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## **R & D UPDATES**

### **Effect of Potassium Phosphite/Potassium Phosphonate/Potassium salt of Phosphonic Acid on Potato Germination (Seed Treatment):**

**Research Project By- Skylite Agrochem Company**

**Research Carried At- Dept of Agriculture Biotechnology Laboratory,SPCA,Chiplun,Maharashtra**

#### **Introduction:**

Potassium Phosphite is widely used in the management of fungal diseases in agriculture, horticulture and natural environments. Phosphite works by boosting the plant's own natural defenses. Phosphite is not toxic to people or animals and its toxicity has been compared to table salt. In our previous study Potassium phosphite were used as an agent that has a systemic effect against fungal diseases, in particularly against downy mildew.

In recent study potassium phosphite were used as antifungal agent during potato seedling preparation. Potassium Phosphite was used in 7 gram/Lit concentration.

#### **Material and Method:**

On June 12, 2018, potato seed was cut, sized to approximately 2 no. seed pieces. Potassium phosphite solution was prepared in 7 gm/Lit concentration. Seeds were treated with potassium phosphite and some seed were not treated with potassium phosphite. Planting was by hand on the same day as treatment. In seedling tray, seed pieces were placed evenly.

**Results:-**

Sr.No.	Germination rate %	Infected seeds %	Height of shoot (cm) after 30 days	Length of roots after 10 days
Treated with *PP	93%	Not Found	35cm	23 cm
Without treatment with *PP	79%	11%	26 cm	19 cm

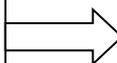
\*PP = Potassium Phosphite

**Treatment of potassium phosphite as anti fungal agent during seeds preparation:**



Separated Potato seeds

Dipping in to Potassium Phosphite solution



sterile coco peat medium

**Untreated potato seeds:**



Seedlings after one week



5 to 7 % seeds were get fungal infection.

**Treatment of potato seeds with potassium phosphite as antifungal agent:**



Seedlings after one week



well developed roots

**Conclusion:**

From above study we can conclude that the potassium phosphite can be used as antifungal agent during seed treatment of potato seeds. Results reveal that potassium phosphite also helps to improve root as well as shoot growth. It also exhibits the role of potassium phosphite as preventive and protective against infections like root rot fungal infections.