

1. Varietal Replacement in Paddy

Paddy variety Pratikshya was assessed and demonstrated in the farmer's field and recorded 28% higher yield over the farmer's variety *Swarna* and the variety spread to 600 ha in the district. Similarly the variety *Manaswini* recorded 18% higher yield over farmer's variety *Lalata* and spread an area of 150ha in the district.

2. Transplanting Technique in Watermelon

Transplanting of 10-15 days old seedlings of watermelon raised in poly bag reduces the mortality of plant from 24% to 4% and increases yield by 18 percent over farmers practices i.e. direct sowing of seed and applying flood irrigation. This technology spread over an area of 120 ha in the district.

3. Cultivation of Hybrid Sunflower-KBSH-I

Sunflower is one of the important oilseed crop grown in the district of an area of 260ha during Rabi season. Low yield of the crop is due to use of composite variety. Sunflower variety KBSH-I was demonstrated in farmer field and recorded 50 percent increases in yield over composite variety (modern) and the variety spread to 80 ha in the district.

4. Cultivation of Onion Variety Agri Found Light Red

Onion is cultivated in an area of 380ha in the district. Major problem of onion is low yield due to use of small size of Nasik red variety. K.V.K. assessed the variety Agri found light red in farmer's field which recorded 19 percent more yield from Nasik Red. This variety spread to an area of 80 ha in the district.

5. Wilt Management in Pointed Gourd

Wilting of plant was a major problem in pointed gourd in the district. K.V.K. demonstrated the technology of root cutting treatment with solution of *Pseudomonas* + *Trichoderma* @2g/lit with drenching of plant base with Ridomyl@2g/lit, which reduced the mortality of plant from 44 % to 9 % and increased yield by 32%. This technology spread over 25 ha area in the district.

6. Chemical weed control in Paddy

Pre emergence application of weedicide Butachlor @ 2.0 lit/ha in upland paddy effectively controlled the weed and recorded 19% higher yield and this technology spread in area of 2300 ha in the district.

7. Popularization of HYV of onion

Cultivation of onion variety N-53 in kharif has been popularized extensively throughout the district.

8. Integrated Pest Management in Cauliflower

Use of pheromone trap @ 20 no/ha and alternate application of Bt @ 1 kg/ha and Cypermethrin 10 EC @ 1 lt./ ha is most appropriate for management of pod borer in cauliflower.

9. IPM in Brinjal

Soil application of neem cake @250 kg/ha and alternate spraying of Triazophos@ 2 ml/lit and neem oil @ 5 ml/lit is recommended for shoot & fruit borer management in brinjal.

10. Popularization of improved variety & hybrid of fruit crops

Mango hybrid Amrapalli, banana cv. Dwarf Cavendish & papaya var. Coorg Honey Dew have been popularized in farmer's field through demonstration which is horizontally spread to 18 villages.

11. Cultivation of tomato in late Kharif season

Cultivation of tomato var. BT-10(Utkal Kumari) resulted in yield of 210 qt. /ha with less wilt incidence than farmers cultivated variety. This variety is also suitable for cultivation in late Kharif season.

12. Application of ZnSO₄ in paddy

Application of ZnSO₄ @ 25 kg/ha in paddy resulted 27 % higher yield with more no. of tillers /hill than local check.

13. Introduction of scented rice variety

Introduction of high yielding scented rice variety Ketakijoha recorded yield of 23.9 qt/ha which is 18.6 % more than the local check.

14. INM in paddy

Green manuring with Dhaincha @ 25 kg/ha, soil application of Azospirillum & PSB each @ 5 kg /ha incubated with 100 kg + 75 % RDF resulted 31.5 % higher yield than local check.

15. Management of gall midge in paddy

Nursery treatment with Carbofuran @ 2.5 kg/ha & application of Chloropyriphos @ 1 lt. /ha in main field reduced infestation to 4.8 % as compared 28.9 % in local check increasing yield by 33.6 % than the local check.

16. Application of Boron in sunflower

Foliar application of Boron @ 0.5 kg/ha increased head diameter to 21.6 cm as against 13.6 cm in local check resulting 11.6% higher yield.

17. Cultivation of HYV of paddy

Introduction of newly released paddy var. Manaswini in farmer's field recorded yield of 40.4 qt /ha which is 16% higher than the farmer's cultivated var- Lalat.

18. Chemical weed control in Maize

Pre emergence application of Atrazine decreased weed population to 2.6 no /m² as against 11.4 no/m² in local check resulting 12 % increase in yield.

19. Management of Blast in paddy

Foliar application of Tricyclazole @ 300 gm/ha reduced leaf infection to 3.6 % as against 22.2 % in local check which increased yield by 16.9 %

20. Varietal evaluation of potato for changing climatic scenario

Cultivation of potato variety Kufri Surya recorded 6.25 no of tubers/plant with larger size than the farmer's variety Kufri Jyoti (5 no plant) resulting 22.9 % higher. The var. Kufri Surya also tube rise well in higher temp. Upto 20 °C while tuberisation is adversely affected beyond 18 °C in var- Kufri Jyoti.

21. Management of stem borer in paddy

Soil application of Cartap hydrochloride @ 20 kg/ha & release of *T. japonicum* egg parasite @ 50,000/ha reduced % of white ear head to 3.6 % as against 18.6 % in local check thus increasing yield by 19 %.

22. Popularization of SRI method

Transplanting of 10 days old rice seedling at 25 x 25 cm & maintenance rice field in saturated condition recorded more no of tillers/hill (32 no) as against 9 no. in local check thus increasing yield by 31.3%.

23. Introduction of hybrid rice

Cultivation of hybrid rice JKRH-401 recorded 295 no. of grains/panicle as against 168 no in HYV resulting 31.2% higher yield than local check.

24. Management of leaf folder in paddy

Foliar application of Triazophos @ 1 lt. /ha reduced no. of damaged leaf /hill to 0.6 as against 5.1 in local check resulting higher yield by 13.9 %.

25. Introduction of HYV of tomato

Introduction of wilt resistant tomato var-Utkal Pragyan & wilt tolerant var. Utkal Raja reduced % of wilting & increased yield to 239.6 & 243.8 respectively than the farmer's cultivated var-Sel-22, PKM-1.

26. Management of BLB in summer paddy

Foliar application of Plantomycin @ 500 gm/ha & Blitox @ 1kg/ha reduced % of infection to 3.6 % as against 16.2 % in local check resulting higher yield by 16.1 %.

27. Chemical weed management in paddy

Post emergence application of Fenoxaprop p ethyl@1 lt. /ha + Almix @ 20 gm /ha at 20 days of transplanting reduced weed population to 9 no /m² as compared to 23 no/ m² in local check resulting increase in yield by 24.8%.

28. INM in groundnut

Soil application of Gypsum @ 250 kg/ha along with RDF 20:40:40 kg NPK / ha recorded 22 no. of pods / plant as against 19 no. in local check increasing yield by 15.7%.

29. INM in cauliflower

Application of FYM @15 ton /ha ,NPK @ 125:50:75 kg NPK / ha & foliar spray of Boron @2 gm /lt recorded curd diameter of 16.4 cm as compared to 12.1 cm in local check enhancing yield by 14.3%.

30. IPM in onion

Soil application of neem cake @ 100 kg /ha & foliar spray of Imidacloprid @125 ml /ha recorded less infestation of thrips (7 no/plant) than 38 no. plant in local check increasing yield by 19.6%.

31. Weed management in onion

Post emergence application of Targa Super @ 1 lt./ha at 15 to 20 DAT in onion reduced weed population & increased yield 12.2 percent than the local check.

32. Weed management in groundnut

Pre emergence application of Oxyflurofen @ 100ml/ha at 2 to 3 DAS in groundnut reduced weed population & increased yield up to 21.7 qt/ha.

33. Farm Mechanization

Introduction of puddler Groundnut thresher, Paddy thresher in farmers field of the district increased work efficiency and reduced cost of cultivation resulting higher net return/ha than farmers practices.

34. Drudgery Reduction

Use of clipping knife in Okra harvesting, Paddy winnower, improved sickle,Paddy Parboiling unit, Groundnut decorticator, Mahua decorticator, Sunflower threshing bench,Mandwa weeder, Rotary peg weeder in vegetable reduced drudgery to farm women, increase work efficiency and profit and reduced cost of cultivation and over all benefiting farm family as a whole.

35. Small Scale Income Generating Enterprise

Rearing of Poultry bird Banaraja in backyard, Kitchen gardening, Cultivation of tuberose and Marigold in backyard resulted of leisure period of family members increasing income of farm family.

36. Agro-forestry Model Development

Bond plantation of Teak, Sisoo intercropping and Colocassia, Elephant foot yam in teak plantation, cultivation of hybrid napier, hill broom resulted proper utilization of resources providi ng additional income to farm family.

37. Promotion of Pisciculture

Productivity from fish pond has been increased through demonstration on composite fish culture, Integrated fish farming, Supplementary feeding.