

EFFECT OF BIO-GEL PRODUCT ON WHEAT GROWTH IN VITRO

In order to study BIO-GEL effect on plants it was applied to the sterile nutrient Muracige-Skuga medium on which preliminarily sterilized wheat seeds had been couched. BIO-GEL was introduces into the medium to achieve 10^{-2} and 10^{-4} dilution. In order to find out microorganisms contribution to the BIO-GEL activity, studies were made of the preliminarily sterilized (130°C, 30 minutes) and non-sterilized products.

Wheat seeds were put on nutrient medium on May, 10, the photo was taken on May, 14, four days later.



Fig. 1. Wheat growth on Muracige-Skuga medium (Control)

The wheat was characterized by great germination capacity, all seeds on the medium sprouted. In the repetitions only the seeds that had formed shoots and roots in the upper layer of agar medium were observed.

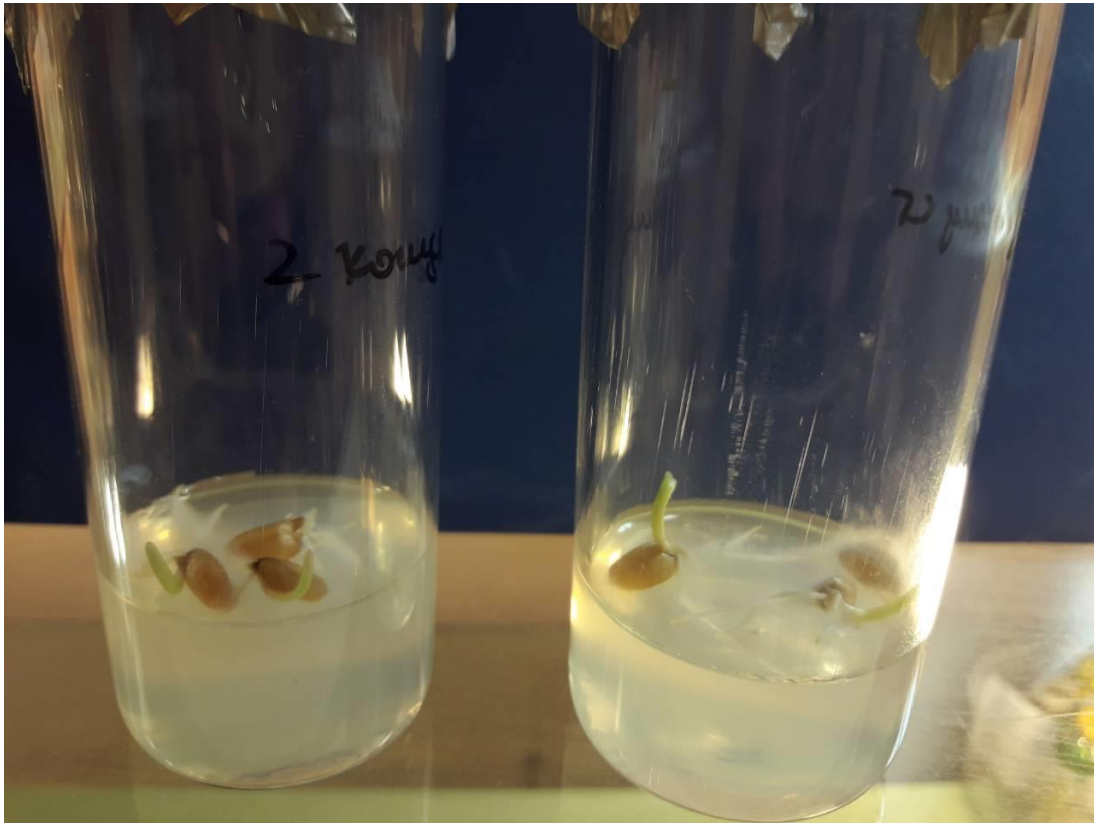


Fig. 2 Wheat growth on Muracige-Skuga medium containing sterilized BIO-GEL product, 1:10000 dilution (0.1 ml BIO-GEL per 1 l medium)



Fig. 3. Wheat growth on Muracige-Skuga medium containing non-sterilized BIO-GEL product, 1:10000 dilution (0.1 ml BIO-GEL per 1 l medium)



Fig. 4. Wheat growth on Muracige-Skuga medium containing sterilized BIO-GEL product, 1:100 dilution (10 ml BIO-GEL per 1 l medium)



Fig. 5. Wheat growth on Muracige-Skuga medium containing non-sterilized BIO-GEL product, 1:100 dilution (10 ml BIO-GEL per 1 l medium)

BIO-GEL stimulated wheat growth in vitro even in 1:10000 dilution (fig. 2, 3). Besides, the non-sterilized product appeared more active. The non-sterilized product introduced into nutrient medium stimulated wheat root growth much better.

When the product concentration was higher it stimulated wheat growth better (fig. 4, 5). Growth stimulating activity was inherent in the sterilized product as well though the non-sterilized product appeared more active. Of special importance is root growth stimulation in the medium with 10 ml/l BIO-GEL. Fig. 5 shows the roots permeating the medium.

Experiment observation: day 5.

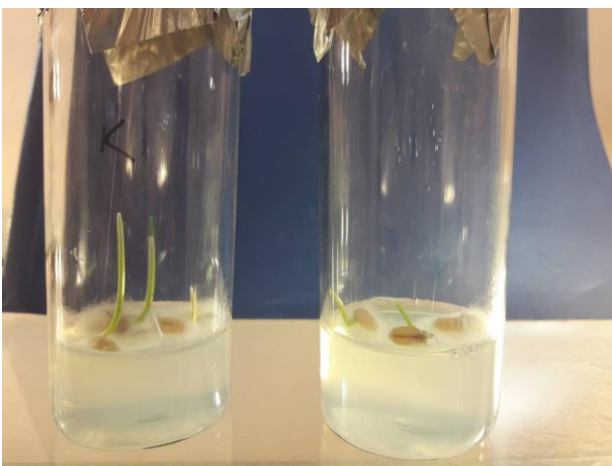


Fig. 6. Wheat growth on Muracige-Skuga medium containing sterilized BIO-GEL product, 1:100 dilution (10 ml BIO-GEL per 1 l medium)

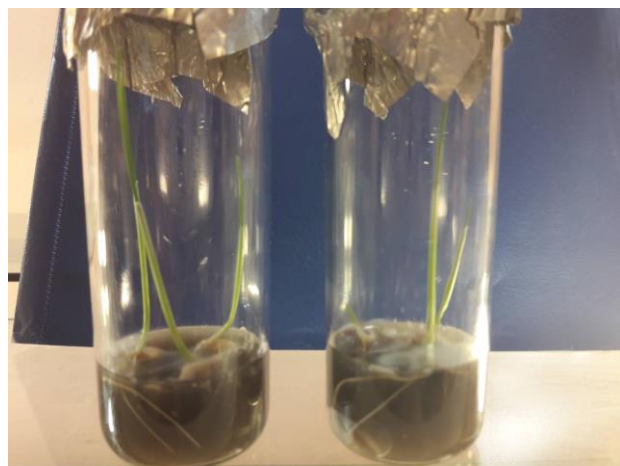


Fig.7. Wheat growth on Muracige-Skuga medium containing non-sterilized BIO-GEL product, 1:100 dilution (10 ml BIO-GEL per 1 l medium)

PhD, senior researcher,

Department of plant pathogen bacteria

Butsenko L.M.