

Increased Fungicide Use on Potatoes Would Significantly Improve Food Security in Russia

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Potato is a strategic product for Russia. The food security for millions of rural families strongly depends on this crop [1]. 10% of Russia's potato production comes from farms managed by large enterprises and commercial potato farms while 90% comes from privately-owned family plots of about .06-4.0 hectares totaling about 2.9 million hectares. All excess land that could be converted to private potato production has been used for that purpose [2]. Potatoes are a staple food for Russians, often referred to as their second bread. Russians consume about 260 pounds of potatoes per person per year. Total annual potato production in Russia totals about 68 billion pounds.

Potato yields in Russia average about 18 MT/Ha which is about one-third of the yield in most West European countries (France, UK, Germany). The future of commercial potato production in Russia will primarily depend on implementation of more effective technologies that will bring yields up to Western levels [2]. Higher yields on commercial farms would allow private-plot growers to take some area out of potato production and move into higher-value crops [2].

A major reason for low potato yields in Russia is the lack of use of fungicides for treatment of late blight. In Russia, 80% of potato crops are in zones of high risk of late blight (epidemics occur every 3-5 years) [3]. In some years, yields on Russian plots are reduced by 70% with all of the plants killed by the disease [4]. When blight ruins the crop, the annual supply of potatoes for families is greatly reduced. The owners of small private plots do not use any fungicides and incur average losses of 46% to late blight [1]. Large enterprises and commercial potato farms use 3-4 fungicide treatments, which is not enough to prevent average yield losses of 19% (In Western Europe, 10-15 fungicide sprays are applied annually for late blight) [1]. The number of agricultural enterprises that produce potatoes on the basis of crop protection technologies used in Western Europe using an adequate number of fungicide sprays is less than 10%. In total the annual yield loss in Russia due to late blight is 8 billion pounds of potatoes [1].

Research has demonstrated that there are 15 fungicide products in Russia to protect against late blight [5]. The need is for agricultural extension agents to train Russian potato growers to demonstrate how to protect potato plants with fungicides.

References:

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Russian potato field late blight destruction



Russian potato field fungicide treated



Russian potato grower