# FRONTLINE DEMONSTRATIONS

## 5.A. Summary of FLDs implemented during 2010-11

| Category | Farming Situation | Season and Year | Crop | Variety/ breed | Hybrid | Thematic area | Technology Demonstrated | Area (ha) | | No. of farmers/ demonstration | | | Reasons for shortfall in achievement |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Proposed | Actual | SC/ST | Others | Total | |
| **Oilseeds** | | | | | | | | | | | | | |
| Sesamum | Irrigated | Rabi 2011 | Sesamum | VRI(Sv)2 | - | ICM | Seed VRI (SV) 2<br>Treat the seed with *Psedomonas fluorescense* TDK 1@ 10 g /kg<br>Seed and soil application of Azospirillum & Phosphobacteria<br>STL based fertilizer application<br>Application of $MnSO_4$ as basal<br>Foliar spray of $MnSo_4$ 0.3% & $ZnSO_4$ 0.5% @ 30 & 50 DAS @ 3 & 5 kg respectively / ha00000000<br>Foliar spraying of Chloripyriphos@ 2ml/lit of water during pest incidence<br>Soil application of neem cake – 100Kg/ha | 5 | 5 | 2 | 16 | 18 | Trial under progress (Date of sowing – First fortnight of February 2011) |
| Pulses | | | | | | | | | | | | | |
| Blackgram | Irrigated | Rabi 2011 | Blackgram | VBN(5) | - | ICM | New variety VBN(Bg)5<br>Seed and soil application of biofertilzer and bioagents<br>Soil test based nutrient application<br>Basal application of $ZnSO_4$<br>Foliar spraying of pulse wonder @ 6.25 kg / ha at peak flowering stage<br>Urea 1% at flowering and another at 15 days interval<br>Growth regulator NAA 4.5 ml @ 10 lit of water and salicylic acid 100 mg / lit during flower initiation and pod formation | 5 | 5 | 1 | 12 | 13 | Trial under progress (Date of sowing – First fortnight of February 2011) |
| Fodder cowpea | Irrigated | Rabi 2011 | Cowpea | Co(FC)8 | - | ICM | New improved variety with package of practice | 5 | 5 | 1 | 11 | 12 | - |
| Cereals | | | | | | | | | | | | | |
| Paddy | Irrigated | Rabi 2010 | Paddy | ADT-45 | - | IPM | Seed treatment with bioagents<br>Adopt the spacing 20 x 20 m followed by not spraying of any insecticide if the BPH below ETL<br>Maintenance of water level<br>Application of low dose of nitrogeneous fertilizer | 5 | 5 | 0 | 10 | 10 | - |
| Millets | | | | | | | | | | | | | |
| Cumbu | Irrigated | Rabi 2010 | Cumbu | Co(Cu)9 | - | ICM | - Co(cu) 9 seed<br>- Seed and soil application of biofertilizers.<br>- Soil test based nutrient application.<br>- Micronutrient Management<br>- Seed hardening with KCl 2%<br>- Foliar spraying of metalaxyl @ 2g/lit of water 2 times | 4 | 4 | 1 | 9 | 10 | Trial under progress (Date of sowing – First fortnight of March 2011) |
| **Vegetables** | | | | | | | | | | | | | |
| Chillies | Irrigated | Rabi 2010 | Chillies | KKM 1 | - | ICM | Seed treatment with *T.virde* 4g/kg of | 2 | 2 | 2 | 8 | 10 | - |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | seed and *Pseudomonas* 10g/kg of seed<br>Soil application of *Pseudomonas fluorescens* @ 2.5 kg<br>Soil application of 2 kg each of *Azospirillum* and *Phosphobacteria*/ha as basal<br>Application of micronutrients 7 kg/ha as basal<br>Soil test based fertilizer application<br>Spraying of triacantanol 1.25 ppm on 20, 40, 60 and 80th DAP<br>Spraying of planofix 10 ppm on 60 and 90 DAP<br>Spraying of propargite 2 ml/lit at the time of sucking pest incidence (twice with 7 days interval) | | | | | | |
| Multiplier onion | Irrigated | Rabi 2010 | Multiplier onion | Co(on)5 | - | ICM | Seed treatment with Azospirillum @ 200 g / kg<br>Application of VAM @ 1 kg / sq.m of nursery | 5 | 5 | 0 | 10 | 10 | |
| Small onion | Irrigated | Rabi 2010 | Small onion | Co-4 | | ICM | Bulb treatment with *T.viride* @4g/kg of bulb & *Pseudomonas* @ 10g/kg of bulb.<br>Soil application of *Azospirillum* @ 2 Kg/ha, *Phospobactreia* 2 kg/ha T.Viride 2.5kg/ha and VAM 12.5Kg/ha<br>Soil application of MN mixture @ 6.25 Kg/ha.<br>Basal application of $ZnSO_4$ @ 25Kg/ha.<br>Spraying of Novaluron @ 1ml/lit during pest incidence<br>Spraying of Chlorothalonil @ 1g / lit 2 times | 4 | 4 | 2 | 18 | 20 | |
| | | | | | | | | | | | | | |
| Flowers | | | | | | | | | | | | | |
| Ornamental | | | | | | | | | | | | | |
| Fruit | | | | | | | | | | | | | |
| Acidlime | Irrigated | Rabi 2010 | Acidlime | PKM-1 | | ICM | Spraying of 0.1% Brassinolides + Foliar spraying of $ZnSO_4$ (0.5%), $MnSO_4$(0.5%) and Urea (0.1%) 2times | 5 | 5 | 4 | 6 | 10 | |
| Spices and condiments | | | | | | | | | | | | | |
| Commercial | | | | | | | | | | | | | |
| Medicinal and aromatic | | | | | | | | | | | | | |
| Plantation | | | | | | | | | | | | | |
| Fibre | | | | | | | | | | | | | |
| Poultry | | | | | | | | | | | | | |
| Turkey | Free range | Rabi 2010 | Turkey | - | Beltsvile small | Populariza tion of | Popularization of new breed turkey – Beltsville small white | 200 birds | 200 birds(20 | 8 | 12 | 20 | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | white | new breed | | | F) | | | | |
| Poultry | Free range | Rabi 2010 | Desibird | - | Rhodo white | Popularization of new breed poultry – Rhodo white | Popularization of new breed poultry – Rhodo white | 200 birds | 200 birds (10 F) | 4 | 6 | 10 | |
| Sheep and goat | | | | | | | | | | | | | |
| Goat | Semi – intensive | Rabi 2010 | - | - | - | Nutrition management | Deworming, Supplementation of vitamins and minerals | 150 goats | 150 goats | 4 | 6 | 10 | |
| Goat | Semi-intensive | Rabi 2010 | - | - | - | Nutrient management | Popularization of salt lick cake | 100 | 100 | 0 | 10 | 10 | |
| Fodder | Irrigated | Rabi 2010 | Fodder | - | - | Nutrient management | Popularization of fodder bank at village level | 1 | 1 | 4 | 6 | 10 | |
| Duckery | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Common carps | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Mussels | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Ornamental fishes | | | | | | | | | | | | | |
| Oyster mushroom | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Button mushroom | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Vermicompost | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Sericulture | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Apiculture | | | | | | | | | | | | | |
| **Implements** | | | | | | | | | | | | | |
| Groundnut stripper | Irrigated | Kharif 2010 | Groundnut | VRI(Gn)7 | - | Drudgery reduction | Separating the groundnut pods by using groundnut stripper | 10 | 10 | 4 | 16 | 20 | |
| Sprinkler | Irrigated | Rabi – 2011 | Groundnut, maize and onion | - | - | Micro irrigation | Popularization of mini portable sprinkler to mitigate the stress management in rainfed and irrigated crops | 1 unit | 1 unit | (38 farmers) | | | |
| Coconut climber | Irrigated | Round the year | Coconut | - | - | Drudgery reduction | Popularization of coconut climber | 1 unit | 1 unit | 18 | 82 | 100 | |
| Incubator | Backyard | Round the year | Poultry | - | - | Hatchery management | Popularization of incubator among SHG members | 1 unit | 1 unit | 23 | 27 | 50 | |
| Feed mixing unit | Semi-intensive | Round the year | Dairy | - | - | Nutrient management | Preparation of low cost concentrated feed | 20 | 20 | 4 | 6 | 10 | Nil |

### 5.A. 1. Soil fertility status of FLDs plots during 2010-11

| Sl. No. | Category | Farming Situation | Season and Year | Crop | Variety/ breed | Hybrid | Thematic area | Technology Demonstrated | Season and year | Status of soil | | | Previous crop grown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | N | P | K | |
| **Oilseeds** | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sesamum | Irrigated | Rabi 2011 | Sesamum | VRI(Sv)2 | - | ICM | Seed VRI (SV) 2<br>Treat the seed with *Psedomonas fluorescense* TDK 1@ 10 g /kg<br>Seed and soil application of Azospirillum & Phosphobacteria<br>STL based fertilizer application<br>Application of $MnSO_4$ as basal<br>Foliar spray of $MnSo_4$ 0.3% & $ZnSO_4$ 0.5% @ 30 & 50 DAS @ 3 & 5 kg respectively / ha00000000<br>Foliar spraying of Chloripyriphos@ 2ml/lit of water during pest incidence<br>Soil application of neem cake – 100Kg/ha | Rabi 2011 | 81.56 (Low) | 5.72 (Medium) | 94.63 (Medium) | Paddy |
| **Pulses** | | | | | | | | | | | | | |
| 1 | Blackgram | Irrigated | Rabi 2011 | Blackgram | VBN(5) | - | ICM | New variety VBN(Bg)5<br>Seed and soil application of biofertilzer and bioagents<br>Soil test based nutrient application<br>Basal application of $ZnSO_4$<br>Foliar spraying of pulse wonder @ 6.25 kg / ha at peak flowering stage<br>Urea 1% at flowering and another at 15 days interval<br>Growth regulator NAA 4.5 ml @ 10 lit of water and salicylic acid 100 mg / lit during flower initiation and pod formation | Rabi 2011 | 101.86 (Medium) | 04.88 (Medium) | 98.36 (Medium) | Paddy |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Fodder | Irrigated | Rabi summer 2011 | Cowpea | Co(Fc)8 | - | Availability of green fodder | Popularization of fodder cowpea | Rabi summer 2011 | 96.33 (Low) | 4.63 (Medium) | 114.58 (High) | |
| | | | | | | | | | | | | | |
| **Cereals** | | | | | | | | | | | | | |
| 1 | Paddy | Irrigated | Rabi 2010 | Paddy | ADT - 45 | | IPM | Seed treatment with bioagents | Rabi 2010 | 94.64 (Low) | 4.79 (Medium) | 97.94 (Medium) | Paddy |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Adopt the spacing 20 x 20 m followed by not spraying of any insecticide if the BPH below ETL<br>Maintenance of water level<br>Application of low dose of nitrogeneous fertilizer | | | | | |
| **Millets** | | | | | | | | | | | | | |
| 1 | Cumbu | Irrigated | Rabi 2010 | Cumbu | Co(Cu)9 | - | ICM | - Co(cu) 9 seed<br>- Seed and soil application of biofertilizers.<br>- Soil test based nutrient application.<br>- Micronutrient Management<br>- Seed hardening with KCl 2%<br>- Foliar spraying of metalaxyl @ 2g/lit of water 2 times | Rabi 2010 | 79.2 (low) | 05.42 (Medium) | 97.7 (Medium) | Onion |
| **Vegetables** | | | | | | | | | | | | | |
| 1 | Chillies | Irrigated | Rabi 2010 | Chillies | KKM(Ch)1 | | ICM | Seed treatment with *T.virde* 4g/kg of seed and *Pseudomonas* 10g/kg of seed<br>Soil application of *Pseudomonas fluorescens* @ 2.5 kg<br>Soil application of 2 kg each of *Azospirillum* and *Phosphobacteria*/ha as basal<br>Application of micronutrients 7 kg/ha as basal<br>Soil test based fertilizer application<br>Spraying of triacantanol 1.25 ppm on 20, 40, 60 and 80th DAP<br>Spraying of planofix 10 ppm on 60 and 90 DAP<br>Spraying of propargite 2 ml/lit at the time of sucking pest incidence (twice with 7 days interval) | Rabi 2010 | 97.86 (Low) | 4.8 (Medium) | 90.8 (Medium) | Tomato |
| 2 | Multiplier | Irrigated | Rabi | Multiplier | Co(on)5 | - | ICM | Seed treatment with | Rabi | 22.5 | 16.8 | 310.3 | Paddy, |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | onion | | 2010 | onion | | | | Azospirillum @ 200 g / kg<br>Application of VAM @ 1 kg / sq.m of nursery | 2009 | | | | onion |
| 3 | Small onion | Irrigated | Rabi 2010 | Small onion | Co-4 | - | ICM | Bulb treatment with *T.viride* @4g/kg of bulb & *Pseudomonas* @ 10g/kg of bulb.<br>Soil application of *Azospirillum* @ 2 Kg/ha, *Phospobactreia* 2 kg/ha T.Viride 2.5kg/ha and VAM 12.5Kg/ha<br>Soil application of MN mixture @ 6.25 Kg/ha.<br>Basal application of $ZnSO_4$ @ 25Kg/ha.<br>Spraying of Novaluron @ 1ml/lit during pest incidence<br>Spraying of Chlorothalonil @ 1g / lit 2 times | Rabi 2010 | 82.88 (Low) | 5.11 (Medium) | 81.6 (Medium) | Small onion |
| **Fruits** | | | | | | | | | | | | | |
| 1 | Acidlime | Irrigated | Rabi 2010 | - | PKM-1 | - | Growth hormone application | Spraying of 0.1% Brassinolides + Foliar spraying of $ZnSO_4$ (0.5%), $MnSO_4$(0.5%) and Urea (0.1%) 2times | | 175.6 | 12.3 | 242 | Cotton, groundnut |

## 5.B. Results of Frontline Demonstrations

### 5.B.1. crops

| Crop | Name of the technology demonstrated | Variety | Hybrid | Farming situation | No. of Demo. | Area (ha) | Yield (q/ha) | | | | % Increase | *Economics of demonstration (Rs./ha) | | | | *Economics of check (Rs./ha) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Demo | | | Check | | Gross Cost | Gross Return | Net Return | ** BCR | Gross Cost | Gross Return | Net Return | ** BCR |
| | | | | | | | H | L | A | | | | | | | | | | |
| Cereals | BPH management in paddy | ADT 45 | - | Irrigated condition | 10 | 5 | 49.17 | 45.00 | 47.03 | 38.12 | 31.57 | 7,577.50 | 30,569.50 | 22,992.00 | 2.25 | 10,000.54 | 24,778.00 | 14,777.46 | 1.65 |
| Chillies | ICM in chillies | KKM(Ch)1 | - | Irrigated | 10 | 2 | 27.2 | 25.3 | 26.3 | 21.8 | 20.64 | 51,456.00 | 1,18,350.00 | 66,894.00 | 2.30 | 46,941.00 | 98,100.00 | 51,159.00 | 2.08 |
| Multiplier onion | Cultivation of multiplier onion through seeds | Co(on)5 | - | Irrigated | 10 | 5 | 170.75 | 146.25 | 159.38 | 105.08 | 51.67 | 45,207.00 | 1,27,504.00 | 82,297.00 | 2.82 | 38,574.00 | 84,064.00 | 45,490.00 | 2.18 |
| Acidlime | Fruit drop management in acidlime | PKM-1 | - | Irrigated | 10 | 5 | 23.33 | 19.28 | 21.63 | 17.44 | 24.03 | 22,793.00 | 54,075.00 | 31,282.00 | 2.37 | 21,713.00 | 43,600.00 | 21,887.00 | 2.01 |
| Small onion | ICM in small onion | Co-4 | - | Irrigated | 20 | 4 | 142 | 120 | 132.95 | 105.7 | 25.78 | 40,093.00 | 1,06,360.00 | 66,267.00 | 2.65 | 38,883.00 | 84,560.00 | 45,677.00 | 2.17 |
| Fodder cowpea | Popularization of new improved fodder cowpea | Co (FC) 8 | - | Irrigated | 12 | 1 | 164.2 | 143.2 | 155.9 | 120.6 | 29.27 | 60,816.00 | 31,180.00 | 20,364.00 | 2.88 | 10,868.00 | 24,120.00 | 14,252.00 | 2.21 |
| Fodder | Fodder bank (Cereal + pulse crop) | Co4<br>Guinea grass<br>Cowpea<br>Co(Fc 8)<br>Hedge cucurme | - | Irrigated | 10 | 1.0 | 3900<br>3400<br>195<br>1180 | 3350<br>2810<br>126<br>1018 | 3625<br>3105<br>160.5<br>1099 | Sorghum<br>Co27<br>390<br>-- | - | 38,500.00 | 2,30,625.00 | 1,92,125.00 | 5.9 | 12,100.00 | 39,000.00 | 26,900.00 | 3.22 |

### Data on additional parameters other than yield (viz., reduction of percentage in weed/pest/ diseases etc.)

| Name of the technology | Data on other parameters in relation to technology demonstrated | | |
|---|---|---|---|
| BPH management in paddy | Parameter with unit | Demo | Local |
| | No. of hills / m2 | 32.10 | 30.70 |
| | No. of tillers / hill | 68.72 | 48.21 |
| | No. of BPH / hill before spray | 11.96 | 13.20 |
| | No. of BPH / hill after spray | 1.25 | 14.25 |
| | % nymphs of pest incidence | 2.32 | 16.70 |
| | B:C ratio | 2.25 | 1.65 |
| ICM in chillies | Fruit yield / plant | 0.053 | 0.043 |
| | Fruit setting | 142.29 | 129.88 |
| Cultivation of multiplier onion through seeds | No of plant/sq.m | 25.8 | 23.4 |
| | No of bulbs/plant | 6.4 | 6.2 |
| Fruit drop management in acidlime | No of fruit dropped before treatment | 3.86 | 3.79 |
| | No of fruit dropped after treatment | 0.74 | 3.65 |
| | Reduction percentage | 80.83 | 3.69 |
| | Fruit weight | 65.28 | 58.4 |
| ICM in small onion | No.of bulblets/plant | 6.2 | 5.9 |
| | Bulb weight ./ plant | 21.6 | 18.8 |
| Fodder bank (Cereal + pulse crop) | | **Palatability%** | |

| | | | |
|---|---|---|---|
| | Guinea grass | 91% | |
| | CoFC8 | 94% | |
| | Hedge luerne | 95% | |
| | Co27 | 83% | |
| Popularization of new improved fodder cowpea | Palatability% | 94% | 68 % |
| | Branches / plant | 12 | 7 |

## 5.B.2. Livestock and related enterprises

| Type of livestock | Name of the technology demonstrated | Breed | No. of Demo | No. of Units | Yield (q/ha) | | | | % Increase | *Economics of demonstration Rs./unit) | | | | *Economics of check (Rs./unit) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Demo | | | Check if any | | Gross Cost | Gross Return | Net Return | ** BCR | Gross Cost | Gross Return | Net Return | ** BCR |
| | | | | | H | L | A | | | | | | | | | | |
| Poultry | | | | | | | | | | | | | | | | | |
| Turkey | Popularization of new variety Beltsville small white | Beltsville small white | 20 | 200 birds | 8.7 | 8.0 | 8.32 | 4.15 | 100.48 | 400 | 1305 | 905 | 1:3.2 | 475 | 900 | 425 | 1:1.89 |
| Poultry | Popularization of new variety – Rhodo white | Rhodo white | 10 | 200 birds | 3.2 | 2.9 | 3.04 | 2.15 | 41.39 | 65 | 150 | 85 | 1:2.30 | 55 | 95 | 40 | 1:1.72 |
| Rabbitry | | | | | | | | | | | | | | | | | |
| Pigerry | | | | | | | | | | | | | | | | | |
| **Sheep and goat** | | | | | | | | | | | | | | | | | |
| Goat | Deworming and supplementation of vitamins and minerals | ND | 10 | 150 g | 26 | 21 | 23.8 | 19 | 25.26 | 2000 | 3500 | 1500 | 1:1.75 | 2100 | 3000 | 900 | 1:1.42 |
| Goat | Popularization of salt lick mineral cake | ND | 10 | 100 | 26 | 21 | 23.15 | 16.5 | 40.30 | 2000 | 3600 | 1600 | 1:1.8 | 2100 | 2900 | 800 | 1:1.30 |
| Duckery | | | | | | | | | | | | | | | | | |
| Others (pl.specify) | | | | | | | | | | | | | | | | | |

**Data on additional parameters other than yield (viz., reduction of percentage diseases, increase in conceiving rate, inter-calving period etc.)**

| Name of the technology | Data on other parameters in relation to technology demonstrated | | |
|---|---|---|---|
| | **Parameter with unit** | **Demo** | **Check if any** |
| Improving the productivity of goat | Increase in conception rate / goat (%) | **95** | **80** |
| | % of triplets / roots | 65 | 30 |
| Popularization of new variety turkey Beltsville small white | Livability (%) | 96 | 65 |
| Popularization of new variety Rhodo white | No. of eggs laying / animal / bird | 124 | 62 |
| | Livability | 92 | 71 |
| Popularization of salt lick mineral cake for goats | Kidding percentage | 90 | 74 |
| | Kidding interval (%) | 20 | 44 |

## 5.B.3. Fisheries

| Type of Breed | Name of the technology demonstrated | Breed | No. of Demo | Units/ Area ($m^2$) | Yield (q/ha) | | | | % Increase | *Economics of demonstration Rs./unit) or (Rs./m2) | | | | *Economics of check Rs./unit) or (Rs./m2) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Demo | | | Check if any | | Gross Cost | Gross Return | Net Return | ** BCR | Gross Cost | Gross Return | Net Return | ** BCR |
| | | | | | H | L | A | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Common carps | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Mussels | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Ornamental fishes | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Others (pl.specify) | | | | | | | | | | | | | | | | | | |

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST
H-High L-Low, A-Average

**Data on additional parameters other than yield (viz., reduction of percentage diseases, effective use of land etc.)**

| Data on other parameters in relation to technology demonstrated | | |
|---|---|---|
| **Parameter with unit** | **Demo** | **Check if any** |
| | | |
| | | |
| | | |
| | | |

**5.B.4. Other enterprises**

| Enterprise | Name of the technology demonstrated | Variety/ species | No. of Demo | Units/ Area {$m^2$} | Yield (q/ha) | | | | % Increase | *Economics of demonstration (Rs./unit) or (Rs./m2) | | | | *Economics of check (Rs./unit) or (Rs./m2) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Demo | | | Check if any | | Gross Cost | Gross Return | Net Return | ** BCR | Gross Cost | Gross Return | Net Return | ** BCR |
| | | | | | H | L | A | | | | | | | | | | |
| Oyster mushroom | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Button mushroom | | | | | | | | | | | | | | | | | |
| Vermicompost | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Sericulture | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Apiculture | | | | | | | | | | | | | | | | | |
| Others (pl.specify) | | | | | | | | | | | | | | | | | |

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST
H-High L-Low, A-Average

**Data on additional parameters other than yield (viz., additional income realized, employment generation, quantum of farm resources recycled etc.)**

| **Data on other parameters in relation to technology demonstrated** | | |
|---|---|---|
| **Parameter with unit** | **Demo** | **Local** |
| | | |
| | | |
| | | |

## 5.B.5. Farm implements and machinery

| Name of the implement | Cost of the implement in Rs. | Name of the technology demonstrated | No. of Demo | Area covered under demo in ha | Labour requirement in Mandays | | % save | Savings in labour (Rs./ha) | *Economics of demonstration (Rs./ha) | | | | *Economics of check (Rs./ha) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Demo | Check | | | Gross cost | Gross Return | Net Return | ** BCR | Gross Cost | Gross Return | Net Return | ** BCR |
| CRIDA groundnut pod stripper | 30,000 | Separating the groundnut pods by using groundnut stripper | 20 | 10 | 14.00 | 34.00 | 58.8 | 1620 | 28,760 | 36,720 | 7,780 | 1.28 | 30,560 | 36,720 | 6,160 | 1.20 |
| Modified Coconut climber | 5500 | Climbing coconut trees with modified coconut climber | 5 | 5 | 11.92 | 18.70 | 66.60 | 2618 | NA | | | | | | | |
| Mini portable sprinkler | 30000 | Mini portable sprinkler | 38 | 15 | Trial under progress | | | | | | | | | | | |
| Popularization of incubator | 30000 | Popularization of incubator | 1 | 50 | Hatchability % | | % of increase | NA | 1200 | 3400 | 2200 | 2.83 | 1400 | 1600 | 200 | 1.14 |
| | | | | | Demo | Check | | | | | | | | | | |
| | | | | | 92.5 | 79 | 17.08 | | | | | | | | | |
| Feed mixing unit | 25000 | Preparation of low cost concentrate feed for dairy cows | 1 | | Milk Yield (lt / cow) % | | % of increase | NA | 1400 | 4300 | 2900 | 1:3.07 | 1200 | 2800 | 1600 | 1:2.33 |
| | | | | | Demo | Check | | | | | | | | | | |
| | | | | | 14.5 | 8.2 | 43.4 | | | | | | | | | |

### Data on additional parameters other than labour saved (viz., reduction in drudgery, time etc.)

| Data on other parameters in relation to technology demonstrated | | | |
|---|---|---|---|
| | **Parameter with unit** | **Demo** | **Local** |
| **CRIDA groundnut pod stripper** | Time (hours / ha) | 112(41.2%) | 272 |
| | Cost (Rs./ha) | 1260(41.2%) | 3060 |
| | Damage to pods | 3 kg damaged / 100 kg (3%) | - |
| | Stripping efficiency | 16 kg / hour | 6 kg / hour |
| **Modified Coconut climber** | Pulse (beats/m) | 61 | 69 |
| | Time (hrs / ha) | 56.10 | 93.50 |
| | Heart beats/m | 135 | 153 |
| **Preparation of low cost concentrate feed for dairy cows** | Inter-calving period | 14 | 65 |
| **Popularization of incubator among SHG members** | Livability (%) | 98 | 76 |

## 5.B.6. Cotton

### 5.B.6.1.Summary of demonstrations conducted under FLD cotton

| Sl. No. | Category | Technology Demonstrated | Variety | Hybrid | Season and year | Area (ha) | | No. of farmers/ demonstration | | | Reasons for shortfall in achievement |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Proposed | Actual | SC/ST | Others | Total | |
| | Production Technology | ❖ Popularization of Long staple MRC 7918 BGII Bt.<br>❖ Seed treatment with *Azospirillum* and *phosphobacteria* @ 3 pkts each and soil application of *Azospirillum* and *phosphobacteria* @ 10 pkts each /ha enrichment with FYM.<br>❖ STL based fertilizer application<br>❖ Application of micronutrient mixture 12.5 kg /ha as basal<br>❖ Maintaining optimum plant population<br>❖ Spraying of $KNO_3$ 2% at 40 and 70 DAS<br>❖ Foliar spray of TNAU Cotton Plus @ 2.5kg/acre at flower and boll formation stage.<br>❖ Spraying of growth hormone NAA 40 ppm (Planofix @ 4 ml in 4.5 lit of water ) at 45 and 60 DAS<br>❖ Spraying of NSKE 5% (25 kg of NSKE + 500 gram of kadhi soap) followed by Imidacloprid 70WS @ 7.5 ml / 10 lit of water during pest incidence at two times.<br>❖ Setting up of yellow sticky trap @ 12 nos / ha<br>❖ Release of mealy bug parasitoids *Anagyrus Locki, Pseudoleptimestrix, maxicana Acerophagus papayae* @ 100 nos each<br>❖ Above ETL Foliar spraying of Profinophos @ 2 ml / lit of water 2 times during mealy bug incidence.<br>❖ Nipping at 18-21th Node. | - | MRC7918 Bt BG II | Kharif 2010 | 20 | 20 | 18 | 32 | 50 | Nil |
| | IPM | | | | | | | | | | |
| | Farm Implements | | | | | | | | | | |

### 5.B.6.2 Production technology demonstrations
### Performance of demonstrations

| Farming situation | Technology Demonstrated | Area (ha) | No.of demo. | Variety | Hybrid | Yield (q/ha) | | % Increase | Economics of demonstration (Rs./ha) | | | | Economics of local check (Rs./ha) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Demo | Local | | Gross Cost | Gross Return | Net Return | BCR | Gross Cost | Gross Return | Net Return | BCR |
| Rainfed | ❖ Popularization of Long staple MRC 7918 BGII Bt.<br>❖ Seed treatment with *Azospirillum* and *phosphobacteria* @ 3 pkts each and soil application of *Azospirillum* and *phosphobacteria* @ 10 pkts each /ha enrichment with FYM.<br>❖ STL based fertilizer application<br>❖ Application of micronutrient mixture 12.5 kg /ha as basal<br>❖ Maintaining optimum plant population<br>❖ Spraying of $KNO_3$ 2% at 40 and 70 DAS<br>❖ Foliar spray of TNAU Cotton Plus @ 2.5kg/acre at flower and boll formation stage.<br>❖ Spraying of growth hormone NAA 40 ppm (Planofix @ 4 ml in 4.5 lit of water ) at 45 and 60 DAS<br>❖ Spraying of NSKE 5% (25 kg of | 20 | 50 | - | MRC 7918 BG Bt II | 26.11 | 18.28 | 42.84 | 64262.50 | 200942.56 | 136680.06 | 3.12 | 55000.00 | 140682.88 | 85682.88 | 2.36 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NSKE + 500 gram of kadhi soap) followed by Imidacloprid 70WS @ 7.5 ml / 10 lit of water during pest incidence at two times.<br>❖ Setting up of yellow sticky trap @ 12 nos / ha<br>❖ Release of mealy bug parasitoids *Anagyrus Locki, Pseudoleptimestrix, maxicana Acerophagus papayae* @ 100 nos each<br>❖ Above ETL Foliar spraying of Profinophos @ 2 ml / lit of water 2 times during mealy bug incidence.<br>❖ Nipping at 18-21th Node. | | | | | | | | | | | | | | | |

## Performance of Bt hybrids, Desi hybrids, non-Bt hybrids and Varieties in Front Line Demonstrations in cotton during 2010-11

| Category | Farming situation | Technology Demonstrated | Area (ha) | No.of demo. | Variety | Hybrid | Yield (q/ha) | | % Increase | Economics of demonstration (Rs./ha) | | | | Economics of local check (Rs./ha) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Demo | Local | | Gross Cost | Gross Return | Net Return | BCR | Gross Cost | Gross Return | Net Return | BCR |
| Bt hybrids | Rainfed | Production technology | 20 | 50 | - | MRC 7918 BG Bt II | 26.11 | 18.28 | 42.84 | 64262.50 | 200942.56 | 136680.06 | 3.12 | 55000.00 | 140682.88 | 85682.88 | 2.36 |
| Desi hybrids (AXA) | | | | | | | | | | | | | | | | | |
| HXB Hybrids | | | | | | | | | | | | | | | | | |
| HXH Hybrids | | | | | | | | | | | | | | | | | |
| Herbacium Varieties | | | | | | | | | | | | | | | | | |
| Hirsutum Varieties | | | | | | | | | | | | | | | | | |
| Arboreum Varieties | | | | | | | | | | | | | | | | | |

## 5.B.6.3 Integrated pest management demonstrations

| Farming situation | Variety | Hybrid | No. of blocks | Total No. of Demo. | Area (ha) | Incidence of pest and diseases (%) | | | Seed Cotton Yield (q/ha) | | | Economics of demonstration (Rs./ha) | | | | Economics of local check (Rs./ha) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | IPM | Non IPM | % Change | IPM | Non IPM | % Change | Gross Cost | Gross Return | Net Return | BCR | Gross Cost | Gross Return | Net Return | BCR |
| | | | | | | | | | | | | | | | | | | | |

### 5.B.6.4 Demonstrations on farm implements

| Name of the implement | Area (Ha) | No. of Demo. | Name of the technology demonstrated | Labour requirement for operation (Rs./ha) | | |
|---|---|---|---|---|---|---|
| | | | | Demo | Local check | % change |
| **Total** | | | | | | |

### 5.B.6.5 Extension Programmes organized in Cotton Demonstration Plots

| Extension activity | No. of Programmes | Participants | | | SC/ST | | |
|---|---|---|---|---|---|---|---|
| | | Male | Female | Total | Male | Female | Total |
| Consultancy | 19 | 115 | 7 | 122 | 2 | 1 | 3 |
| Conventions | 5 | 80 | 3 | 83 | 6 | 2 | 8 |
| Demonstrations | 13 | 204 | 54 | 258 | 7 | 2 | 9 |
| Diagnostic surveys | 5 | 11 | 0 | 11 | 2 | 1 | 3 |
| Exhibition | 1 | 260 | 50 | 310 | 18 | 12 | 30 |
| Farmer study tours | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farmers Field school | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Field Days | 1 | 30 | 15 | 45 | 18 | 5 | 23 |
| Field visits | 45 | 45 | 0 | 45 | 0 | 0 | 0 |
| Gram sabha | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Group discussions | 3 | 48 | 10 | 58 | 0 | 0 | 0 |
| Kisan Gosthi | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kisan Mela | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Training for Extension Functionaries | 2 | 29 | 14 | 43 | 23 | 2 | 25 |
| Training for farmers | 9 | 221 | 22 | 243 | 74 | 7 | 81 |
| Viedo show | 3 | 158 | 19 | 177 | 0 | 0 | 0 |
| Newspaper coverage | 16 | Mass | | | | | |
| Popular articles | 5 | Masss | | | | | |
| Publication | 3 | Mass | | | | | |
| Radio talks | 1 | Mass | | | | | |
| T.V. Programme | 1 | Mass | | | | | |
| Others (Pl.specify) | 0 | | | | | | |
| Scientist visit with department of agricultural officers | 3 | 28 | 0 | 28 | 0 | 0 | 0 |
| Lecture delivered | 2 | 122 | 29 | 151 | 0 | 0 | 0 |
| Seminar | 1 | 290 | 114 | 404 | 0 | 0 | 0 |
| Extension literature distributed | 3 | 136 | 25 | 161 | 0 | 0 | 0 |
| Cotton farmers visit to KVK | 35 | 35 | 0 | 35 | 0 | 0 | 0 |
| SMS Alert messages | 21 | 800 | 0 | 800 | 0 | 0 | 0 |
| Radio announcement | 12 | Mass | 0 | | | | |
| **TOTAL** | **209** | **2612** | **362** | **2974** | **150** | **32** | **182** |

**5.B.6 Technical Feedback on the demonstrated technologies on all crops / enterprise**

| S. No | Crop / Enterprise | Name of the technology demonstrated | Feed Back |
|---|---|---|---|
| **1.** | Fodder | Popularization of fodder bank at village level | The multicut of the fodder crops and establishment of fodder bank will ensure the availability of greens throughout the year and help us sustainability of dairy sector. |
| **2.** | Cumbu | Popularization of new variety in cumbu | Under progress |
| **3.** | Acidlime | Fruit drop management in acidlime | Immature fruit drop was drastically reduced in trees applied with micro-nutrients and growth regulators. Proper nutrient management and pruning techniques have to be adopted for obtaining good yield in acidlime. |
| **4.** | Small onion | ICM in small onion | Heavy rain fall during bulb formation stage favours purple blotch disease and it was difficult to control. Indiscriminate use of pesticides can be minimized by developing resistance varieties. |
| **5.** | Multiplier onion | Cultivation of multiplier onion through seeds | Though the germination of the seed is good much care had to be taken to maintain the population of seedlings.<br>Raised bed nursery was comparatively better than flat bed nursery<br>The storability of the bulb may be increased for wider adoption |
| **6.** | Paddy | BPH management in paddy | ➢ Due to use of *Beavaria bassiana*, the population of BPH were minimized and the incidence was reduced upto2.32% and also egg nymphs were controlled at early stages itself upto 1.2 nos .<br>➢ The no of spray also reduced<br>➢ No hazards to human being and natural enemies in rice ecosystem |
| **7.** | Groundnut | Separating the groundnut pods by using groundnut stripper | Since the dried leaves along and impurities mixed with the carnal during stripping. An exhauster fan may be attached to winnow the dried leaves and impurities |
| **8.** | Chillies | ICM in chillies | The demonstrated plot performed better in terms of growth and yield character than the check plot. This might be due to timely application of fertilizer especially micronutrient application of growth regulator reduced the flower drop and increased the fruit set. |
| **9.** | Goat | Improving the productivity of goat | The demonstrated goat show higher conception rate, reduced kidding interval, higher weight gain in kids due to supplementation of minerals & proper deworming. |
| **10.** | Turkey | Popularization of new variety turkey Beltsville small white | Since the introduction of improved variety of turkeys attain higher weight gain in a short duration and shows better livability percentage than desibirds. |
| **11.** | Poultry | Popularization of new variety Rhodo white | Due to improved variety it show overall performance in terms of better weighjt gain (Upto 2.18 Kg) within a short period, higher egg production & better hatchability & the weight of the egg is also high compared to local breeds. |
| **12.** | Dairy | Preparation of low cost concentrate feed for dairy cows | The preparation of low cost concentrate feed & supplementation to dairy cows helps to improve the milk yield of the animal. The fat percentage, SNF are also high in the concentrate supplemented animal. The intercalving period post partum, anestrus problems and metabolic disorders problem viz. calcium deficiency, ketosis, grass tetany has been reduced marginally. |
| **13.** | Poultry | Popularization of incubator among SHG members | The setting of egg in the incubator yields more hatchability, better livability of chicks. |
| **14.** | Goat | Popularization of salt lick mineral cake for goats | Since the saltlick mineral cake supplements overall demands of goat the overall production is also improved in |

| | | | |
|---|---|---|---|
| | | | terms of better kids weight gain, reduced kidding interval, more no of triplets and disease resistance for majority of goat disease are also improved. |
| **15.** | Coconut | Modified Coconut climber | Since fixing the climber on the tree is time consuming and difficult needs further modification for each fixing on 100 tree. |
| **16.** | Groundnut, Maize | Mini portable sprinkler | Under progress |
| **17.** | Cotton | Cotton production technology | The Bt cotton production technologies showed high yield of 42.84% than the local check. No. of spraying also reduced upto 5%. The average no of bolls( ), squares( ), also increased. The pest incidence level was very low when compared to local check. |
| **18.** | Sesamum | | Under progress |
| **19.** | Blackgram | | Under progress |
| **20.** | Fodder cowpea | Popularization of fodder cowpea | The cowpea is rich in protein and high palatability compare to other feeds help the animal to yield animal and reduce the incidence of reproductive problem in dairy cows |

**5.B.6.7 Farmers' reactions on specific technologies**

| S. No | Crop / Enterprise | Name of the technology demonstrated | Feed Back |
|---|---|---|---|
| **1.** | Fodder | Popularization of fodder bank at village level | The establishment of fodder bank at village level, the farmers can feed different varieties of fodder crops to the animals and also it makes available of different fodder crops throughout the year. |
| **2.** | Cumbu | Popularization of new variety in cumbu | Under progress |
| **3.** | Acidlime | Fruit drop management in acidlime | In the treated trees, fruits were bigger in size and juice content also more. Immature fruit drop was considerably reduced. Foliar spraying was easier in the fields which were pruned periodically where as it was difficult in unprunned trees. |
| **4.** | Small onion | ICM in small onion | Bulb treatment was very much effective. Untreated plots shown pink root symptom where as it was absent in treated plots. The bulbs were bigger in size and color also good in treated plots. |
| **5.** | Multiplier onion | Cultivation of multiplier onion through seeds | Bulbs obtained were bigger in size and yield also good. Shortability of their variety has to be increased for marketing it during peak period |
| **6.** | Paddy | BPH management in paddy | During the demonstration, farmers said that we were unknown about treatment with bioagents and identification of BPH adult symptoms and its damages. Foliar spraying of *Beavaria bassiana* at early stages of the crop. The BPH eggs, nymphs, adults were controlled thoroughly. This technology was very effective against BPH and also ecofriendly safe. |
| **7.** | Groundnut | Separating the groundnut pods by using groundnut stripper | The farmers first time using groundnut stripper. They felt that it will reduce the labour required for groundnut stripping At the same time. It could be handled without any technical skill |
| **8.** | Chillies | ICM in chillies | For the first time the farmers practiced seed treatment in chillies with biofertilizers. The growth regulator also applied for the first time. |
| **9.** | Goat | Improving the productivity of goat | The farmers were aware about the importance of deworming, supplementation of mineral & vitamins overall performance of goat. The farmers were also unaware when to deworming & how many times dewoming should be given. They were realized the effectiveness of deworming & supplementation of minerals in the animals. |

| | | | |
|---|---|---|---|
| **10.** | Turkey | Popularization of new variety turkey Beltsville small white | Fast weight gain obtained by this turkey were good compared to their locally available desi turkeys. |
| **11.** | Poultry | Popularization of new variety Rhodo white | Farmers expressed happiness after seeing their birds attained higher weight gain in a shorter period time, no mortality or reduced percentage of mortality, more no of eggs, better size & more weight. |
| **12.** | Dairy | Preparation of low cost concentrate feed for dairy cows | Most of the farmers opined that supplementation of concentrate feeds yields more milk during the period, and reduce the intercalving period, anestrus problem, reduced incidence of frequently occurring metabolic diseases. |
| **13.** | | Popularization of incubator among SHG members | More hatchability & better livability than the conventional method of hatching. |
| **14.** | Goat | Popularization of salt lick mineral cake for goats | Better conception rate, better weight gains and less incidence of reproductive problems. |
| **15.** | Cowpea | Popularization of fodder cowpea | Due to high palatability of this field, the animal consumes more feed without any wastages. It helps us to get more quality and quantity of milk |
| **16.** | Coconut | Modified Coconut climber | It is easy to climb the tree with the help of coconut climber, but it is somewhat complicated to fix the climber for every tree. The fixation of climber on trees may be made easier. |
| **17.** | Groundnut, maize | Mini portable sprinkler | Under progress |
| **18.** | Cotton | Cotton production technology | The farmers were realized the effectiveness of various demonstration technologies in their field and they assured to following technologies incoming season. And also they have analysed the yield and cost of pesticide sprayed |
| **19.** | Sesamum | | Under progress |
| **20.** | Blackgram | | Under progress |

**5.B.6.8 Extension and Training activities under FLD**

| Sl.No. | Activity | No. of activities organised | Number of participants |
|---|---|---|---|
| 1 | Field days | 17 | 293 |
| 2 | Farmers Training | 30 | 655 |
| 3 | Media coverage | 19 | Mass |
| 4 | Training for extension functionaries | 2 | 62 |