

## PRE-SOWING STIMULATION OF POTATO WITH UVB RADIATION OF XeCl-EXCILAMP\*

*A.G. BURACHENKO<sup>1</sup>, E.A. SOSNIN<sup>1,2</sup>, I.A. VICTOROVA<sup>3</sup>, Yu.V. CHUDINOVA<sup>3</sup>, L.V. LUASHEVA<sup>4</sup>*

<sup>1</sup>*Institute of High-Current Electronics SB RAS, Tomsk, Russia*

<sup>2</sup>*National Research Tomsk State University, Tomsk, Russia*

<sup>3</sup>*Siberian Research Institute of Agriculture and Peat – a Branch of Federal State Budgetary Institution, Tomsk, Russia*

<sup>4</sup>*Northern Trans-Ural State Agricultural University, Tyumen, Russia*

In modern plant science are relevant search for ways of seeds dormancy breaking to obtain earlier and good sprouts, laying the basis for increasing the yield, obtaining early and high-quality products. Currently, it has been established that various physical factors, such as plasma, gamma radiation, microwave fields, as well as optical radiation in optimal doses can stimulate seed germination and plant development [1, 2]. In particular, a lot of research is devoted to ultraviolet radiation effect on plants [3].

The UVB spectrum range (290-320 nm) action on plants is scantily known. In our works [4, 5] it was found that UVB radiation *subdoses* has a stimulating effect on a variety of crops during pre-sowing seed treatment. Independent studies (see review [6]) confirm our data.

The aim of current work is to study the growth and development of potato tubers ("Gala" cultivar) when treated with subdoses of UV-B radiation (option 1). In another variant, the tubers were additionally treated with a plant growth stimulator «Humophyte» (option 2). Planting and cultivation of plants was carried out in the field in the Kravtsovskoye farm (Tomsk district of Tomsk, Russian Federation).

It was found that the maximum yield was obtained in option 2. This is 429 c/ha, which is 139 c/ha more than the control variant and 100 c/ha compared to option 1. It is shown that experimental potato plants sprang earlier, accelerated growth was observed, and an increase in leave assimilating surface. These effects are most pronounced in option 2. The report also provides data on the nutritional parameters of tubers from the resulting crop and their infection with various pathogens.

Based on the data obtained, a conclusion is made about the prospects of using UVB radiation XeCl-excilamps for pre-sowing stimulation of potatoes, including in combination with plant growth enhancers.

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