



Environment-friendly agent [SG101] for Controlling Common Scab on Potato



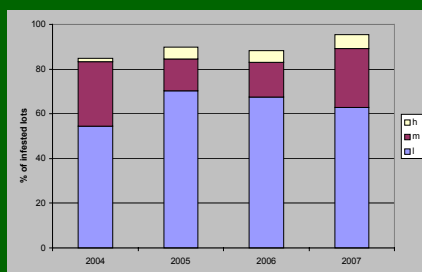
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Introduction

Common scab on potato, caused by *Streptomyces* spp., can result in severe damage to potatoes. The increased prevalence of this disease, especially in Ma'on region (South-West Israel), is attributable to several factors, among which are: susceptible crops such as peanuts and radish being grown in short rotations, soils that are conducive to the disease, and the absence of effective eradication methods. Contaminated potato seed tubers are the major means of spreading the pathogen, however, so far any of the tested seed treatments was efficient in reducing the disease incidence or severity. The objective of the present study was to evaluate SG101, a stabilized formulation of hydrogen peroxide agent (3.5-7% H₂O₂) as a seed treatment for controlling common scab on potatoes.

Facts on Seed borne inoculum

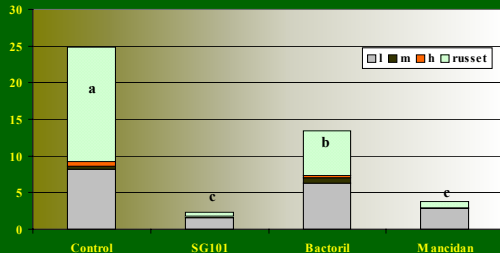


Seed borne inoculum arrives through certified seed lots imported from Northern-Europe for the spring. In average 26% of the seed lots were contaminated with intermediate and high levels of common scab between 2004 and 2007.

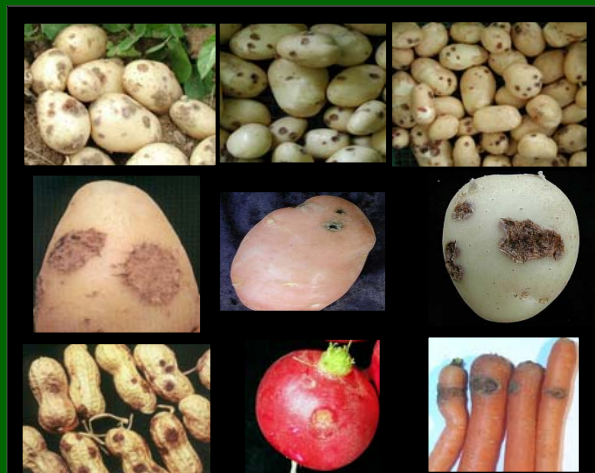
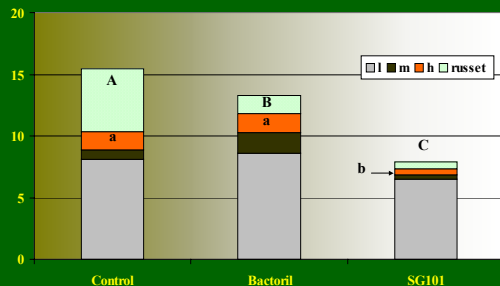
Field trials with Seed tuber treatments

Seed tubers (cv. Desiree) highly contaminated with common scab were treated with SG101 or Bactoril (Quat Ammonium) by a low volume spray, and mancozeb by dusting. Two experiments arranged in a randomized complete block design, with four replications were planted in two sites (Gilat -loess soil and Halutza - sandy soil). In Gilat, the incidence of progeny tubers with russet scab was significantly reduced in both SG101 and mancozeb treatments. In Halutza, the incidence of russet and common scab were significantly lower in SG101, compared with the control and Bactoril. mancozeb treatment.

Disease incidence (%) on progeny, Gilat, Spring 2006



Disease incidence (%) on progeny, Halutza, Spring 2006



SG101 Application on Seed tubers



Summary

The primary inoculum source of *Streptomyces* is seed tubers. Once the pathogen is introduced and established in the soil, it survives for a long time, and only a radical soil fumigation (such as "Formalin") can reduce the pathogen levels. The findings in this study indicate the high potential of using SG101 as a seed treatment for controlling scab in the short-term (in the harvested progeny). Furthermore, because of this SG101 efficiency, an advantage for the long-term is being achieved, by preventing the spread of the pathogen and infestation of soils. Additional studies on the potential use of SG101 as a furrow treatment and its effect on other seed-borne pathogens are being currently conducted.