

Immune System of Plants

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Abstract: One has stated the thesis that plants have an immune system. It would be created by the cells secreting the mucilage (coating the microbes) and cells producing lectins.

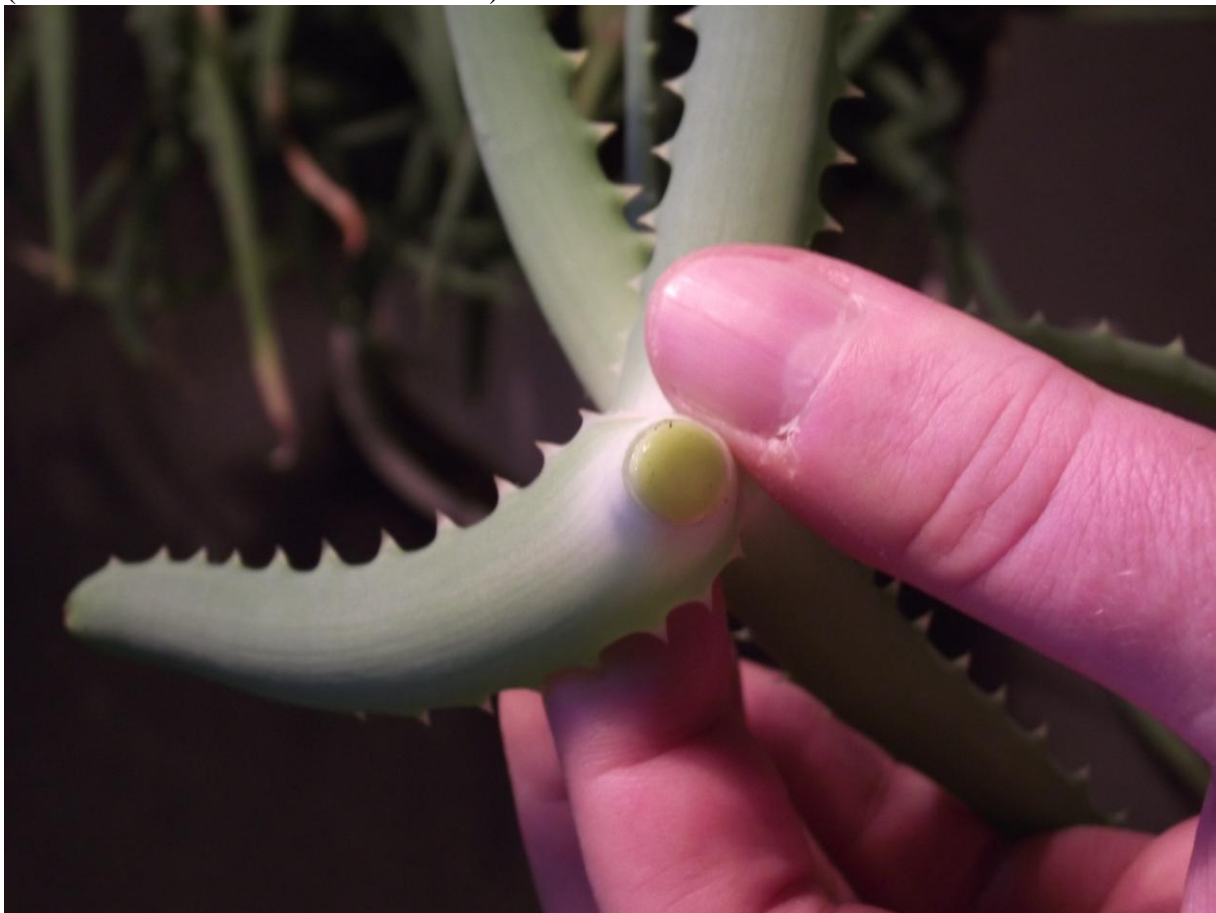
Plants exuberate so densely that they must have an immune system and what is more it must be very effective [1].

Another mechanism of plant immunology is presented in my work.

The following, brilliantly easy experiment shows it.

An aloe shoot is cut off and put into wet soil. It pushes forth the roots although billions of bacteria invade its inside through the transmitting bundles and the tissues injured.

(The cross-section of an aloe shoot)



Moreover, the shoots with the length bigger than 10 cm near all take root and the shoots with the length till 3 cm only in 20-30 %.
It testifies that the longer the shoot, the better developed the immune system.
A similar experiment may be made with tradescantia.

(The cross-section of tradescantia)



I think that the mucus flowing out of the sore plasters over bacteria and other microbes, and the cells producing it are the cells of an immune system.
It requires further research. The cells producing lectins compose the immune system of plants, too.
The immune system of plants (or its parts) can be used to the fight against human illnesses.
Seven big sprouts of aloe (a length bigger than 10 cm) set without roots into the soil, took roots.
Small sprouts of aloe (a length below 5 cm) have the effectivity of taking roots below 50%.
It is the proof that the immune system of plants develops step by step and not at once, similarly as in embryos of animals.
It is not rather the length of the spouts of aloe, which discriminates the development of aloe, because part of the short sprouts takes the roots in spite of all.

Reference:

1. O. Orzyłowska-Śliwińska, 11/2011, "Świat Nauki" - Polish version of Scientific American