

ELVYRA JARIENĖ¹
HONORATA DANILČENKO¹
NIJOLE VAITKEVIČIENĖ¹
AGNIESZKA KITA²

¹ Aleksandras Stulginskis University, Agronomy Faculty, Institute of Agriculture and Food Sciences, LT-53361 Kaunas district, Lithuania

² Wrocław University of Environmental and Life Sciences, Faculty of Food Science, Poland

Effects of biodynamic preparations on the growth and yield parameters of potatoes with coloured flesh

Short Communication

Wpływ preparatów biodynamicznych na wzrost i plonowanie bulw ziemniaków o kolorowym miąższu

Komunikat

Biodynamic agriculture is one of the organic agricultural farming methods. Different from organic farmers, biodynamic farmers add eight specific preparations (made from cow manure, silica, and various plants) to improve crops growth and nutrient composition. In 2012–2013, in organic farm (Prienai district), potato cultivars with coloured flesh were grown for research. The aim of two years' research was to evaluate effects of biodynamic (BD) preparations (500 and 501) on the growth and yield parameters of the coloured fleshed potatoes. An experiment included two factors: I — three potato cultivars (purple fleshed — Vitelotte, Blue Congo and red-fleshed Red Emmalie), II — using of BD preparations in field sprays (four treatments: 1. Control without BD preparations; 2. BD preparation 500; 3. BD preparation 501; 4. complex application of BD preparations (500+501). The individual productivities of potato plants were analyzed in the field experiment (chlorophyll content index values of leaves, tuber weight per plant and tuber number per plant). The results revealed that combination of BD preparations (500 + 501) was the best among all the treatments for most of the growth and yield parameters under study. It was found, that, compared with the control variant, combination of BD preparations (500 + 501) substantially increased the chlorophyll content index in leaves, the weight and number of tubers per plant of cvs. Blue Congo and Red Emmalie. BD preparation 501 substantially increased the chlorophyll content index in leaves of Red Emmalie at 9th (1.07 times) and 13th (1.13 times) week, and of Blue Congo only at 9th (1.07 times) week after planting. However, more research is needed to determine whether the BD preparations affect growth and yield parameters of colour-fleshed potato tubers.

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