

**МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РФ  
ТОМСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ  
БИОЛОГИЧЕСКИЙ ИНСТИТУТ**

## **СТАРТ В НАУКУ**

**МАТЕРИАЛЫ  
LXIX научной студенческой конференции  
Биологического института**

*Томск, 20–24 апреля 2020 г.*

**Томск  
2020**

## PHYTONCIDAL PROPERTIES OF PLANTS

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The aim of our project is to study the phytoncidal properties of plants using onions as an example.

All plants contain substances with phytoncidal properties. They are formed in the protoplasm of plant cells and tissue juice. Such plants surround us everywhere and purify the air from the microorganisms in it. There are phytoncides are contained in plant tissues in a dissolved form, and volatile fractions of phytoncides are released into the atmosphere, soil, and water. Some plants emit volatiles (e.g. mint, oregano, chamomile and many others). Volatile phytoncides are able to exert their effect on distance. All plants secrete them for self-defense; some plants produce small amounts of phytoncides, others – for example, onions and garlic – large ones.

We carried out a series of experiments to confirm the property of phytoncides to reduce the growth of microorganisms. We observed the processes of rotting chicken eggs and meat.

For research, we took two containers; in the first jar we put a boiled egg without volatile production, and in the second – a boiled egg with chopped onions. The same thing was done with chicken meat.

After a few days, the meat and the egg began to change their color. We observed protein decay under the influence of saprogenic bacteria. In the containers with onions, the processes of decay proceeded much more slowly.

In this way, in the container without volatile production, the egg began to acquire an unnatural color for itself (the egg turned yellow) already on the third day of the study, and in the container with onions, on the tenth. Chicken meat became whiter on the fifth day, and in the jar without onions, on the tenth day.

The experiments lasted fifteen days and as a result it turned out that the presence of onions keeps food fresh 2–3 times longer.

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