Levan Ujmajuridze, J Plant Biochem Physiol 2018, Volume 6
DOI: 10.4172/2329-9029-C1-001

6th Global Summit on Plant Science

October 29-30, 2018 | Valencia, Spain

Levan Ujmajuridze

Scientific-Research Center of Agriculture, Georgia

Efficiency of application of bentonite in bio vine growing

Production of bio vine implies application in agriculture of substances of only organic origin. Despite the mentioned, for control of powdery mildew (oidium), application of preparations of sulfur as the most efficient means in vine growing is essential up to now and in a number of countries it is regulated only by legislative framework (frequency and interval of application). For the purpose in order to settle the mentioned problem and to achieve practical results within the framework of the project of the National Science Foundation "Use of innovation methods in vine growing of Georgia" together with the Institute of Organic Chemistry we have developed the substance bentonite. Chemically processed sulfur clay particles destruct spores of oidium; they have the same effect towards mycelium as pure sulfur and additionally have a property of high adhesiveness. For the preparation of sulfur-containing bentonite were used local natural clay from Askana ore and sulfur powder. Askana clay was being modified by sulfur in the same mode as the clinoptilolite. High density powder of Askana clay render scope and spectroscopic analysis showed, that supposedly amorphous sulfur had penetrated between clay layer structure layers and had been received homogeneous nanostructured material. For the first time we have tested bentonite in laboratory conditions on aquatic vine cultures, and also practically in the experimental vineyard.

Recent Publications

1. L Ujmajuridze, Tabidze I, Pipia M, Gogniashvili N, Kunelauri M, Pirtskhalava B, Vishnepolsky A, G Hernandez, J Fields and Tengiz Beridze (2017) Whole genome comparative analysis of four Georgian grape cultivars. International Journal of Molecular Genetics and Genomics 292(6):1377-1389.
2. Ujmajuridze L, Megrelishvili I, Khidesheli Z and Chiqovani N (2016) The study of viral diseases in Georgian vine grafted nurseries. International Journal of Development Research 6(7):8299- 8302.

Biography

Levan Ujmajuridze has a PhD in Agrarian Sciences. He is an honored winemaker of Georgia; International expert; Member of Commission at The International Vine & Wine Organization OIV; National Focal Point of the Plant Genetic Resources at Food and Agriculture Organization of the United Nations FAO. He has a basic expertise in agrodiversity restoration and conservation. He gives lectures at the leading Georgian Universities – Georgian Agrarian University, Technical University of Georgia. He has up to 47 scientific publications, 4 monographs, 1 invention and 2 patents – Georgian new wheat variety "Tbilisuri 15" and new oats variety "Argo". Since 2014 he is a Director of LEPL Scientific-Research Center of Agriculture, Ministry of Environmental Protection and Agriculture of Georgia. The above article is a joint work with the Institute of Organic Chemistry, which concerns creation and use of new biological drug in bio vine growing.

l_ujmajuridze@yahoo.com

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