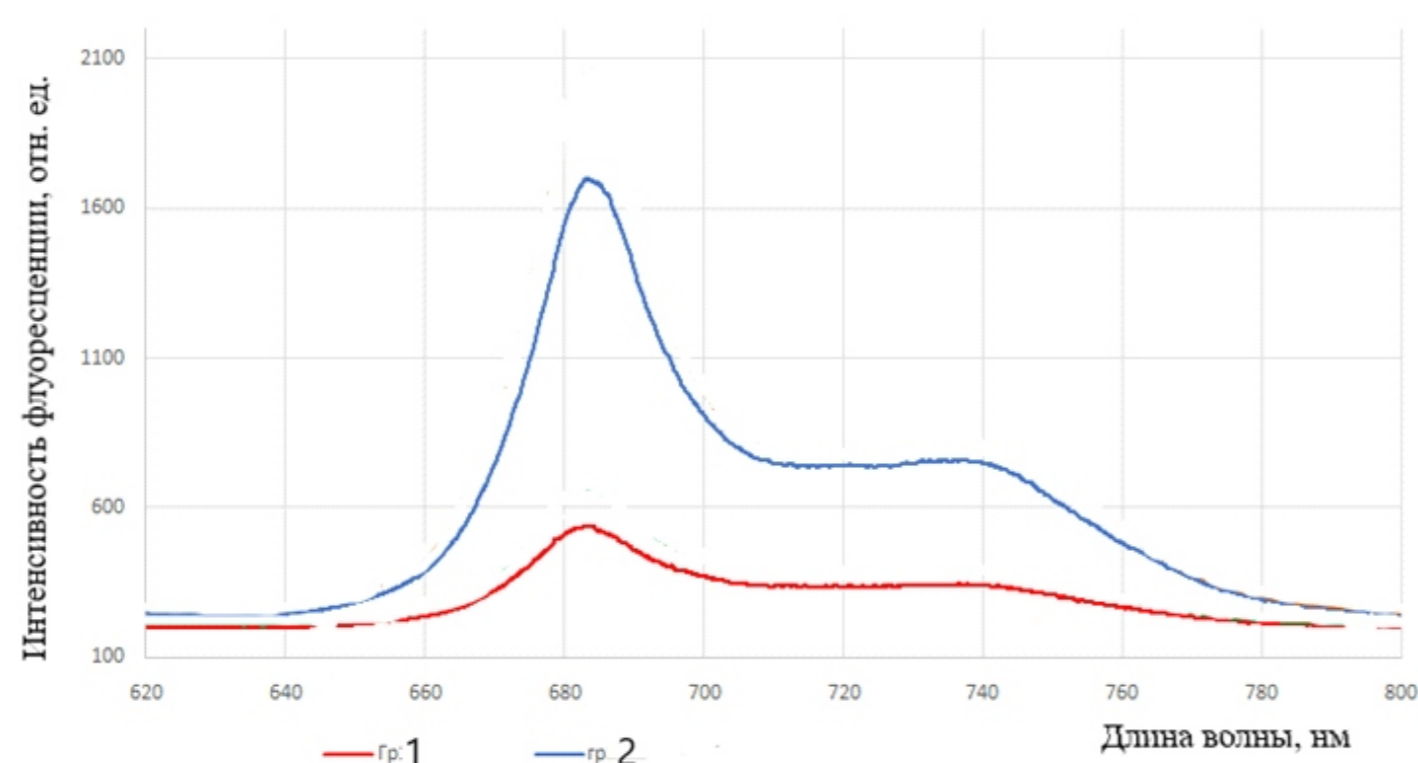


- 1 - halogen lamp,
- 2 - condenser,
- 3 - object,
- 4 - lens,
- 5 - rotating mirror,
- 6 - camera,
- 7 - computer.

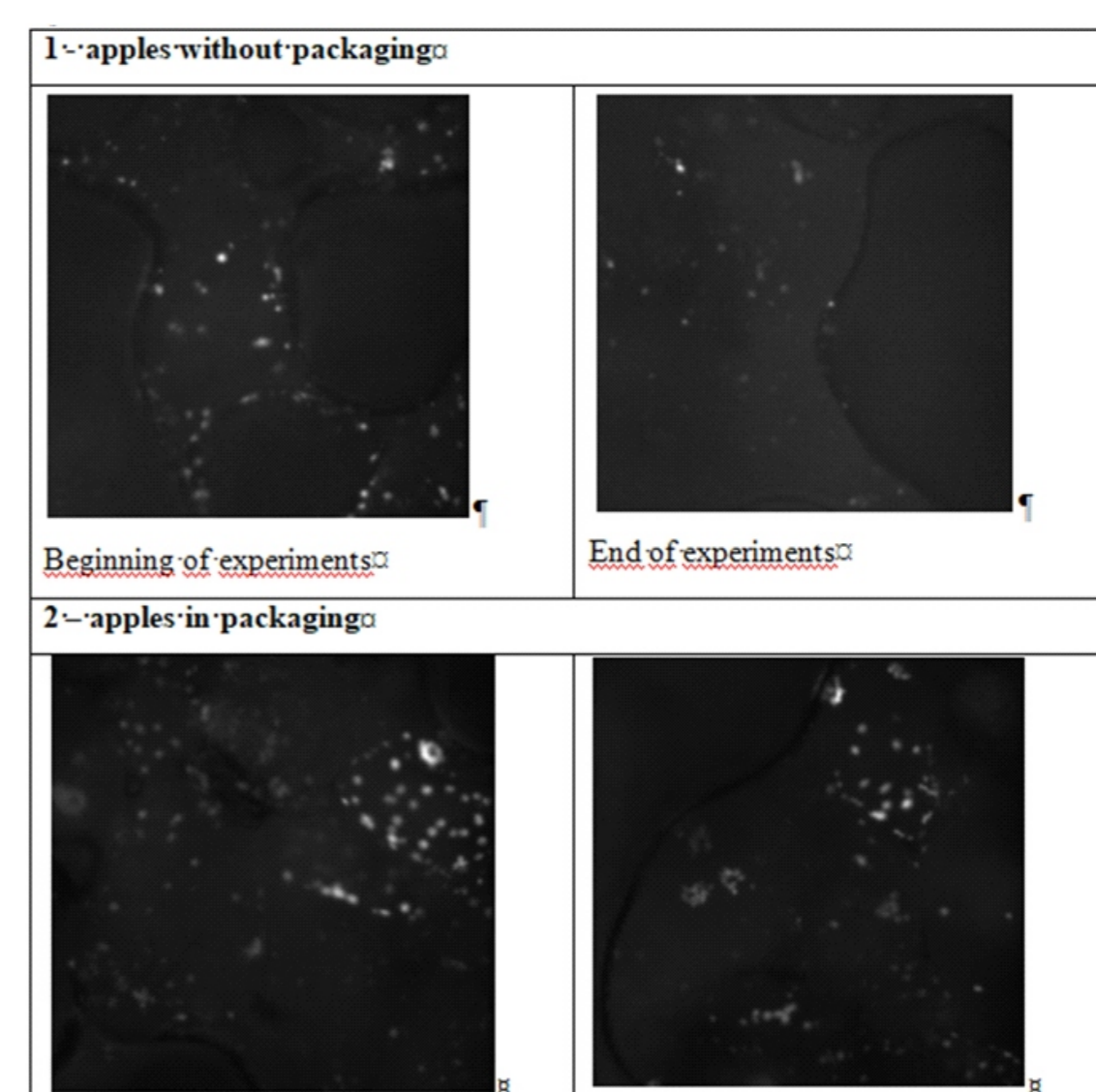
### Optical coefficient

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

1

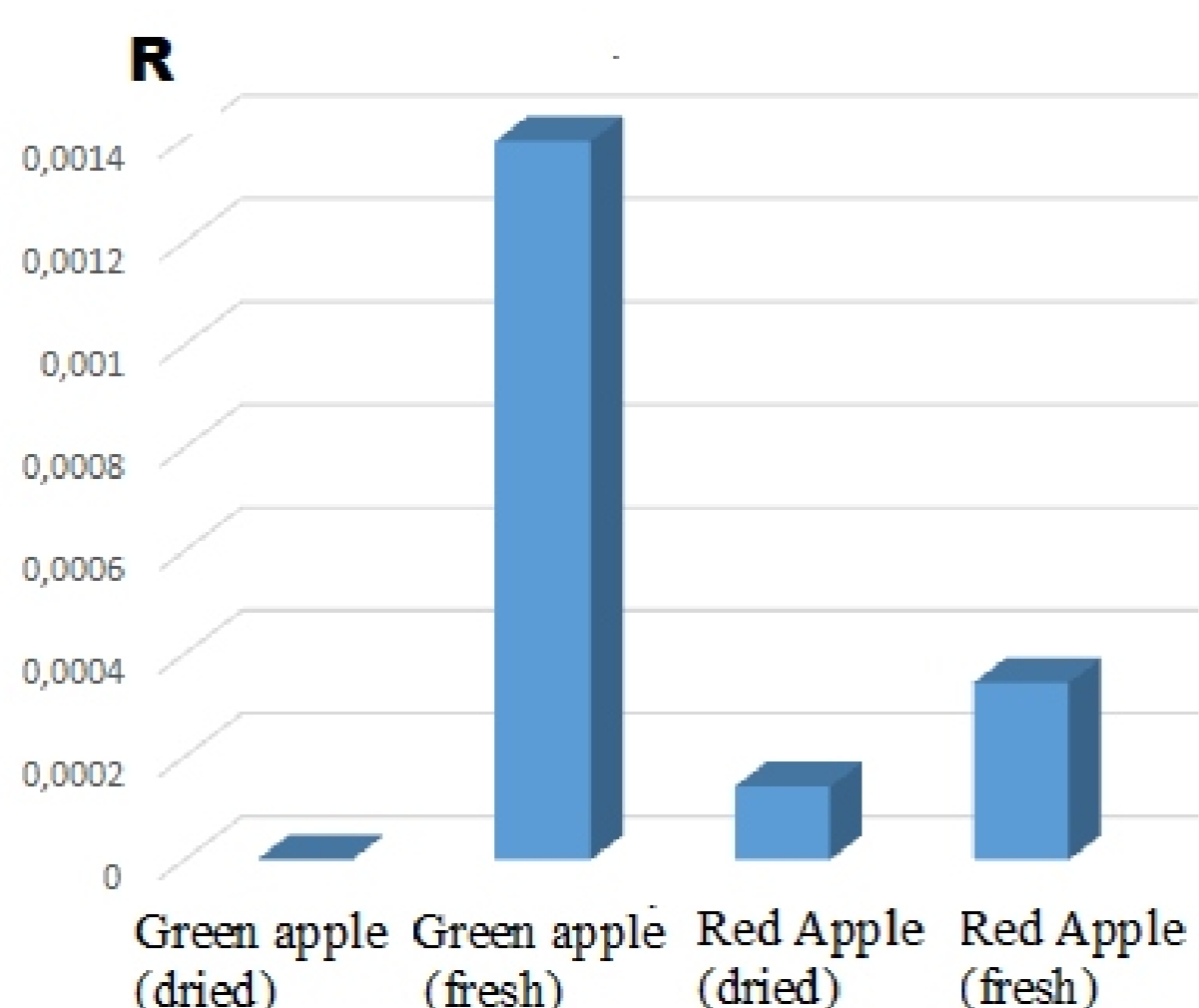


Fluorescence intensity of the studied groups from the radiation wavelength:  
1 - apple fruits without packaging  
2 - apples in packaging



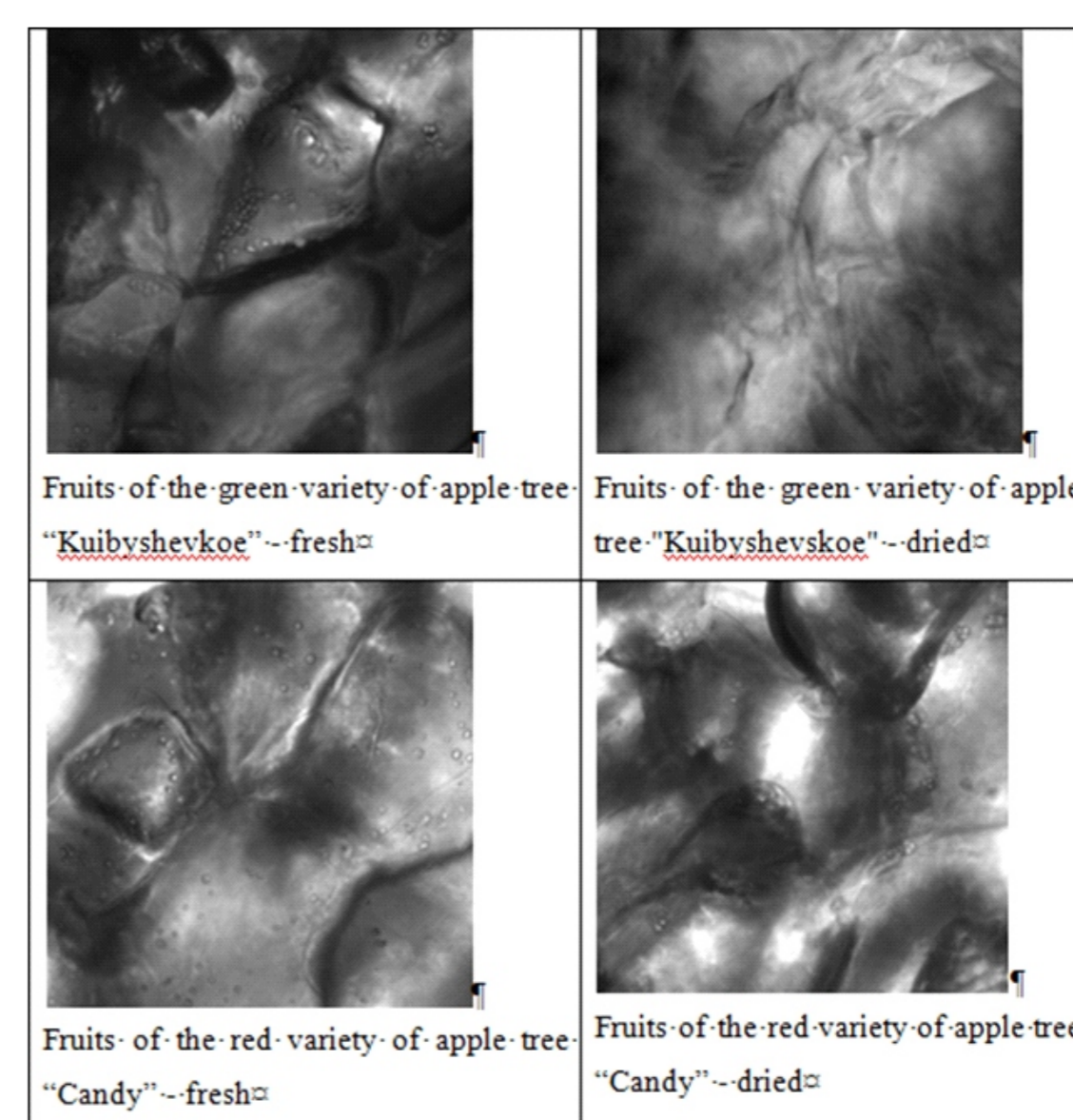
### Fluorescence analysis

2



Dependence of the R coefficient before and after drying of the studied apple fruits

### Microscopic analysis



### 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.