A Novel Bio-Fungicide/Bactericide / Viricide for Tomato Crop Protection

KOBE 1.2 SL™

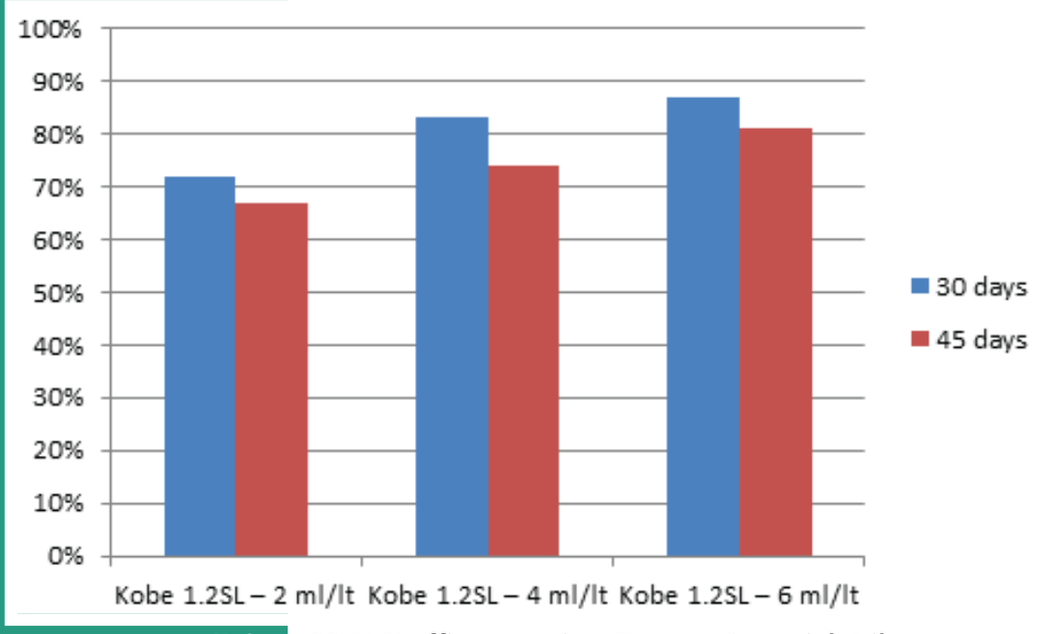
Untreated Tomato Plant

Tomato Plant Treated with Kobe 1.2SL™

Tomato suffers from a wide range of diseases, among them Damping-off, Early & Late Blight, Powdery mildew, Bacterial and Viral diseases that can cause significant yield and investment losses if not managed properly. **Kobe 1.2SL™** with its novel mode of action offers effective tomato crop protection throughout the entire growing season.

In 2014, **Kobe 1.2SL™** underwent a series of extensive trials against the Tomato bacterial wilt (*Ralstonia (Pseudomonas) solanacearum*) in Leuven, Belgium.

Bacterial wilt caused by *R. solanacearum* is a serious disease and a major constraint in the production of tomatoes and many other crops like pepper, potato, tobacco, banana, cowpea, peanut, cashew, papaya, olive, etc. in tropical, subtropical and warm temperate regions of the world.



Kobe 1.2SL™ % efficacy against Tomato Bacterial Wilt

In vivo results – Bacterial wilt incidence on infected plants as compared to the infected untreated control. The results are expressed as % disease reduction using Abbot's formula compared to the control (Abbot, 1921).

In the same study it was observed that enzyme activities were significantly higher in bacteria infected plants, whereas treated and healthy plants exhibit less enzyme activities than the infected plants.

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Continued

Kobe 1.2SL™ has the potential to control the biochemical changes in the enzyme activities caused by bacterial infection in tomato plants. The conclusion may be drawn therefore that this particular plant may be effectively cited for having active antibacterial principle. The study reflects the formulation of an anti-hazardous and non-toxic bactericidal management for agricultural practice.

Fig. 1: Antibacterial effect of Kobe 1.2SL™ (4 ml/lt) in terms of catalase activity of tomato

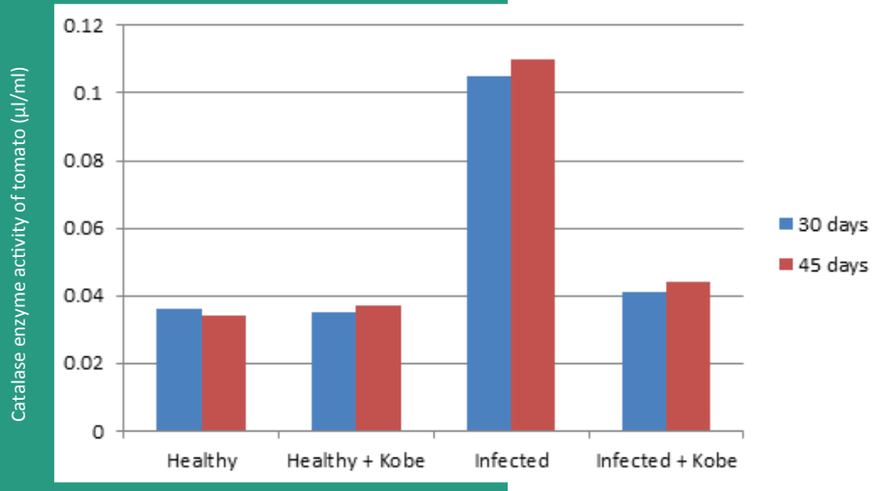
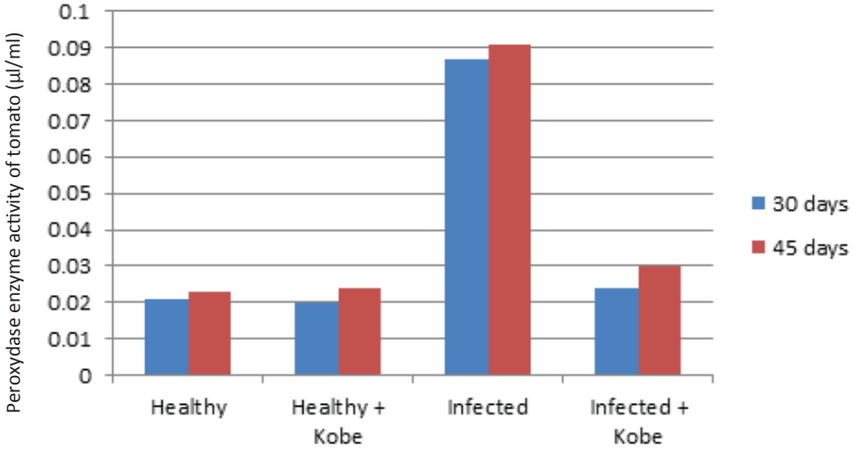


Fig. 2 Antibacterial effect of Kobe 1.2SL™ (4 ml/lt) in terms of peroxydase activity of tomato



Results of biochemical parameters in different experimental sets are presented in terms of their activities

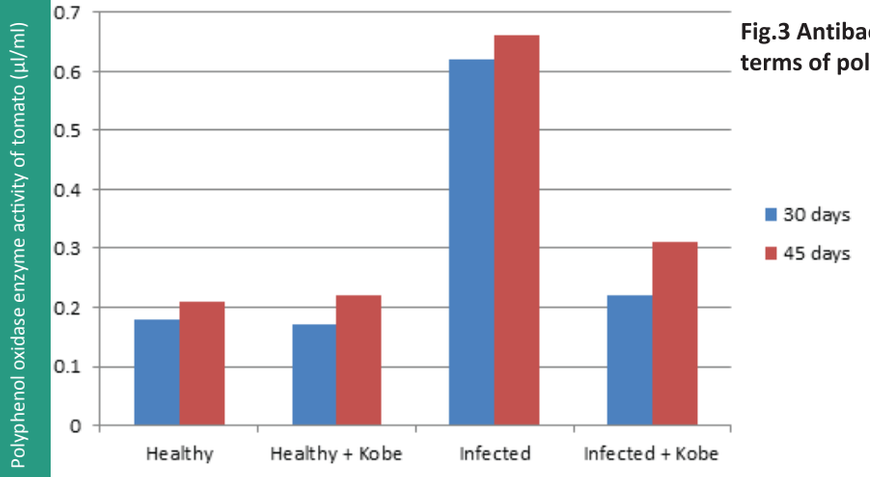


Fig.3 Antibacterial effect of Kobe 1.2SL™ (4 ml/lt) in terms of polyphenol oxidase activity of tomato

There is the presence of high catalase activity in infected plants than that of the other experi-mental sets and that is presented in **fig. 1**. Treated plants show significant decrease in catalase activity as compared to infected plants.

High peroxydase activity is seen in infected plants (**Fig. 2**) than that of the other experimental sets, while the treated plants show significant decrease in peroxydase activity as compared to infected plants.

Highest polyphenol oxidase activity is exhibited in infected plants (**Fig. 3**) whereas healthy set shows lowest activity of polyphenol oxydase. Treated plants showed significant decrease in polyphenol oxidase activity in comparison to the infected plants.

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