Biotech-KISAN Hub

Agri Biotech Foundation, Hyderabad, Telangana

Economic benefits: Substitution of chemical fertilizers and pesticides by biofertilizers and biopesticides

List of biofertilizers and biopesticides used for soil management and pest and disease management during field level demonstrations, as below table.

Biofertilizers	Biopesticides
Azotobacter	*Trichoderma*
Azospirillum	*Pseudomonas*
Phosphate Solubilizing Bacteria	*Beauveria*
Potassium Solubilizing Bacteria	*Metarhizium*
Zinc Solubilizing Bacteria	*Bacillus* consortia

Application Methods:

Different application methods employed during field level demonstrations are as follows:

1. Seed treatment
2. Seedling treatment
3. Soil application
4. Foliar spray
5. Soil drenching
6. Drip method

Crops: Tomato, Chilli, Acid lime, Banana, Sweet lime, Pomegranate and Grapes

Project area: Ananthapur, Kadapa and Kurnool districts of Andhra Pradesh

Economic benefits:

Experiences shared by farmers on Economic benefits

I**. Mr. Nagesh**, native of Marripalle village of Kurnool district. He cultivates Acid lime in one acre. After adopting biointensive practices for cultivation has reduced the problem of Canker and Twig blight in Acid lime and enriched soil health.

The problem of Canker and Twig blight in Acid lime reduced with 4-5 sprayings of *Pseudomonas* as foliar spray followed by use of, PSB and ZSB enhanced yield. There was 20% reduction in the disease compared to using only chemical and 15% additional quality fruits/plant viz., 1354 /tree as against 1177/ tree in chemical fields. The expenditure on chemical fertilizers and pesticides which was Rs. 30000 per acre last year reduced to Rs. 22000 this year. The saving of Rs 8000 using biological controls and biofertilizers.

II. **Sri. Sivanagi Reddy** of Reddypalle village of Kurnool district used *Trichoderma* and *Pseudomonas* in FYM for Chilli crop along with *Azotobacter*, ZSB biofertilizers. He sprayed *Pseudomonas* 3-4 times for sucking pest at 15 days interval and reduced the dosage of needed

chemical pesticides. The cost of chemical sprays used to be 20, 000 per acre @ 14 sprays per crop. But this year (2019-2020) he reduced chemical sprays to 8 spays and used biopesticides, which saved an amount of Rs.12000. In terms of yield he got 12840 kg of dry chilli's per acre in this field compared to 12050 kg per acre in chemical applied plot of his own earning extra income.

III. **Venkataramanamma** native of Katnikaluva village of Ananthapur district. She cultivates banana in one-acre land. According to her, she used to spend about Rs. 40,000 per year on inorganic pesticides and fertilizers but after adopting the biofertilizer (PSB, ZSB, KSB) and biopesticides (*Pseudomonas, Trichoderma*), the same amount has reduced to Rs. 30000 this year (2019-2020) saving Rs. 10,000. The yield of banana also increased due to good growth, with an additional income of Rs 20,000.

Application of biofertilizers and biopesticides reduced the root and stem rot and enhanced plant growth with one banana stem yield of 35kgs on average compared to past with 30 kg stem. More important is reduction in crop maturation time and enhancement of quality of the crop which gave higher returns

IV. **Mr.J.Peddi Reddy** from Reddipalli, BKS Mandal, Anantapur district Joined ABF Biotech KISAN Hub during May 2019. He cultivates tomato as major crop. After undergoing training in applications of biofertilizers and biopesticides. He started using these bioproducts through drip irrigation with dose @ 100ml per litre at every 12 days interval.

Application reduced diseases like root rot, damping off and fruit borers and enhanced yield viz., 1.82tons compared to past method of cultivation (1.20tons), generated extra income of Rs 7200/- Investment towards chemical fertilizers and pesticides used to be Rs 25000/acre, which reduced to Rs 18000 saving Rs 7000.

V. **Mr. D.Venkata Narayana Reddy** from Vekatapuram village, Bukkarayasumudram mandal Ananthapur district He cultivates Banana as major crop. A severe bacterial stem rot was observed in more than 200 plants. He joined Biotech-KISAN Hub and applied Trichoderma, Pseudomonas and Bacillus consortia two doses per month @ 200ml/litre through soil drenching and drip irrigation method After continuous application all the infected sucker plants got recovered went up to fruiting stage. Investment towards the purchase of new banana plant for gap filling @Rs 10 per plantlet, saving (200 plantlets x Rs 10) Rs 2000. Investment of chemical sprays of Rs 40,000 per acre reduced to Rs 28000, benefiting Rs. 12000.