Case Study

1. Integrated Management of Late blight disease of potato

Potato is an important vegetable of West Bengal. Hooghly, Howrah, Burdwan, Cooch Behar, Bankura, Paschim Medinipur are major potato growing districts of the state. Late blight disease causes devastating damage to the crop in almost every year. Injudicious chemical nutrition and indiscriminate application of pesticides in unscientific combinations are the major constraints for such damage to the crop. Keeping this view in mind Howrah KVK conducted an on farm trial on Farmers' field on "*Assessment of the performance of Integrated Disease Management on yield of potato under late blight disease prone irrigated medium land situation of Howrah District*". Though the incidence of late blight disease in previous years of experimentation during 2009-10 and 2010-11 was overall less, it can be said that the late blight disease of potato can effectively be managed by **treating seed material with *Trichoderma viridae* @ 4 g /kg, with recommended dose of fertilizers along with Boron (0.2%) and spraying of Cymoxanil and Mancozeb (8%+64%) 72% WP in alternate with Mancozeb 75% WP sole in 15 days interval** (Table – 1)

TABLE - 1

Technology option	No. of trials	Yield components [Dry weight/ tuber (gm)]	Yield (q/ha)	% Increase in yield	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net Return (Rs / ha)	BC Ratio
Farmers' Practice (No seed treatment, imbalanced fertilization, no application of micronutrient, and indiscriminate application of pesticides even in unscientific combinations.)	07	19.3	297.5		82250	104125	21875	1.27
Option 1: S.T. with *T. viridae* @ 4 g/kg + Recommended dose of fertilizers + Mancozeb 75% @ 2.5g/lit. at 30 and 60 DAS + Metalaxyl and Mancozeb (8% + 64%) 72% @ 2.5g/ lit at 45 and 75 DAS.		25.6	352.6	18.52	83100	123410	40310	1.49
Option 2: S.T. with *T. viridae* @ 4g/kg + Recommended dose of fertilizers + Boron (0.2%) at 30 DAS + Mancozeb75% @ 2.5 g /lit at 30 and 60DAS+Cymoxanil & Mancozeb (8% +64%)72%@ 3g/lit at 45 and 75 DAS.		33.7	411.5	38.32	83950	144025	60075	1.72
Option 3: S.T. with *T. viridae* @ 4g/kg + Recommended dose of fertilizers + Boron (0.2%) at 30 DAS + Mancozeb75%@ 2.5g/lit at 30&60D AS+Dimethomorph 50 WP @ 1 g / lit. at 45 and 75 DAS.		31.8	391.8	31.69	83480	137130	53650	1.64
SEm+			0.661		-	-	-	-
CD(P=0.05)			1.962		-	-	-	-

B.C Ratio= Gross return/ Gross cost of cultivation

It is evident from Table 1that there is an increase of yield to a tune of 38.32% over Farmer's practice in the above mentioned treatment (Technology Option II). The cost benefit ratio is 1.72 which is also highest amongst all treatments. The farmers are quite impressed with the technique. Howrah KVK will extrapolate the research findings through FLD in adjoining blocks.

Fig. 1: Heavy damage of potato field due to late blight

Fig. 2: Potato field in the earlier year before inception of OFT

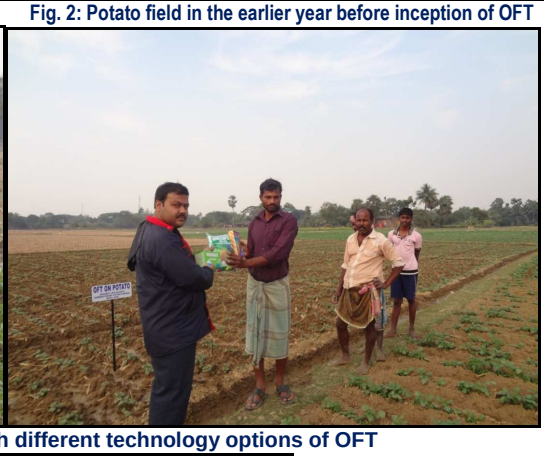

Fig. 3 & 4: Contact farmer provided with different technology options of OFT

Fig. 5: One plot of potato field free from late blight provided with the best technology option [i.e. Technology Option 2: Seed Treatment with *Trichoderma viridae* @ 4g/kg + Recommended dose of fertilizers + Boron (0.2%) at 30 DAS + Mancozeb75% @ 2.5 g /lit at 30 and 60 DAS + Cymoxanil & Mancozeb (8% + 64%) 72% @ 3g/ lit at 45 and 75 DAS]