

वार्षिक प्रतिवेदन ANNUAL REPORT 2013-14



क्षेत्रीय परियोजना निदेशालय (क्षेत्र-V)
Zonal Project Directorate (Zone-V)

CRIDA, Santoshnagar,
Hyderabad-500050



Building inauguration of KVK Baramati by the Hon'ble President of India



Address by Hon'ble President of India at KVK Baramati

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**ANNUAL
REPORT**

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CRIDA Campus, Santoshnagar
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PREFACE

The Zonal Project Directorate (Zone-V), Hyderabad is vested with the responsibility of monitoring various transfer of technology projects funded by the Council in two states viz. Andhra Pradesh and Maharashtra. At present there are 78 KVKs in the Zone, including 34 in Andhra Pradesh and 44 in Maharashtra. During the year, KVKs assessed and refined 725 technologies through 6395 On-farm trials. A total of 10032 Front Line Demonstrations covering 3798.7 ha under oilseeds, pulses and other field and horticultural crops was organized by KVKs in Zone-V. KVKs also conducted 1083 demonstrations on livestock related technologies.

KVKs conducted 5974 training programmes covering 185796 participants that include 147368 farmers and farm women, 25281 rural youth and 13147 extension functionaries besides organizing 30264 extension activities with a participation of 781284 farmers, farm women and extension personnel. To facilitate rapid dissemination of information on improved farm technologies, KVKs brought out 1248 publications. KVKs also produced 6329q of seed and 3213803 saplings of elite species of field and horticultural crops. KVKs also produced 2907q of bio-fertilizers and 537q of bio-pesticides and supplied to farmers.

In order to ascertain the soil health and to make crop specific nutrient recommendations in the prevailing micro-farming situations, KVKs analyzed a total number of 129861 samples including soil (102479), water (26468), plant (861), etc. benefiting 111345 farmers of 16505 villages Andhra Pradesh and Maharashtra.

Under the technology demonstration component of NICRA, to help farmers to cope with the climate variability 13 KVKs in vulnerable districts have also undertaken various interventions viz. demonstrations, training, etc., on NRM, crop production, livestock and fisheries.

A total of 44 HRD activities benefiting 1756 KVK staff in the Zone were jointly organized by the five directorates of extension and the ZPD (Zone-V). About 108627 farmers were given direct access to institutional resources through six Agricultural Technology Information Centers in Zone-V.

I express my gratitude to Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR, Dr. A.K. Sikka, DDG (NRM) & Acting DDG (AE), Dr. K.D. Kokate, Former Deputy Director General (AE), Dr. A.K. Singh, ADG (AE) and Dr. V. Venkatasubramanian, Former ADG (AE) for their continued guidance and support in implementing the mandate.

I express my thanks to the Vice Chancellors and Director of Extension of SAUs, Horticulture and Veterinary Universities and the Directors of ICAR Institutes in Zone V for providing necessary technological backstopping to the KVKs.

I extend my thanks to all the Programme Coordinators and the staff of KVKs in the Zone for their dedicated efforts in implementing the mandated activities and furnishing the necessary information for preparing the report.

I am thankful to all the scientists of the Directorate for their help in analyzing data, preparing manuscript and bringing out the Annual Report. My thanks to the administrative, accounts and other staff of the directorate for their continuous support.

N. Sudhakar

Zonal Project Director

कार्यकारी सारांश

वर्ष 2009 के दौरान क्षेत्रीय समन्वयन इकाई का उन्नयन कर भारतीय कृषि अनुसंधान परिषद द्वारा परियोजना निदेशालय का दर्जा दिया गया। क्षेत्रीय परियोजना निदेशालय (क्षेत्र V) के अधिदेश में, मुख्य रूप से क्षेत्र V, जिसमें आंध्र प्रदेश एवं महाराष्ट्र राज्य शामिल हैं, के कृषि विज्ञान केंद्रों द्वारा प्रौद्योगिकी मूल्यांकन, परिष्करण एवं प्रदर्शन पर विभिन्न अनुकूलताओं का निर्माण करना, कार्यान्वयन करना, मॉनिटरिंग करना एवं मूल्यांकन करना शामिल है।

क्षेत्र में अभी 78 कृषि विज्ञान केंद्र हैं जिसमें आंध्र प्रदेश के 34 एवं महाराष्ट्र के 44 शामिल हैं। आंध्र प्रदेश के 34 कृषि विज्ञान केंद्रों में से 23 राज्य कृषि विश्वविद्यालयों, 3 भारतीय कृषि अनुसंधान परिषद के संस्थानों एवं 8 गैर सरकारी संगठनों के अंतर्गत हैं। महाराष्ट्र में, 16 राज्य कृषि विश्वविद्यालयों, 1 भारतीय कृषि अनुसंधान परिषद का संस्थान, 26 गैर सरकारी संगठनों एवं एक मुक्त विश्वविद्यालय के अंतर्गत हैं।

वर्ष के दौरान, 6395 फार्म जांच प्रदर्शनों द्वारा कृषि विज्ञान केंद्र ने 725 प्रौद्योगिकियों को मूल्यांकित एवं परिष्कृत किया गया। जांचे गए 725 प्रौद्योगिकियों में, 534 प्रौद्योगिकियां फसलों पर उसके बाद पशुओं (93), महिलाओं एवं शिशुओं (98) से संबंधित प्रौद्योगिकियों को मूल्यांकित एवं परिष्कृत किया गया। पशुओं के मामले में शामिल किए गए मुख्य विषय जनन क्षमता प्रबंधन, पोषण एवं चारा प्रबंधन, पोषक प्रबंधन, नस्लों का मूल्यांकन, रोग प्रबंधन, उत्पादन प्रबंधन एवं नस्ल सुधार; जबकि फसलों के मामले के विषय क्षेत्र में किस्मों का मूल्यांकन, समेकित नाशीजीव प्रबंधन, समेकित पोषण प्रबंधन, संसाधन संरक्षण प्रौद्योगिकियां, समेकित कृषि प्रणालियां, खरपतवार प्रबंधन, समेकित रोग प्रबंधन तथा बीज एवं रोपण सामग्री उत्पादन शामिल हैं। ग्रामीण महिलाओं के सशक्तिकरण के अंतर्गत स्वास्थ्य एवं पोषण, कड़ी मजदूरी की कटौती एवं ठेकेदारी का विकास जैसे विषय क्षेत्रों में ऑन फार्म जांच आयोजित किए गए।

आंध्र प्रदेश में कृषि विज्ञान केंद्रों ने 2341 ऑन फार्म जांचों के आयोजन द्वारा 300 प्रौद्योगिकियों मूल्यांकन किया, जबकि महाराष्ट्र में कृषि विज्ञान केंद्रों ने 3615 जांचों के आयोजन द्वारा 357 प्रौद्योगिकियों का मूल्यांकन किया। आंध्र प्रदेश में कृषि विज्ञान केंद्रों ने 177 जांचों का आयोजन कर कुल 30 प्रौद्योगिकियों को परिष्कृत किया गया एवं महाराष्ट्र में कृषि विज्ञान केंद्रों ने 38 प्रौद्योगिकियों के परिष्करण के लिए 262 जांचों का आयोजन किया।

क्षेत्र V में कृषि विज्ञान केंद्रों द्वारा तिलहनों के अंतर्गत 564.95 हेक्टेयर को शामिल कर कुल 1277 अग्रिम प्रदर्शनों का आयोजन किया गया। अग्रिम प्रदर्शनों के अंतर्गत शामिल किए गए मुख्य तिलहन फसलों में मूंगफली, सोयाबीन, अरंड, सूरजमुखी, आदि शामिल किए गए। दलहनों के मामले में, खरीफ एवं रबी मौसमों के दौरान 1449.2 हेक्टेयर को शामिल कर कृषि विज्ञान केंद्रों द्वारा 4056 प्रदर्शनों का आयोजन किया गया। प्रदर्शनों के अंतर्गत शामिल किए गए मुख्य फसल हैं अरहर, चना, मूंग, उड़द आदि। इसी प्रकार, आंध्र प्रदेश एवं महाराष्ट्र में कृषि विज्ञान केंद्रों ने अन्य फसलों जैसेकि मोटे अनाज, व्यवसायिक फसलों, चारा एवं बागवानी फसलों पर 1085.65 हेक्टेयर क्षेत्र में 2606 अग्रिम प्रदर्शनों का आयोजन किया। कृषि विज्ञान केंद्रों ने बेहतर औजारों एवं उपकरणों पर 1502 प्रदर्शनों का आयोजन किया। इसके साथ-साथ पशुधन प्रजातियों एवं महिला सशक्तिकरण पर क्रमशः 1083 तथा 719 प्रदर्शनों का भी आयोजन किया।

प्रशिक्षण कृषि विज्ञान केंद्र की प्रमुख गतिविधि है जो विभिन्न बेहतर प्रौद्योगिकियों के बारे में ज्ञान एवं कौशल की वृद्धि में प्रमुख भूमिका निभाता है। वर्ष के दौरान, क्षेत्र V में कृषि विज्ञान केंद्रों ने 186601 भागिदारियों को शामिल करते हुए 5972 प्रशिक्षण कार्यक्रमों का आयोजन किया जिसमें 148233 किसान एवं कृषि महिलाएं, 25281 ग्रामीण युवा एवं 13087 विस्तार कार्यकर्ता शामिल थे। आंध्र प्रदेश में कृषि विज्ञान केंद्रों ने 65611 किसान जिसमें कृषि महिलाएं, ग्रामीण युवा एवं विस्तार कार्यकर्ताओं के भागीदारी से 2037 प्रशिक्षण पाठ्यक्रमों का आयोजन किया गया जबकि महाराष्ट्र में कृषि विज्ञान केंद्रों ने कुल 120990 लाभान्वितों के लिए 3935 पाठ्यक्रमों का आयोजन किया। प्रशिक्षण के अंतर्गत शामिल किए गए मुख्य विषयों में समेकित फसल प्रबंधन, बेहतर औजार एवं उपकरण, क्षमता निर्माण एवं सामूहिक गतिविधि, महिला सशक्तिकरण, बागवानी फसलों के लिए बेहतर उत्पादन प्रणालियां, पशुधन नस्लों की उत्पादकता में वृद्धि, समेकित नाशीजीव प्रबंधन तथा मृदा स्वास्थ्य एवं उर्वरता प्रबंधन शामिल हैं।

क्षेत्र V में किसान विज्ञान केंद्रों द्वारा 27848 किसानों, कृषि महिलाओं एवं ग्रामीण युवाओं को शामिल करते हुए 1025 प्रायोजित प्रशिक्षण पाठ्यक्रमों का भी आयोजन किया गया। विशेषकर ग्रामीण एवं स्कूल ड्रापाउटों के बीच ठेकेदारी विकास, आय बढ़ाने एवं स्वरोजगार को बढ़ावा देने के लिए कृषि विज्ञान केंद्र द्वारा 9576 लाभार्थियों को शामिल करते हुए 330 व्यावसायिक प्रशिक्षण कार्यक्रमों का आयोजन किया गया। इसमें शामिल किए गए मुख्य विषय हैं मूल्य संवर्धन, समेकित फसल प्रबंधन, मुरगी पालन, नर्सरी एवं रोपण, भेड़ एवं बकरी पालन आदि।

क्षेत्र V के कृषि विज्ञान केंद्रों ने बेहतर कृषि प्रौद्योगिकियों पर जागरूकता उत्पन्न करने के लिए 781284 किसानों, कृषि महिलाओं एवं विस्तार अधिकारियों की भागीदारी से 30264 विस्तार गतिविधियों का आयोजन किया गया। विस्तार गतिविधियों में सलाह सेवाओं, प्रदर्शन दौरे, पशु स्वास्थ्य कैंपों, प्रौद्योगिकी सप्ताह, सामूहिक विचार-विमर्श, पद्धति प्रदर्शनों, मृदा स्वास्थ्य कैंपों, किसान मेलों, किसान गोष्ठियों आदि को शामिल किया गया। बेहतर फार्म प्रौद्योगिकियों पर सूचना को त्वरित प्रसार को बढ़ावा देने के लिए, क्षेत्र V में 1248 प्रकाशनों को निकाला गया। कृषि विज्ञान केंद्र ने किसानों को 6329 क्विंटल बीज एवं कृषि तथा बागवानी फसलों के सर्वोत्कृष्ट प्रजाति के 3213803 पौधों की भी आपूर्ति की। कृषि विज्ञान केंद्र ने 2907 क्विंटल जैव-नाशीजीवों एवं 537 क्विंटल जैव-कवकनाशी का उत्पादन कर किसानों को आपूर्ति की गई।

कृषि विज्ञान केंद्र ने मृदा एवं पोषण स्तर को जानने के लिए मृदा एवं जल जांच एवं साथ ही साथ जिले में जारी सूक्ष्म कृषि परिस्थितियों में पोषण सिफारिशों पर आधारित मृदा जांचों का भी आयोजन किया गया। कृषि विज्ञान केंद्रों के द्वारा कुल 129861 नमूनों, जिसमें मृदा (102479), जल (26468), पौधों (861) शामिल हैं, का विश्लेषण किया गया जिससे आंध्र प्रदेश एवं महाराष्ट्र के 16505 गांवों के 111345 किसानों को लाभ हुआ।

राष्ट्रीय जलवायु समुत्थान कृषि पहल का अवयव प्रौद्योगिकी का प्रदर्शन के अंतर्गत, संवेदनशील जिलों के 13 कृषि विज्ञान केंद्रों में जलवायु विविधता से पार पाने में किसानों की सहायता के लिए प्राकृतिक संसाधन, फसल उत्पादन, पशुधन एवं मास्तिकी पर विभिन्न हस्तक्षेपों जैसेकि प्रदर्शन, प्रशिक्षण आदि का भी आयोजन किया गया।

राज्य कृषि विश्वविद्यालयों के विस्तार निदेशालय एवं क्षेत्रीय परियोजना निदेशालय को प्रौद्योगिकी सहायता प्रदान करता है एवं मानव संसाधन विकास कृषि विज्ञान केंद्रों को क्षमता निर्माण, सम्मेलनों, कार्यशालाओं आदि के द्वारा प्रशिक्षण प्रदान करता है। पांच विस्तार निदेशालयों एवं क्षेत्रीय परियोजना निदेशालय (क्षेत्र V) के द्वारा संयुक्त रूप से कुल 44 मानव संसाधन गतिविधियों का आयोजन किया गया जिससे 1756 कृषि विज्ञान केंद्र के कर्मचारियों को लाभ हुआ।

संस्थागत संसाधनों को सीधे किसानों तक पहुंचाने के लिए, भा.कृ.अनु.प. ने विभिन्न प्रौद्योगिकी उत्पादों को सिंगल विंडो द्वारा प्रदान करने के उद्देश्य से क्षेत्र V में छः कृषि प्रौद्योगिकी सूचना केंद्रों को स्थापित किया। वर्ष के दौरान कुल 108627 किसानों ने अत्याधुनिक प्रौद्योगिकी सूचना एवं बीज एवं रोपण सामग्री जैसे क्रांतिक प्रौद्योगिकी उत्पादों के बारे में जानकारी प्राप्त करने के लिए छः कृषि प्रौद्योगिकी सूचना केंद्रों का दौरा किया।

EXECUTIVE SUMMARY

Indian Council of Agricultural Research upgraded the Zonal Coordination Unit to the status of Project Directorate during 2009. The mandate of Zonal Project Directorate is to formulate, implement, monitor and evaluate various strategies on technology assessment, refinement and demonstration mainly through Krishi Vigyan Kendras in Zone-V that includes Andhra Pradesh and Maharashtra states.

There are 78 KVKs in Zone-V which include 34 in Andhra Pradesh and 44 in Maharashtra. Of the 34 KVKs in Andhra Pradesh, 23 are with SAUs, 3 with ICAR institutes and 8 with Non-Governmental Organizations (NGO). In Maharashtra, 16 KVKs are with SAUs, one with ICAR institute, 26 with NGOs and one with Open University.

During the year, KVKs assessed and refined 725 technologies by laying out 6395 on-farm trials. Of these technologies tested, 534 technologies are related to crops, 93 are related to animals and 98 are related to women and children. The important thematic areas covered in case of crops include integrated nutrients management, integrated crop management, varietal evaluation, integrated pest management, integrated disease management, integrated weed management, farm machinery, tools and equipment, resource conservation technology and cropping systems. In case of animals, thematic areas such as feed and nutrition management, breed evaluation, disease management, fertility management, fodder and feed management, integrated farming systems, production and management and breed improvement are assessed and refined. Under the empowerment of rural women, on-farm trials were conducted in thematic areas viz., drudgery reduction, health and nutrition, value addition and entrepreneurship development

KVKs in Andhra Pradesh assessed the suitability of 300 technologies by conducting 2341 on-farm trials covering animals (419), crops including horticultural species (1576) and empowerment of rural women (346). KVKs in Maharashtra assessed 357 technologies by organizing 3615 trials that include animals (484), crops including horticultural species (2445) and women empowerment (686). A total of 30 technologies were refined by KVKs in Andhra Pradesh by conducting 177 trials covering crops (168) and women empowerment (9). Similarly, KVKs in Maharashtra organized 262 trials to refine 38 technologies covering animals (18), crops (218) and women (26).

A total of 1277 front line demonstrations covering 564.95 ha under oilseeds were organized by KVKs in Zone-V. The major oilseed crops that were covered under demonstrations include groundnut, soybean, castor, sunflower, etc. In case of pulses, KVKs organized 4056 demonstrations covering 1449.2 ha during kharif and rabi seasons. The major crops covered under demonstrations are red gram, bengal gram, green gram, black gram etc. Similarly, KVKs in Andhra Pradesh and Maharashtra organized 2606 demonstrations covering 1085.65 ha on other crops i.e. cereals, commercial crops, fodder and horticultural crops. KVKs also organized 1502 demonstrations on improved tools and implements, 1083 and 719 demonstrations on livestock species and empowerment of women respectively.

Training is an important activity of KVK, which play a pivotal role in enhancing the knowledge and skill about various improved technologies. During the year, KVKs in Zone-V organized 5972 training programmes covering 186601 participants that include 148233 farmers, 25281 rural youth and 13087 extension functionaries. KVKs in Andhra Pradesh organized 2037 training courses with a participation of 65611 farmers including farmwomen, rural youth and extension functionaries, while the KVKs in Maharashtra conducted 3935 courses with a total of 120990 beneficiaries. The main thematic areas covered under training include integrated crop management, improved tools and implements, capacity building and group dynamics, women empowerment, improved production practices for horticultural crops, productivity enhancement in livestock species, integrated pest management and soil health and fertility management.

KVKs in Zone-V also organized 1025 sponsored training programmes covering 27848 farmers and farmwomen and rural youth. In order to facilitate entrepreneurship development, income generation and self-employment especially among rural youth and school dropouts, KVKs organized 330 vocational training programmes covering 9576 beneficiaries. The important thematic areas include value addition, integrated crop management, poultry farming, nursery and grafting, sheep and goat rearing etc.

To create awareness on improved agricultural technologies the KVKs of Zone-V organized 30264 extension activities with a participation of 781284 farmers, farmwomen and extension personnel. The extension activities included advisory services, exposure visits, animal health camps, technology week, group discussions, method demonstrations, soil health camps, kisan melas, kisan ghosti, etc. In order to accelerate rapid dissemination of information on improved farm technologies, KVKs in Zone-V brought out 1248 publications. KVKs also supplied 6329 q of seed and 3213803 saplings of elite species of field and horticultural crops to farmers. KVKs also produced 2907 q of bio-fertilizers and 537 q of bio-pesticides and supplied to farmers

KVKs also have undertaken soil and water testing to ascertain the soil nutrient status and also to make soil test based nutrient recommendations in the prevailing microfarming situations in the district. A total of 129861 samples including soil (102479), water (26468), plant (861) and fertilizers/manures (53) were analyzed by the KVKs that benefited 111345 farmers belonging to 16505 villages in Andhra Pradesh and Maharashtra.

Under the Technology Demonstration component of NICRA, to help farmers to cope with the climate variability 13 KVKs in vulnerable districts have also undertaken various interventions viz. demonstrations, training, etc. on NRM, crop production, livestock and fisheries.

The Directorates of Extension Education of State Agricultural Universities and Zonal Project Directorate facilitate technological backstopping and Human Resource Development to the KVKs through training, seminars, workshop etc. A total of 44 HRD activities benefitting 1756 KVK staff in the Zone were jointly organized by the five directorates of extension and the Zonal Project Directorate.

To facilitate direct access of farmers to institutional resources, ICAR established six Agricultural Technology Information Centers in Zone-V with the objective of single window delivery of various technology products. During the year a total of 108627 farmers visited the six ATICs to know the latest technology information and to obtain critical technology products viz. seed and planting material.

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1. INTRODUCTION

Zonal Project Directorate

The National Organizing Committee constituted to celebrate the Golden Jubilee of the Indian Council of Agricultural Research (ICAR) during 1979-80 envisaged a massive programme viz. Lab to Land Programme for continuous flow of economically viable technology from laboratories to the farmers' fields. In this regard, it was decided to adopt 50000 small and marginal farmers and landless laborers throughout the country to transfer available farm technologies comprising of crop production, livestock farming, farm tools and implements, pisciculture, sericulture, apiculture etc. including crop-livestock integration and the same was implemented from September, 1979. In order to achieve the same, the country was divided into eight zones and as a result of this, the Zonal Coordination Unit for Transfer of Technology, Zone-V was established in September, 1979 as Cess Fund Scheme at Andhra Pradesh Agricultural University, Hyderabad primarily to monitor the activities of the Lab to Land Programme in the states of Andhra Pradesh and Maharashtra. Subsequently in 1985, the unit was shifted to the campus of Central Research Institute for Dryland Agriculture, Hyderabad. The Unit was given the responsibility of monitoring of Lab to Land Programme until 1986. Later during the year the unit was brought under the plan scheme of ICAR.

In 1987, the Council gave the unit additional responsibility of monitoring other ICAR supported Transfer of Technology Projects viz. Krishi Vigyan Kendras (KVK), Trainers Training Centre (TTC), National Demonstration Scheme (NDS), Operational Research Projects (ORP), All India Coordinated Project on SC/ST (AICRP SC/ST) and Special Projects on Oilseeds that were implemented in the zone. During 1990 and 1991, the Front Line Demonstrations (FLD) on oilseeds under Oilseeds Production Programme (OPP) and pulses under National Pulse Project (NPP), farm implements and cotton are also being monitored by Unit. In 1995, a pilot project on Institute Village

Linkage Programme (IVLP) was undertaken and implemented in the zone. In 1998, Zonal Research Stations under the State Agricultural Universities (SAU) were strengthened to take up the additional functions of KVKs and these re-mandated KVKs are also monitored.

The X and XI Five Year Plan (FYP) period witnessed phenomenal growth of KVKs in the country including the establishment of new KVKs in Zone-V covering the states of Andhra Pradesh and Maharashtra. During XI FYP period, Council has approved establishment of 97 new KVKs which include establishment of 24 additional KVKs in geographically larger districts, 12 each in the states of Andhra Pradesh and Maharashtra. In view of this the Council has upgraded all the eight Zonal Coordination Units to the status of Directorates and thus Zonal Project Directorate (ZPD), Zone-V came into existence during the year 2009.

The Directorate has the following mandates

- To formulate, implement, monitor and evaluate strategies on technology assessment, refinement and demonstration programme of the Council in the zone.
- To initiate, plan, coordinate and execute the extension research to support and improve technology dissemination system.
- To link KVK efforts to strengthen extension approaches viz. consortium, convergence, public-private partnership, farmer-led and market-lead extension in their respective regions.
- To coordinate the work relating to transfer of technology programme of various agencies such as agricultural universities, ICAR institutes, state and central govt. agencies, financial institutions, affiliated agriculture and home science colleges, voluntary agencies and the transfer of technology centers in their respective regions.
- To serve as feedback mechanism for technology generations system.

The Directorate falls under the administrative control of Division of Agricultural Extension of ICAR headed by the Deputy Director General (Agricultural Extension). The Zonal Project Directorate is headed by Zonal Project Director who is assisted by the Principal Scientists, Senior Scientists and other technical and administrative staff. A modest infrastructure for smooth functioning of the Directorate was built in the campus of Central Research Institute for Dryland Agriculture, Santoshnagar, Hyderabad.

Krishi Vigyan Kendra

Krishi Vigyan Kendra (Farm Science Centers), an innovative science-based institution, was established to impart vocational skill training to the farmers and field-level extension workers. The need for vocational training in agriculture and allied fields through KVK grew substantially for catering to the increasing demand for improved/agricultural technology by farmers. The farmers not only require knowledge and understanding of intricacy of new technologies, but also more skills to adopt the same in varied and complex field situation on their farms. In view of this, the role of KVK was further enhanced by adding the responsibility of

on-farm testing and front-line demonstrations of major agricultural technologies to dovetail the same in location specific environment. In order to equip the present day farmers to face the challenges of information explosion and to bridge the digital divide, KVKs were given the other responsibility of acting as knowledge and resource centre of agricultural and allied technologies. The mandate of KVKs is,

- On-farm testing to identify the location specificity of agricultural technologies under various farming systems.
- Organize frontline demonstrations to establish production potential of technologies on the farmer's fields.
- Training of farmers to update their knowledge and skills in modern agricultural technologies and extension personnel to orient them in the frontier areas of technology development.
- To work as knowledge and resource centre of agricultural technology for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district.



**Inauguration of Administrative Building by
DG (ICAR), KVK West Godavari**

2. KRISHI VIGYAN KENDRAS

2.1 Status

At present there are 78 KVKs in Zone-V which include 34 in Andhra Pradesh and 44 in Maharashtra (Table 1). Of the 34 KVKs in Andhra Pradesh, 23 are with SAUs, 3 with ICAR institutes and 8

with Non-Governmental Organizations (NGO). In Maharashtra, 16 KVKs are with SAUs, one with ICAR institute, 26 with NGOs and one with Open University.

Table: 1. Status of KVKs

| State | No. of districts | No. of KVKs | | | | Total |
|----------------|------------------|-------------|----------|-----------|----------|-----------|
| | | SAU | ICAR | NGO | Others | |
| Andhra Pradesh | 22 | 23 | 3 | 8 | - | 34 |
| Maharashtra | 33 | 16 | 1 | 26 | 1 | 44 |
| Total | 55 | 39 | 4 | 34 | 1 | 78 |

2.2 Staff

The details of staff position of different KVKs are given in Table 2. Out of 1248 posts sanctioned in the Zone, 995 are filled (79.72%). The Programme Coordinators are in position at 57 KVKs in the Zone,

while the number of Subject Matter Specialists in position is 371 (79.27%) and the number of Programme Assistants is 189(80.76%).

Table: 2. Consolidated staff position

| Category | Andhra Pradesh | | | Maharashtra | | | Total | | |
|---------------------------|----------------|------------|------------|-------------|------------|------------|-------------|------------|------------|
| | S | F | V | S | F | V | S | F | V |
| Programme Coordinator | 34 | 26 | 8 | 44 | 31 | 13 | 78 | 57 | 21 |
| Subject Matter Specialist | 204 | 147 | 57 | 264 | 224 | 40 | 468 | 371 | 97 |
| Programme Assistant | 102 | 84 | 18 | 132 | 105 | 27 | 234 | 189 | 45 |
| Administrative Staff | 68 | 53 | 15 | 88 | 70 | 18 | 156 | 123 | 33 |
| Auxiliary Staff | 68 | 54 | 14 | 88 | 72 | 16 | 156 | 126 | 30 |
| Supporting Staff | 68 | 57 | 11 | 88 | 72 | 16 | 156 | 129 | 27 |
| Total | 544 | 421 | 123 | 704 | 574 | 130 | 1248 | 995 | 253 |

S: Sanctioned

F: Filled

V: Vacant

2.3 Infrastructure

In order to facilitate proper functioning of KVKs, modest infrastructure is provided by ICAR. The details of land, buildings, vehicles and other facilities are presented in Table 3. The other infrastructure such as soil and water testing lab,

rainwater harvesting structure and e-connectivity are provided to only few selected KVKs, while the buildings and vehicles are provided to all the KVKs by ICAR.

Table: 3. Details of infrastructure available with KVKs

| State | Land (ha) | | | Buildings | | | | | | DU | Vehicles | | SWTL | RWHS | EL |
|-------|--------------|-------|-----|-----------|----|----|----|----|----|----|----------|---------|------|------|----|
| | | | | AB | | FH | | SQ | | | | | | | |
| | <10 | 10-20 | >20 | A | UP | A | UP | A | UP | | Jeep | Tractor | | | |
| AP | 1 | 21 | 12 | 20 | 8 | 22 | 8 | 17 | 0 | 18 | 32 | 32 | 18 | 1 | 12 |
| MS | 0 | 15 | 29 | 32 | 10 | 32 | 10 | 27 | 0 | 28 | 44 | 44 | 30 | 11 | 17 |
| Total | 1 | 36 | 41 | 52 | 18 | 54 | 18 | 44 | 0 | 46 | 76 | 76 | 48 | 12 | 29 |

AP : Andhra Pradesh; MS : Maharashtra; AB : Admn. Building; FH: Farmers Hostel; SQ: Staff Quarters; DU: Demo Unit; SWTL: Soil & Water Testing Lab; RWHS: Rain Water Harvesting Structure; EL: e-linkage; A: Available; UP: Under Progress

2.4 Revolving Fund

The total revolving fund generated by KVKs in the Zone is Rs. 777.92 lakh of which Rs.258.69 lakh is generated by KVKs in Andhra Pradesh and Rs. 519.23 lakh by KVKs in Maharashtra (Table 4).

Table: 4. Status of revolving fund (Rs. in lakh)

| State | Balance on 31.3.2014 |
|----------------|----------------------|
| Andhra Pradesh | 258.69 |
| Maharashtra | 519.23 |
| Total | 777.92 |

AP: Andhra Pradesh; MS: Maharashtra

In Andhra Pradesh, KVK Kurnool has the highest balance of revolving fund (Rs. 57.31 lakh) followed by Khammam (Rs. 27.21 lakh) and Srikakulam (Rs. 19.17 lakh) and KVK wise fund position is furnished in Table 5a. In Maharashtra, KVK Amaravati (D) has the highest balance Rs. 94.94 lakh followed by Ahemednagar, Rs. 36.24 lakh and Pune, Rs. 31.54 lakh. The KVK wise fund position is presented in Table 5a & 5b.

Table: 5a. Status of revolving fund in KVKs of Andhra Pradesh (Rs. in lakh)

| KVK | Balance on 31.3.2014 | KVK | Balance on 31.3.2014 | KVK | Balance on 31.3.2014 |
|-----------------|----------------------|----------------|----------------------|-----------------|----------------------|
| Adilabad | 1.45 | Khammam | 27.21 | Prakasam | 1.54 |
| Anantapur | 4.21 | Krishna | 14.01 | Prakasam-K | 1 |
| Anantapur-K | 1.78 | Krishna-G | 17.75 | Ranga Reddy | 0 |
| Chittoor | 15.24 | Kurnool | 57.31 | Srikakulam | 19.17 |
| Chittoor-K | 2.09 | Kurnool-B | 1.74 | Vishakapatnam | 17.33 |
| East Godavari | 0.74 | Mahaboobnagar | 1.15 | Vizianagaram | 2.42 |
| East Godavari-P | 6.79 | Mahabubnagar-P | 1.83 | Warangal | 6.84 |
| Guntur | 1 | Medak | 0.58 | Warangal-M | 1.63 |
| Guntur - LAM | 1 | Nalgonda | 17.26 | West Godavari | 4.77 |
| Kadapa | 6.86 | Nalgonda-K | 4.9 | West Godavari-V | 5.08 |
| Karimnagar | 6.52 | Nellore | 0.39 | Total | 258.69 |
| Karimnagar-R | 1.1 | Nizamabad | 6 | | |

Table: 5b. Status of revolving fund in KVKs of Maharashtra (Rs. in lakh)

| KVK | Balance on 31.3.2014 | KVK | Balance on 31.3.2014 | KVK | Balance on 31.3.2014 |
|----------------|----------------------|-----------|----------------------|--------------|----------------------|
| Ahmednagar | 36.24 | Gondia | 16.93 | Pune | 31.54 |
| Ahmednagar-D | 1.06 | Hingoli | 4.05 | Pune-N | 20.81 |
| Amaravati-D | 94.94 | Jalgaon | 23.15 | Raigadh | 9.63 |
| Amaravati-G | 7.28 | Jalgaon-M | 0.67 | Ratnagiri | 6.8 |
| Akola-U | 0.22 | Jalna | 5.67 | Sangli | 7.7 |
| Aurangabad | 13.43 | Kolhapur | 3.49 | Sindhudurg | 10.81 |
| Aurangabad-G | 0.44 | Latur | 15.14 | Solapur | 15.54 |
| Beed | 21.31 | Nagpur | 2.33 | Solapur-M | 0.58 |
| Beed -K | 0.54 | Nanded | 0.4 | Satara | 2.53 |
| Bhandara | 24.5 | Nanded-S | 3.24 | Satara-B | 0.28 |
| Buldhana | 17.29 | Nandurbar | 12 | Thane | 13.39 |
| Buldhana (ARS) | 4.44 | Nashik | 6.95 | Wardha | 13.45 |
| Chandrapur | 9.37 | Nashik-M | 0.004 | Washim | 5.44 |
| Dhule | 4.72 | Osmanabad | 7.57 | Yavatmal | 21.59 |
| Gadchiroli | 14.68 | Parbhani | 7.09 | Total | 519.23 |

2.5 Scientific Advisory Committee (SAC) Meetings

The number of Scientific Advisory Committee (SAC) meetings conducted by KVKs is given in Table 6. Out of 78 KVKs, 58 KVKs conducted SAC meetings (49 conducted once and 9 KVKs twice).

Table: 6. Details of SAC meeting conducted in Zone-V

| State | No. of KVKs | No. of KVK | | |
|----------------|-------------|------------|----------|-----------|
| | | Once | Twice | Total |
| Andhra Pradesh | 34 | 27 | 5 | 32 |
| Maharashtra | 44 | 22 | 4 | 26 |
| Total | 78* | 49 | 9 | 58 |

*Includes 23 additional KVKs (13 in Andhra Pradesh and 11 in Maharashtra) under establishment



3. ACHIEVEMENTS

3.1 Technology Assessment and Refinement

During the year, KVKs have assessed and refined 725 technologies in different locations by laying out 6395 on-farm trials on the farmers' fields (Table 7). Out of 725 technologies tested, 534 technologies were assessed and refined on crops followed by animals (93), women and children (98).

The details of thematic area wise on farm trials conducted by KVKs in Andhra Pradesh and Maharashtra are furnished in Table 8 to 10. The main thematic areas covered in case of animals are feed and nutrition management, breed evaluation, disease management, fertility management, fodder and feed management, and breed improvement

In case of crops, the thematic areas include integrated nutrients management, integrated crop management, varietal evaluation, integrated pest management, integrated disease management, integrated weed management, farm machinery, tools and equipment, resource conservation technology and cropping systems.

Under empowerment of rural women, on-farm trials were conducted in thematic areas viz.,

drudgery reduction, health and nutrition, value addition and entrepreneurship development

KVKs in Andhra Pradesh assessed the suitability of 300 technologies by conducting 2341 on-farm trials covering animals (419), crops including horticultural species (1576) and empowerment of rural women (346). Similarly, in case of Maharashtra KVKs assessed 357 technologies by organizing 3615 trials that include animals (484), crops including horticultural species (2445) and women empowerment (686). The state wise details of technologies assessed by KVKs are presented in Table 11 and 12

A total of 30 technologies were refined by KVKs in Andhra Pradesh by conducting 177 trials covering crops (168) and women empowerment (9). Similarly, KVKs in Maharashtra organized 262 trials to refine 38 technologies covering animals (18), crops (218) and women (26). The state wise details on refinement of technologies are furnished in Table 13 and 14.



**DG (ICAR) visit to KVK Ghantsala,
Krishna District**



OFT on Rice variety NDLR-7

Table: 7. Details of technologies assessed and refined by KVKs

| Particulars | State | Category | No. of technologies | No. of trails | No. of KVKs |
|-------------------------|--------------------|-------------------|---------------------|---------------|-------------|
| Assessment | Andhra Pradesh | Animals | 47 | 419 | 18 |
| | | Crops | 221 | 1576 | 30 |
| | | Women Empowerment | 32 | 346 | 18 |
| | | Sub Total | 300 | 2341 | |
| | Maharashtra | Animals | 44 | 484 | 24 |
| | | Crops | 260 | 2445 | 40 |
| | | Women Empowerment | 53 | 686 | 27 |
| | | Sub Total | 357 | 3615 | |
| | | Total | 657 | 5956 | |
| | | | | | |
| | Andhra Pradesh | Crops | 28 | 168 | 10 |
| | | Women Empowerment | 2 | 9 | 2 |
| | | Sub Total | 30 | 177 | |
| | Maharashtra | Animals | 2 | 18 | 2 |
| | | Crops | 25 | 218 | 16 |
| | | Women Empowerment | 11 | 26 | 1 |
| | | Sub Total | 38 | 262 | |
| | | Total | 68 | 439 | |
| | | | | | |
| | | | | | |
| Assessment & Refinement | Andhra Pradesh | Animals | 47 | 419 | 18 |
| | | Crops | 249 | 1744 | 30 |
| | | Women Empowerment | 34 | 355 | 16 |
| | | Total | 330 | 2518 | |
| | Maharashtra | Animals | 46 | 502 | 24 |
| | | Crops | 285 | 2663 | 41 |
| | | Women Empowerment | 64 | 712 | 26 |
| | | Total | 395 | 3877 | |
| | Grand Total | | 725 | 6395 | |
| | | | | | |

Table: 8. Details of thematic area wise technologies assessed and refined of by KVKs

| Category | Thematic Areas | No. of technologies | No. of farmers/ trials | No. of KVKs |
|-------------------|-------------------------------------|---------------------|------------------------|-------------|
| Animals | Breed Evaluation | 18 | 182 | 14 |
| | Breed Improvement | 2 | 10 | 2 |
| | Disease Management | 16 | 135 | 13 |
| | Feed and Nutrition Management | 36 | 396 | 25 |
| | Fertility Management | 4 | 60 | 4 |
| | Fodder and Feed Management | 6 | 50 | 6 |
| | Integrated Farming Systems | 3 | 25 | 3 |
| | Production and Management | 8 | 63 | 8 |
| | Total | 93 | 921 | |
| Crops | Cropping systems | 9 | 46 | 5 |
| | Farm Machinery, Tools and Equipment | 42 | 471 | 25 |
| | Integrated Crop Management | 111 | 934 | 58 |
| | Integrated Disease Management | 42 | 253 | 26 |
| | Integrated Nutrients Management | 120 | 977 | 67 |
| | Integrated Pest Management | 64 | 651 | 36 |
| | Integrated Weed Management | 26 | 149 | 21 |
| | Resource Conservation Technology | 15 | 127 | 11 |
| | Varietal Evaluation | 105 | 799 | 54 |
| | Total | 534 | 4407 | |
| Women Empowerment | Drudgery Reduction | 56 | 471 | 38 |
| | Entrepreneurship Development | 1 | 5 | 1 |
| | Health and Nutrition | 34 | 544 | 26 |
| | Value addition | 7 | 47 | 5 |
| | Total | 98 | 1067 | |
| | Grand Total | 725 | 6395 | |

Table: 9. Details of thematic area wise assessment of technologies by KVKs

| Category | Thematic Areas | No. of technologies | No. of farmers/ trials | No. of KVKs |
|-------------------|-------------------------------------|---------------------|------------------------|-------------|
| Animals | Breed Evaluation | 17 | 172 | 13 |
| | Breed Improvement | 2 | 10 | 2 |
| | Disease Management | 16 | 135 | 13 |
| | Feed and Nutrition Management | 36 | 396 | 25 |
| | Fertility Management | 4 | 60 | 4 |
| | Fodder and Feed Management | 6 | 50 | 6 |
| | Integrated Farming Systems | 2 | 17 | 2 |
| | Production and Management | 8 | 63 | 8 |
| | Total | 91 | 903 | |
| Crops | Cropping Systems | 8 | 41 | 4 |
| | Farm Machinery, Tools and Equipment | 39 | 448 | 22 |
| | Integrated Crop Management | 104 | 863 | 51 |
| | Integrated Disease Management | 39 | 240 | 23 |
| | Integrated Nutrients Management | 99 | 830 | 53 |
| | Integrated Pest Management | 60 | 607 | 32 |
| | Integrated Weed Management | 19 | 116 | 15 |
| | Resource Conservation Technology | 15 | 127 | 11 |
| | Varietal Evaluation | 98 | 749 | 50 |
| | Total | 481 | 4021 | |
| Women Empowerment | Drudgery Reduction | 45 | 453 | 35 |
| | Entrepreneurship Development | 1 | 5 | 1 |
| | Health and Nutrition | 33 | 534 | 25 |
| | Value Addition | 6 | 40 | 4 |
| | Total | 85 | 1032 | |
| | Grand Total | 657 | 5956 | |

Table: 10. Details of thematic area wise refinement of technologies by KVKs

| Category | Thematic Area | No. of Technologies | No. of trails | No. of KVKs |
|-------------------|-------------------------------------|---------------------|---------------|-------------|
| Animals | Breed Evaluation | 1 | 10 | 1 |
| | Integrated Farming Systems | 1 | 8 | 1 |
| | Total | 2 | 18 | |
| Crops | Cropping Systems | 1 | 5 | 1 |
| | Farm Machinery, Tools and Equipment | 3 | 23 | 3 |
| | Integrated Crop Management | 7 | 71 | 7 |
| | Integrated Disease Management | 3 | 13 | 3 |
| | Integrated Nutrient Management | 21 | 147 | 14 |
| | Integrated Pest Management | 4 | 44 | 4 |
| | Integrated Weed Management | 7 | 33 | 6 |
| | Varietal Evaluation | 7 | 50 | 4 |
| | Total | 53 | 386 | |
| Women Empowerment | Drudgery Reduction | 11 | 18 | 3 |
| | Health and Nutrition | 1 | 10 | 1 |
| | Value Addition | 1 | 7 | 1 |
| | Total | 13 | 35 | |
| | Grand Total | 68 | 439 | |

Table: 11. Details of thematic area wise assessment of technologies in Andhra Pradesh

| Category | Thematic Areas | No. of technologies | No. of farmers/ trials | No. of KVKs |
|-------------------|----------------------------------|---------------------|------------------------|-------------|
| Animals | Breed Evaluation | 11 | 114 | 8 |
| | Breed Improvement | 1 | 5 | 1 |
| | Disease Management | 9 | 56 | 6 |
| | Feed and Nutrition Management | 17 | 174 | 12 |
| | Integrated Farming Systems | 2 | 17 | 2 |
| | Production & Management | 7 | 53 | 7 |
| | Total | 47 | 419 | |
| Crops | Cropping Systems | 7 | 36 | 3 |
| | Farm Machinery and Equipment | 15 | 205 | 10 |
| | Integrated Crop Management | 46 | 292 | 20 |
| | Integrated Disease Management | 27 | 151 | 14 |
| | Integrated Nutrient Management | 30 | 229 | 17 |
| | Integrated Pest Management | 12 | 95 | 4 |
| | Integrated Weed Management | 13 | 68 | 9 |
| | Resource Conservation Technology | 8 | 50 | 5 |
| | Varietal Evaluation | 63 | 450 | 26 |
| | Total | 221 | 1576 | |
| Women Empowerment | Drudgery Reduction | 15 | 81 | 13 |
| | Entrepreneurship Development | 1 | 5 | 1 |
| | Health and Nutrition | 14 | 257 | 9 |
| | Value Addition | 2 | 3 | 2 |
| | Total | 32 | 346 | |
| | Grand Total | 300 | 2341 | |

Table: 12. Details of thematic area wise assessment of technologies in Maharashtra

| Category | Thematic Areas | No. of technologies | No. of farmers/ trials | No. of KVKs |
|-------------------|-------------------------------------|---------------------|------------------------|-------------|
| Animals | Breed Evaluation | 6 | 58 | 5 |
| | Breed Improvement | 1 | 5 | 1 |
| | Disease Management | 7 | 79 | 7 |
| | Feed and Nutrition Management | 19 | 222 | 13 |
| | Fertility Management | 4 | 60 | 4 |
| | Fodder and Feed Management | 6 | 50 | 6 |
| | Production and Management | 1 | 10 | 1 |
| | Total | 44 | 484 | |
| Crops | Cropping Systems | 1 | 5 | 1 |
| | Farm Machinery, Tools and Equipment | 24 | 243 | 12 |
| | Integrated Crop Management | 58 | 571 | 31 |
| | Integrated Disease Management | 12 | 89 | 9 |
| | Integrated Nutrients Management | 69 | 601 | 36 |
| | Integrated Pest Management | 48 | 512 | 28 |
| | Integrated Weed Management | 6 | 48 | 6 |
| | Resource Conservation Technologies | 7 | 77 | 6 |
| | Varietal Evaluation | 35 | 299 | 24 |
| | Total | 260 | 2445 | |
| Women Empowerment | Drudgery Reduction | 30 | 372 | 22 |
| | Health and Nutrition | 19 | 277 | 16 |
| | Value Addition | 4 | 37 | 2 |
| | Total | 53 | 686 | |
| | Grand Total | 357 | 3615 | |

Table: 13. Details of thematic area wise refinement of technologies in Andhra Pradesh

| Category | Thematic Area | No. of Technologies | No. of trails | No. of KVKs |
|-------------------|--------------------------------|---------------------|---------------|-------------|
| Crops | Cropping systems | 1 | 5 | 1 |
| | Integrated Crop Management | 3 | 30 | 3 |
| | Integrated Disease Management | 2 | 7 | 2 |
| | Integrated Nutrient Management | 10 | 59 | 6 |
| | Integrated Weed Management | 5 | 17 | 4 |
| | Varietal Evaluation | 7 | 50 | 4 |
| | Total | 28 | 168 | |
| Women Empowerment | Drudgery Reduction | 2 | 9 | 2 |
| | Total | 2 | 9 | |
| | Grand Total | 30 | 177 | |

Table: 14. Details of thematic area wise refinement of technologies in Maharashtra

| Category | Thematic Area | No. of Technologies | No. of trails | No. of KVKs |
|-------------------|--------------------------------|---------------------|---------------|-------------|
| Animals | Breed Evaluation | 1 | 10 | 1 |
| | Integrated Farming Systems | 1 | 8 | 1 |
| | Total | 2 | 18 | |
| Crops | Improved Tools and Implements | 3 | 23 | 3 |
| | Integrated Crop Management | 4 | 41 | 4 |
| | Integrated Disease Management | 1 | 6 | 1 |
| | Integrated Nutrient Management | 11 | 88 | 8 |
| | Integrated Pest Management | 4 | 44 | 4 |
| | Integrated Weed Management | 2 | 16 | 2 |
| | Total | 25 | 218 | |
| Women Empowerment | Drudgery Reduction | 9 | 9 | 1 |
| | Health and Nutrition | 1 | 10 | 1 |
| | Value Addition | 1 | 7 | 1 |
| | Total | 11 | 26 | |
| | Grand Total | 38 | 262 | |

Performance of technologies

3.1.1 Field crops

Varietal evaluation

Evaluation of Improved varieties of chilies

Improved varieties of chilies were evaluated by KVK, Chittoor (RASS) and Visakhapatnam. In both the places var. LCA-353 gave higher yield and net return as well as BC ratio than local check. In Chittoor LCA-353 gave a yield of 4575 kg/ha while the yield

in the farmers practice was only 1885 kg/ha. In Visakhapatnam the yield of LCA-353 was 3300 kg/ha while the yield in the farmers practice was 2400 kg/ha. This variety gave a net income of Rs.29553/ha in Chittoor and Rs.24000/ha at Visakhapatnam.

KVK, Chittoor (RASS)

| Technology Assessed | No. of trials | Yield kg/ha | Net Return Rs / ha | BC Ratio |
|--|---------------|-------------|--------------------|----------|
| Buddamirapa (Local variety) - Farmers Practice | 5 | 1885 | 156456 | 3.32 |
| LCA-334 | | 3867 | 238864 | 4.39 |
| LCA-353 | | 4575 | 295531 | 5.19 |

KVK, Visakhapatnam

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | BC Ratio |
|-------------------------------|---------------|-------------|---------------------|----------|
| Barampuram - Farmers Practice | 10 | 2400 | 16000 | 1.37:1 |
| LCA-353 | | 3300 | 24000 | 1.72:1 |

Evaluation of Improved varieties of Red gram

Improved varieties of redgram were evaluated by KVK, Nandurbar and Yavatmal. variety PT-0012 in Nandurbar and, variety. ICPH-2740 in Yavatmal

gave higher yield and net return than their respective local checks.

KVK, Nandurbar

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|---------------------------------|---------------|-------------|---------------------|-----------|
| Phule Vipula - Farmers Practice | 10 | 1645 | 36140 | 1:3.19 |
| PT-0012 | | 1983 | 45256 | 1:3.48 |

KVK, Yavatmal

| Treatment | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | B:C ratio |
|------------------------------|---------------|---------------|---------------------|-----------|
| ICPL-87119- Farmers Practice | 13 | 1354 | 35060 | 1.83 |
| ICPH-2740 | | 1609 | 44860 | 2.30 |

Evaluation of Improved variety of Bajra

KVK, Chittoor (RASS) evaluated improved bajra variety PHB- 3 by conducting 10 trails. This variety proved better than the Sri Chakra – 152 which was

grown by the farmers by giving higher yield and net return.

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|-----------------------------------|---------------|-------------|---------------------|-----------|
| Sri Chakra – 152 Farmers Practice | 10 | 2800 | 14500 | 1.59 |
| PHB - 3 | | 3163 | 19088 | 1.76 |

Performance of maize variety

In a study on the performance of maize variety by KVK Karimnagar (J), wilt tolerant Maize variety KNMH-4010131 gave higher yield and net return

besides giving higher BC ratio than the local check (Kaveri-50).

| Technology Assessed | No. of trials | Yield q/ha | Net return (Rs./ha) | B:C ratio |
|-----------------------------|---------------|------------|---------------------|-----------|
| Kaveri-50- Farmers Practice | 6 | 66.75 | 41025 | 2.04 |
| KNMH-4010131 | | 80.00 | 59875 | 2.65 |

Evaluation of Black gram varieties

Improved varieties of Black gram were evaluated by KVK, Kurnool. The variety PU-31 gave the highest yield (1692 kg/ha) and income (Rs. 42080 /

ha) compared to LBG-752 and LBG-645 (Farmers Practice)

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|----------------------------|---------------|-------------|---------------------|-----------|
| LBG-645 - Farmers Practice | 5 | 1447 | 32280 | 2.26 |
| LBG-752 | | 1567 | 37080 | 2.45 |
| PU-31 | | 1692 | 42080 | 2.64 |

Varietal evaluation of Bengal gram

In a trail on varietal evaluation of Bengal gram by KVK, Kurnool (Y), the highest yield (1657kg/

ha) and net return (Rs. 25165/ha) were recorded by Nandyal Sanaga–1

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|------------------------|---------------|-------------|---------------------|-----------|
| JG-11 Farmers Practice | 5 | 1527 | 21395 | 1.93 |
| JG-130 | | 1462 | 19510 | 1.85 |
| Nandyal Sanaga – 1 | | 1657 | 25165 | 2.10 |

Evaluation of improved rice varieties

Improved rice varieties were evaluated by KVK, Nalgonda (G), West Godavari (Undi), and Pune (N). In Nalgonda, var. RP Bio-226 gave higher yield and net return than local check BPT-5204. Similarly, in West Godavari Submergence tolerant

variety MTU 1140 recorded higher yield and net return than the farmers' practice. Rice variety Phule Samrudhi performed better than the existing variety Ambemohar by giving higher yield and income in Pune (N).

KVK, Nalgonda (Gaddipally)

| Technology Assessed | No. of trials | Incidence of BLB | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|----------------------------|---------------|------------------|-------------|---------------------|-----------|
| BPT-5204- Farmers Practice | 29 | 0.5 | 5000 | 42,500 | 2.13:1 |
| RP Bio -226 | | - | 5250 | 48,000 | 2.33:1 |

KVK, West Godavari (Undi)

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|-----------------------------|---------------|-------------|---------------------|-----------|
| MTU 1064 - Farmers Practice | 7 | 3862 | 1120 | 1.02 |
| MTU 1140 | | 4480 | 7300 | 1.19 |

KVK, Pune (Narayangaon)

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|-----------------------------|---------------|-------------|---------------------|-----------|
| Ambemohar- Farmers Practice | 10 | 3300 | 40000 | 1.71 |
| Phule Samrudhi | | 3790 | 49200 | 1.84 |

Varietal evaluation of fodder varieties

In a trial on varietal evaluation of fodder crop by KVK, Nalgonda (G) fodder variety APBN-1 performed better than Sweet Sudan Grass (SSG) by

producing 300t of fodder per/ha. At Ahmednagar napier fodder variety Co-4 gave higher yield than the existing variety Phule Jaywant.

KVK, Nalgonda (Gaddipally)

| Technology Assessed | No. of trials | Yield t/ha | Net return (Rs./ha) | B:C ratio |
|--|---------------|------------|---------------------|-----------|
| Sweet Sudan Grass (SSG) - Farmers Practice | 5 | 125 | 20,375 | 2.75 |
| APBN-1 | | 300 | 64,750 | 3.37 |

KVK, Ahmednagar (Babhaleshwar)

| Technology Assessed | No. of trials | Yield t/ha | Net return (Rs./ha) | B:C ratio |
|----------------------------------|---------------|------------|---------------------|-----------|
| Phule Jaywant - Farmers Practice | 12 | 283.2 | 52100 | 1.85 |
| Fodder variety Co-4 | | 304.7 | 60283 | 1.97 |

Performance of Rabi sorghum variety

The performance of Rabi sorghum variety Phule Suchitra was tested by KVK, Ahmednagar (Babhaleshwar), Ahmednagar (Dahigaon) and

Jalgaon. At all the three places Phule Suchitra showed its superiority by giving higher yield and income.

KVK, Ahmednagar (Babhaleshwar)

| Technology assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|---------------------------|---------------|-------------|---------------------|-----------|
| M-35-1 - Farmers Practice | 10 | 1250 | 27803 | 2.49 |
| Phule Suchitra | | 1470 | 35778 | 2.76 |

KVK, Ahmednagar (Dahigaon)

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|--------------------------|---------------|-------------|---------------------|-----------|
| M-35-1- Farmers Practice | 15 | 1568 | 21745 | 2.05 |
| Phule Suchitra | | 1985 | 30400 | 2.31 |

KVK, Jalgaon

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|--------------------------|---------------|-------------|---------------------|-----------|
| M-35-1- Farmers Practice | 07 | 1664 | 13379 | 1.42 |
| Phule Suchitra | | 1850 | 18468 | 1.54 |

Performance of Soybean varieties

In a study on the performance of Soybean varieties (2500kg/ha) and net returns (Rs. 73000/ha) than by KVK, Nanded, var. MAUS-81 gave higher yield MAUS-71 and JS-335.

| Technology Assessed | No. of trials | No. of pods per plant | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|---------------------------|---------------|-----------------------|-------------|---------------------|-----------|
| JS-335 - Farmers Practice | 05 | 100 | 2000 | 53000 | 2.96 |
| MAUS-71 | | 120 | 2400 | 69000 | 3.55 |
| MAUS-81 | | 125 | 2500 | 73000 | 3.77 |

Evaluation of Improved wheat varieties

Improved wheat varieties were tested for their performance against the existing variety Lok-1 by KVK Washim and Aurangabad. Wheat variety

WSM 1472 gave higher yield and income at Washim, while NIAW-1415 performed better at Aurangabad.

KVK Washim

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|--------------------------|---------------|-------------|---------------------|-----------|
| Lok-1 - Farmers Practice | 14 | 1790 | 17020 | 2.11 |
| WSM 1472 | | 2050 | 21700 | 2.42 |

KVK, Aurangabad

| Technology Assessed | No. of trials | Duration (days) | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|--------------------------|---------------|-----------------|-------------|---------------------|-----------|
| Lok -1- Farmers Practice | 05 | 120-125 | 1800 | 14700 | 1.69 |
| NIAW-1415 | | 110-120 | 2500 | 25400 | 2.03 |

Varietal evaluation in Safflower

In a varietal trial of safflower by KVK, Washim improved var. AKS-311 gave higher yield (980 kg/

ha) and net return (Rs.23040/ha) than local check (var. Bhima).

| Technology Refined | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C ratio |
|--------------------------|---------------|-------------|---------------------|-----------|
| Bhima - Farmers Practice | 14 | 790 | 15820 | 2.11 |
| AKS-311 (PKV Pink) | | 980 | 23040 | 2.62 |

Varietal evaluation of Drumstick

In a trail on varietal evaluation of drumstick by KVK, Parbhani, improved var. KDM-1 gave higher

yield (250q/ha) and net return (Rs.330940/ha) than the local check.

| Technology Assessed | No. of trials | Yield q/ha | Net return (Rs./ha) | B:C ratio |
|---------------------------------|---------------|------------|---------------------|-----------|
| Local variety- Farmers Practice | 7 | 163 | 166000 | 2.03 |
| KDM-1 | | 250 | 330940 | 2.94 |

Integrated nutrient management

Nutrient management in rice

Trails on nutrient management in rice were conducted by KVK Chittoor (RASS) in which application of 100:45:40 NPK kg/ha + 50 kg Zinc Sulphate per ha gave higher yield and net return.

| Technology Refined | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | B:C ratio |
|--|---------------|---------------|---------------------|-----------|
| 119:86:38 NPK kg/ha, Farmers practice | 5 | 6038 | 31478 | 1.77 |
| 100:45:40 NPK kg/ha + 50 kg Zinc Sulphate per ha | | 6280 | 36078 | 1.92 |

Fertigation in Chilies

In fertigation trails in chilies conducted by KVK, Kurnool (Y), application of fertilizer based on STCR gave higher net return by reducing the expenditure on fertilizers, while the yield were similar under both the treatments

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | B:C ratio |
|--|---------------|---------------|---------------------|-----------|
| NPK: 500-450-75 Kg/ ha- Farmers practice | 5 | 5108 | 170077 | 2.25 |
| STCR NPK: 400-89-105 kg/ha | | 5097 | 189212 | 2.62 |

Nutrient management in Groundnut

In a study on nutrient management in Groundnut by KVK, Kurnool (Y), application of nutrients based on STCR equation resulted in increased net return and BC ratio than the farmers practice.

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | B:C ratio |
|---------------------------------------|---------------|---------------|---------------------|-----------|
| NPK-158-215-75 Kg/ha-Farmers practice | 5 | 3515 | 35898 | 1.41 |
| NPK-36-20-25 Kg/ha - STCR | | 3453 | 46440 | 1.62 |

Nutrient management in Sugarcane

At Visakhapatnam, refined practice of application of 146+100+156 NPK kg/ha in sugarcane gave higher yield and income than the recommended practice as well as farmers practice. The refined practice of nutrient application resulted in higher number of canes/sq.m as well as higher girth of cane.

| Technology Refined | No. of trials | Girth of cane (cm) | No. of canes/ sq.m | Yield (t/ha) | Net return (Rs./ha) | B:C ratio |
|--|---------------|--------------------|--------------------|--------------|---------------------|-----------|
| 287.5+57.5+0 NPK Kg/ha - Farmers practice | 3 | 9.5 | 11 | 53.62 | 42550 | 1.55 |
| 112+100+120 NPK kg/ha - Recommended practice | | 11.5 | 14 | 78.75 | 96757 | 2.261 |
| 146+100+156 NPK kg/ha - Refined Practice | | 12.1 | 15 | 81.87 | 100510 | 2.262 |

Nutrient management in Maize

At Nandurbar, application of recommended dose of fertilizer along with ZnSO₄ @ 20kg/ha gave higher yield of Maize (44.47 q/ha) and net return (Rs. 33311/ha) than farmer's practice.

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | B:C ratio |
|--|---------------|---------------|---------------------|-----------|
| 120:60:40 NPK kg/ha (RDF without Zinc) - Farmers practice | 10 | 3663 | 25519 | 2.10 |
| RDF (120:60:40 Kg NPK/ha)+ ZnSO ₄ @ 20kg/ha - Technology assessed | | 4447 | 33311 | 2.35 |

Nutrient management in Bajra

In a trail on nutrient management in bajra by KVK, Sangli higher yield (1516kg/ha) and net return (Rs. 8434/ha) were recorded with the application of recommended dose of fertilizers as compared to farmers practice.

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | B:C ratio |
|---|---------------|---------------|---------------------|-----------|
| Application of 12.5:32.5:32.5 NPK/ha - Farmers practice | 10 | 860 | 1390 | 1.16 |
| Recommended dose of fertilizers (50:25: 25 NPK kg/ha) - Assessed practice | | 1516 | 8434 | 1.34 |

Integrated pest and disease management

Pest management in Chillies

Pest management practices in chillies were tested at KVK Karimnagar, Krishna (Garikapadu), and Kurnool (Y). At Karimnagr recommended technology controlled midge in chillies effectively and gave higher yield and income. In Krishna refined practice of IPM gave higher yield and net

income when compared with recommended and farmers practices. At Kurnool (Y), application of *Pseudomonas fluorescence*, *Trichoderma viride* @ 5kg/ha incubated in FYM gave higher yield by controlling *Fusarium* wilt.

KVK Karimnagar

| Technology Assessed | No. of trials | Damage (%) | Yield (kg/ha) | Net return (Rs./ha) | B:C ratio |
|---|---------------|------------|---------------|---------------------|-----------|
| Spraying of Acephate @ 1 g/l - Farmers practice | 5 | 12.6 | 4500 | 95000 | 1.43 |
| Carbosulphan @ 2 ml/l followed by Chloropyrifos @ 2.5 ml/l. | | 3.28 | 5100 | 137000 | 1.62 |

KVK, Krishna (Garikapadu)

| Technology Assessed | Yield (kg/ha) | Net Returns (Rs/ha) | B:C Ratio |
|---|---------------|---------------------|-----------|
| Spraying insecticides at 2-3 day interval (Over or sub lethal doses, 20-25 sprays) - Farmers practice | 5066 | 119037 | 1.61:1 |
| Sucking pests – Acephate 1.0g /l Carbaryl 3.0g/l Phasalone 2.0ml /l Fipronil 2.0ml/l Spinosad 0.4ml/l Pegasis 1.0g/l; Flower midge - Chlorpyrifos 2.5ml/l Triazophos 1.5ml/l Marshal 2.0ml/l - Recommended practice | 5136 | 136332 | 1.74:1 |
| IPM: Border crop (Maize/Jowar), Seed treatment (Imidachloprid @ 8g/ kg seed), Alternate sprays with Chlorpyrifos 2.5ml/l Triazophos 1.5ml/l Difenchuron (Pegasis) 1.25ml/l Fipronil 2.0 ml + Dichlorvos 1.25ml/l at 5day interval (10 -12 sprays). - Refined practice | 5216 | 157832 | 1.95:1 |

KVK, Kurnool (Yagantipalle)

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | BC Ratio |
|--|---------------|---------------|---------------------|----------|
| COC @ 3g/l or Carbendazim @ 1 g/l - Farmer practice | 5 | 5215 | 183270 | 2.54 |
| Application of <i>Pseudomonas fluorescense</i> , <i>Trichoderma viride</i> @ 2kg/acre incubated in FYM - Technology assessed | | 5465 | 199370 | 2.70 |

Management of sucking pests of cotton

Trails on management of sucking pests of cotton were conducted by KVK Karimnagar, KVK, Ahmednagar (Babhaleshwar), KVK, Beed (Ambajogai) and KVK, Amravati (Ghatkhed). At KVK Karimnagar, recommended practice gave higher yield and income by controlling mealybug. At KVK, Ahmednagar (Babhaleshwar), stem application of Imidacloprid 17.8% for management

of Jassids in Bt cotton gave higher yield and income. Recommended practice of management of Thrips in cotton performed better than the farmers' practice of spraying of Imidacloprid and Acetamiprid at Beed. In a study by KVK, Amravati (G) assessed technology showed better performance in controlling sucking pests in cotton besides giving higher yield and return.

Management of Mealy bug in Bt. Cotton, KVK Karimnagar

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | B:C Ratio |
|---|---------------|---------------|---------------------|-----------|
| Spraying of Monocrotophos after noticing the incidence of mealy bug - Farmers Practice | 3 | 2000 | 39375 | 1.78 |
| i) Stem application with monocrotophos and water in 1:4 ratio at 20, 35, 50 and 65 DAS. | | 2250 | 50625 | 2 |
| ii) Application of <i>Verticillium leucanii</i> @ 5g/lit of water iii) Need based application of Profenophos @ 3ml/lit of water or Acephate @ 2.0 g/lit of water | | | | |

Management of jassids in Bt. Cotton, KVK, Ahmednagar (Babhaleshwar)

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | BC Ratio |
|---|---------------|---------------|---------------------|----------|
| Farmers practice: Spraying of chemicals like thiamethoxam @ 0.3 gm/lit or imidachloprid @ 0.5 ml/l | 12 | 2687 | 70810 | 2.68 |
| Technology assessed : Stem application of Imidacloprid 17.8% in 1:20 dilution with water at 30, 45, 60 days after planting - Need based sprays of thiamethoxam (0.3 gm/l) or imidachloprid (0.5 ml/l) | | 2875 | 80723 | 3.00 |

Management of thrips in Bt. Cotton, KVK, Beed (Ambajogai)

| Technology Assessed | No. of trials | Yield (q/ha) | Net return (Rs./ha) | BC Ratio |
|---|---------------|--------------|---------------------|----------|
| Spraying of Imidacloprid & Acetamiprid - Farmers practice | 05 | 17 | 59350 | 2.2 |
| Spraying of Fipronil 5SC @ 20 ml+5% NSKE | | 21 | 63250 | 2.5 |

Management of sucking pests on Bt.cotton, KVK, Amravati (Ghatkhed)

| Technology Assessed | No. of trials | Yield (kg/ha) | Net return (Rs./ha) | BC Ratio |
|---|---------------|---------------|---------------------|----------|
| Farmers practice: 6 to 7 sprays of insecticides like Monocrotophos 50 ml or Lancer gold 30g or Imidacloprid 10 ml + Acephate 30g or Acephate 30g+thiomethoxam 8g in 15 litres of water. | 10 | 2801 | 79665 | 2.19 |
| Technology assessed: a. Sowing of trap crops like Maize and cowpea around the cotton crop. b. Installation of yellow sticky traps 10-12/ha c. Spraying of <i>Verticillium leucanii</i> 4 ml/litres of water. d. Spraying of Acetamiprid (25 SP) 5 gm in 10 lit of water at an ETL of average 10 adults/leaf. | | 3152 | 104736 | 2.77 |

Integrated pest Management in Rice

In a trial conducted by KVK, Gadchiroli, integrated management of foliage feeders and sap sucking insects of rice crop gave higher yield and income than the farmers practice. IPM for Leaf Folder and Rice Caseworm include sweeping of nylon rope from two corners of paddy bunds on top foliage of paddy plant at the initiation of infestation of leaf folder and rice caseworm and spraying of

Monocrotophos 36WSC (14 ml.) in 10 liters of water. IPM for plant hoppers include withdrawal of water for a week from paddy bundies if irrigation is available and spraying of Monocrotophos 36WSC (14 ml.) in 10 liters of water on foliage as well as on stem of paddy plant just above the water level after attaining the ETL 5-10 hoppers/ hill, if irrigation is not available.

| Technology Assessed | No. of trials | Yield (q/ha) | Gross Return (Rs.) | Net return (Rs./ha) | B:C Ratio |
|---|---------------|--------------|--------------------|---------------------|-----------|
| Farmers practice: Spraying of different insecticides | 13 | 19.15 | 30640 | 19096 | 2.65 |
| Technology Assessed: Leaf Folder and Rice Caseworm <ul style="list-style-type: none"> Sweeping of nylon rope from two corners of paddy bunds on top foliage of paddy plant at the initiation of infestation of leaf folder and rice caseworm. Spraying of Monocrotophos 36WSC (14 ml.) in 10 liters of water. Plant Hoppers <ul style="list-style-type: none"> Withdrawal of water for a week from paddy bundies if irrigation is available. Spraying of Monocrotophos 36WSC (14 ml.) in 10 liters of water on foliage as well as on stem of paddy plant just above the water level after attaining the ETL 5-10 hoppers/ hill, if irrigation is not available. | | 25.04 | 40064 | 27520 | 3.19 |

Management of pod borer in Bengal gram

In a trial conducted on management of pod borer in Bengal gram by KVK, Amravati (Ghatkhed) lower percent of pod damage was recorded in the assessed

technology than the farmers practice. Assessed technology gave higher yield and net income than the farmers practice.

| Technology Assessed | No. of trials | Per cent pod damage | Yield (kg/ha) | Net return (Rs./ha) | B:C Ratio |
|--|---------------|---------------------|---------------|---------------------|-----------|
| Farmers Practice: 2 to 3 sprays of insecticide like Quinolphos 60 ml or Profenophos + cypermethrin 60 ml or mixtures of different insecticides 50ml in 15 litres of water. | 10 | 15.44 | 1753 | 26829 | 2.20 |
| Technology Assessed : a. First spraying of Deltamethrin 1 EC + Trizophos 35 EC ready mixed formulation @ 25 ml per 10 litres of water at 50% crop flowering phase. b. Second spraying of Emamectin benzoate 5 WDG @ 3 g per 10 litre of water 15 days after first application of insecticides | | 9.85 | 1977 | 34675 | 2.67 |

Management of pod borer complex in Red gram

At KVK, Amravati (G), trials conducted on Management of pod borer complex in Red gram resulted in less *Helicoverpa* population, higher

yield and income. The pod damage was also less with the technology assessed.

| Technology Assessed | No. of trials | Total average Helicoverpa population in a meter row | Total average Plume moth population in a meter row | Per cent pod damage due to pod fly | Yield (kg/ha) | Net return (Rs./ha) | B:C Ratio |
|--|---------------|---|--|------------------------------------|---------------|---------------------|-----------|
| Farmers Practice : 3 to 4 sprays of insecticide like Quinolphos 60 ml + Monocrotophos 40 ml or Profenophos 60 ml + Quinolphos 40 ml | 10 | 2.36 | 1.87 | 15.78 | 1318 | 33725 | 3.15 |
| Technology assessed: a. First spraying of Azaridictin 10000 ppm @ 10 ml in 10 litre of water at 50% flowering phase. b. Second spraying of Emamectin benzoate 5 WDG @ 3 g per 10 litre of water 15 days after first spraying c. Third spraying of Deltamethrin 1 EC+ Trizophos 35 EC ready mixed formulation @ 25 ml per 10 litres of water at 15 days after second spraying. | | 1.23 | 1.42 | 9.84 | 1498 | 42967 | 2.55 |

Management of rhizome flies in turmeric

The Management of rhizome fly in turmeric was assessed by KVK, Kolhapur. The results indicated that the yield (46 q/ha) and net return (Rs. 1,

38,000/ha) were higher with refined technology when compared to recommended and farmers practices.

| Technology Refined | No. of trials | Yield (q/ha) | Net return (Rs./ha) | B:C Ratio |
|---|---------------|--------------|---------------------|-----------|
| Farmer's practice: i) Spraying chlorpyriphos | 11 | 24 | 72000 | 1.26 |
| Recommended practice: i) Spraying quinalphos 25 EC 20 ml in 10 lit water and or soil application of phorate granules @ 2 kg a.i./ha. | | 37 | 1,11,000 | 1.67 |
| Refined practice : i) Seed treatment with imidacloprid (5ml in 10 lit water) ii) Spraying quinalphos 25 EC 20ml in 10 lit water and /or soil application of Fipronil granules @ 2 kg a.i./ha | | 46 | 1,38,000 | 1.87 |

Weed Management

Weed management in Onion

In a study on weed management in Onion by KVK, Solapur, and KVK Nandurbar, refined Practice of Oxifluorfen 23.5EC @ 1.25ml/lit + Phenoxa-prop-p-ethyl 9.3 EC @ 2ml/lit gave higher yield

than recommended practice and farmers practice by effectively controlling both monocot and dicot weeds.

KVK, Solapur

| Technology refined | No. of trials | Control of Monocot weeds (%) | Control of Dicot weeds (%) | Cost of weed control per ha (Rs./ha) | Yield (kg/ha) | Net return (Rs./ha) | B:C Ratio |
|---|---------------|------------------------------|----------------------------|--------------------------------------|---------------|---------------------|-----------|
| Hand weeding at 30-35 DAT: Farmers Practice | 08 | 45 | 55 | 8543 | 17445 | 172432 | 2.65 |
| <i>Oxyfluorfen</i> 23.5EC @ 1.25ml/lit: Recommended Practice | | 10 | 80 | 2145 | 20330 | 285246 | 3.15 |
| Recommended Practice + Phenoxa-prop-p-ethyl 9.3 EC @ 2ml/lit : Refined Practice | | 85 | 90 | 3867 | 22625 | 327576 | 3.85 |

KVK, Nandurbar

| Technology Assessed | No. of trials | Yield (q/ha) | Net return (Rs./ha) | B:C Ratio |
|--|---------------|--------------|---------------------|-----------|
| Weed management as per farmers system (farmers practice) | 8 | 140 | 204750 | 3.74 |
| Management of weeds by Oxyfluorfen 23.5% EC (Recommended practice) | | 145 | 220221 | 4.13 |
| Weed management by weedicide combination Oxyfluorfen & Phenoxo-prop-p-ethyl (Refined practice) | | 153 | 237934 | 4.51 |

Weed control in soybean

In a trail conducted by KVK, Beed (A) on chemical weed control in soybean, application of Imazethapyr 425 ml/ha at 25 DAS resulted in

effective weed control than the farmers practice and gave higher yield and income.

| Technology Assessed | No. of trials | Weed count per sqm | Yield (q/ha) | Net return (Rs./ha) | B:C Ratio |
|--|---------------|--------------------|--------------|---------------------|-----------|
| Farmers practice: weeding and hoeing | 10 | 68 | 19.37 | 37525 | 2.82 |
| Use of Imazethapyr 425 ml/ha at 25 DAS | | 21 | 25.12 | 52875 | 3.35 |

Cropping systems

Assessment of castor based intercropping Systems

In a trial on assessment of castor based intercropping systems in rainfed situation by KVK, Kurnool, (Y), the intercropping of Castor + Green gram gave

higher net return (Rs. 29,465/ha) as compared to Castor + Cluster bean and farmers practice (Castor sloe crop).

| Technology Assessed | No. of trials | Yield (kg/ha) | | Net return (Rs./ha) | B:C Ratio |
|-------------------------------------|---------------|---------------|-----------|---------------------|-----------|
| | | Castor | Intercrop | | |
| Castor sloe crop – farmers practice | 5 | 1437 | - | 21,610 | 2.0 |
| Castor + Green gram | | 1123 | 395 | 29,465 | 2.20 |
| Castor + Cluster bean | | 1108 | 1070 | 25,790 | 2.10 |

Cost reduction technology in turmeric cultivation

Cost reduction technology of sowing single bud turmeric rhizomes was tested at KVK, Warangal

which resulted in higher net returns and yield.

| Technology Assessed | Yield q/ha | Net return (Rs./ha) | B:C Ratio |
|--|------------|---------------------|-----------|
| Farmer's Practice: multibud (6-8 cm) turmeric rhizomes | 384 | 6,000 | 1.07 |
| Technology Assessment: Single bud turmeric rhizomes | 395 | 30,000 | 1.49 |

Broad Bed and Furrow (BBF) System for soybean crop

Broad Bed and Furrow (BBF) System for soybean crop was tested by KVK, Buldana (Jalgaon Jamod).

This system gave higher yield (1684 kg/ha) and net returns (Rs. 58940/ha) than the Farmers Practice.

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) |
|---|---------------|-------------|---------------------|
| Sowing by Seed drill - Farmers Practice | 15 | 1260 | 44100 |
| Sowing in BBF | | 1684 | 58940 |

3.1.2 Horticultural crops

Fertigation and foliar spray in onion

In a trial conducted by KVK, Pune (B), adoption of refined practice of fertigation and foliar spray of nutrients resulted in higher yield (29.20 t/ha) of onion and net return (Rs.1, 11,720/ha) as compared to farmers practice and recommended practice.

In another trial at KVK, Aurangabad spraying of lihocin @ 6ml/lit of water at 75 and 90 days after transplanting resulted in higher bulb weight as well as yield and income.

KVK, Baramati

| Technology | No. of trials | Yield t/ha | Net return (Rs./ha) | B:C Ratio |
|---|---------------|------------|---------------------|-----------|
| Farmers Practice – Soil Application. 80:40:50 Kg NPK / ha. | 07 | 16.65 | 46355 | 1.49 |
| Recommende Practice- 50:50:8 Kg NPK/ha as a basal dose & remaining 100 kg N through urea in 7 splits by drip | | 22.30 | 70560 | 1.78 |
| Refined Practice – 50:50:8 Kg NPK/ha as a basal dose & remaining 100 kg N through urea in 7 splits by drip + Foliar sprays as per schedule 19:19:19 @1% (15, 30&45 DAP) & 13:00:45 @ 1% (60, 75&90 DAP) | | 29.20 | 111720 | 2.01 |

KVK, Aurangabad

| Technology Assessed | No. of trials | Weight of bulb (g) | Yield q/ha | Net return (Rs./ha) | B:C Ratio |
|---|---------------|--------------------|------------|---------------------|-----------|
| Farmers practice: No use of growth retardant | 10 | 90 | 375 | 202500 | 4.3 |
| Technology assessed spraying of lihocin @6ml/lit of water at 75 and 90 days after transplanting | | 120 | 480 | 335300 | 4.8 |

Nutrient management in Banana

In a trial by KVK, Pune (N), foliar spray of potassium di-hydrogen phosphate & urea on Banana Bunch increased the weight of bunch and number of

fruits per bunch, which resulted in higher yield and returns than the farmers practice.

| Technology Assessed | No. of trials | Weight of bunch (kg) | Fruits per bunch | Yield q/ha | Net return (Rs./ha) | B:C Ratio |
|---|---------------|----------------------|------------------|------------|---------------------|-----------|
| Farmers practice - No spray of nutrients | 10 | 20 | 120 | 460 | 273000 | 2.31 |
| Spray of Pottasium Dihydrogen Phosphate 40gm and Urea 50gm + Sticker 10ml in 10 ltr. of water | | 22 | 130 | 570 | 390500 | 4.5 |

Varietal evaluation in Amaranthus

KVK, Anantapur evaluated improved Amaranthus variety Arka Suguna. This variety proved better

than the local variety – Dharani by giving higher yield (1477 kg/ha) and net return (Rs. 87,500/ha).

| Technology Assessed | No. of trials | Yield kg/ha | Net return (Rs./ha) | B:C Ratio |
|------------------------------------|---------------|-------------|---------------------|-----------|
| Variety Dharani - Farmers practice | 4 | 1294 | 69250 | 4 |
| Var. Arka Suguna | | 1477 | 87500 | 5 |

Use of Growth regulators in Mandarin

KVK, Akola conducted a trial on use of growth regulators for better fruit set in Mandarin. It was found that spraying of 1000 ppm Cycocel during bahar treatment with 45 to 60 days water stress gave higher yield and returns than the farmers practice.

In another trial by KVK, Amravati (G) on nutrient management in Mandarin Orange, refined practice of nutrient management proved better by giving higher yield and income than recommended practice and farmers practice.

KVK Akola

| Technology Assessed | No. of trials | Yield q/ha | Net return (Rs./ha) | B:C Ratio |
|--|---------------|------------|---------------------|-----------|
| Farmers Practice – water stress for 45-60 days during summer without use of plant growth regulators. | 13 | 79.50 | 106505 | 2.64 |
| Technology assessed - Spraying of 1000 ppm Cycocel during bahar treatment with 45 to 60 days water stress. | | 105.50 | 159061 | 3.28 |

KVK, Amravati (Ghatkhed)

| Technology Refined | No. of trials | Yield t/ha | Net return (Rs./ha) | B:C Ratio |
|---|---------------|------------|---------------------|-----------|
| Farmers practice : F.Y.M.15-20 Kg + 225-250g N + 150-200g P ₂ O ₅ per tree | 5 | 7.25 | 83000 | 1.69 |
| Technology assessed: Application of 50 Kg F.Y.M + 1200 g N+ 300 g P ₂ O ₅ + 600 g K ₂ O with 7.5 Kg neem cake per tree into two splits | | 8.59 | 127700 | 1.98 |
| Refinement practice: Green Manu ring (Broad casting of 60 Kg sun hemp seed /ha in Mrig season + Application of 50 Kg F.Y.M + 1200 gm N+ 300 gm P ₂ O ₅ + 600 gm K ₂ O with 3 Kg neem cake per tree | | 11.23 | 196000 | 2.30 |

Control of fruit drop in sweet orange

Application of growth regulator N.A.A. 10 ppm at 14 and 21 days after fruit set reduced the fruit drop at Nanded. This practice gave higher yield (40000

Kg/ha) and income (Rs. 104562/ha) than the farmers practice.

KVK, Nanded

| Technology Assessed | No. of trials | Fruit drops (%) | Yield kg/ha | Net return (Rs./ha) | B:C Ratio |
|---|---------------|-----------------|-------------|---------------------|-----------|
| Farmers practice - No use of any growth regulator | 10 | 45 | 28500 | 68000 | 2.3 |
| Recommended practice- Application of 10 ppm N.A.A. at 14 and 21 days after fruit set. | | 20 | 40000 | 104562 | 2.6 |

Varietal evaluation in Tuberose

The performance of Tuberose varieties Prajwal and Hyderabad Single was evaluated by KVK Chittoor (RASS). Both the varieties proved better than the KVK, Chittoor (RASS)

local check but Var. Prajwal gave higher flower yield and net returns.

| Technology Assessed | No. of trials | Yield t/ha | Net return (Rs./ha) | BC Ratio |
|----------------------------------|---------------|------------|---------------------|----------|
| Local variety - Farmers Practice | 10 | 2.85 | 80975 | 1.93 |
| Prajwal | | 8.20 | 299865 | 2.56 |
| Hyderabad Single | | 7.04 | 230265 | 2.20 |

Evaluation of varieties of Chrysanthemum

Improved varieties of Chrysanthemum were evaluated by KVK, Banavasi and Yagantipalle in Kurnool district. In Banavasi, yellow flowered Chandini variety out yielded white flowered local

variety and gave higher net returns. Similarly, variety PBAU 107 gave higher yield and net return than the local check and Raichur variety in Yagantipalle.

KVK, Kurnool (Banavasi)

| Technology Assessed | No. of trials | Yield q/ha | Net return (Rs./ha) | BC Ratio |
|---|---------------|------------|---------------------|----------|
| Farmers Practice - White flowered Local variety | 3 | 72.50 | 2,15,000 | 3.86 |
| Variety Chandini (Yellow flowered) | | 87.50 | 3,56,500 | 5.40 |

KVK, Kurnool (Yagantipalle)

| Technology Assessed | No. of trials | Yield t/ha | Net return (Rs./ha) | BC Ratio |
|---------------------------------|---------------|------------|---------------------|----------|
| Local variety- Farmers Practice | 5 | 8.72 | 1,97,899 | 2.73 |
| Raichur | | 10.85 | 3,09,115 | 3.50 |
| PBAU 107 | | 12.17 | 3,77,718 | 4.03 |

3.1.3 Improved tools and implements

Self propelled vertical conveyor reaper in Soybean

In a trial by KVK, Amravati (G), harvesting of Soybean with vertical conveyor reaper proved to

be more efficient in terms of area coverage, labor saving and cost reduction than harvesting with sickles.

| Technology Assessed | No. of trials | Field capacity (ha/hr) | Labor required (man hr/ ha) | Time required (hr/ha) | Cost of operation (Rs/ha) |
|--|---------------|------------------------|-----------------------------|-----------------------|---------------------------|
| Farmers Practice : Manual harvesting by sickle | 10 | 0.02 | 50 | 50 | 1600 |
| Self propelled vertical conveyor Reaper | | 0.22 | 8.9 | 4.45 | 775 |

Assessment of tamarind dehuller cum deseeder machine

KVK, Latur assessed the performance of tamarind dehuller cum de-seeder machine which proved to be effective in terms of dehulling capacity and deseeding capacity, than the farmers' method of

manual dehulling and deseeding. The tamarind dehuller cum deseeder machine has 85.7% & 89.1% more output than manual method of tamarind dehulling & deseeding respectively.

| Technology refined | No. of trials | Dehulling capacity Kg/hr | Deseeding capacity Kg/hr |
|---|---------------|--------------------------|--------------------------|
| Farmers practice: Manual method for tamarind dehuller & deseeding | 10 | 05 | 06 |
| Tamarind dehulling & deseeding machine | | 35 | 55 |

Assessment of motor operated bud chipper

KVK, Latur assessed the efficiency of motor operated sugarcane bud chipper. It proved to be efficient than the manual bud chipper in terms of no.

of bud chips/day, labor requirement and operating cost.

| Technology Assessed | No. of trials | Capacity, bud chips/day | Labor requirement, man-hours/10000 buds | Operating cost Rs./buds | Damage/split buds, % | Net Return (Profit) in Rs./unit | BC Ratio |
|--------------------------------------|---------------|-------------------------|---|-------------------------|----------------------|---------------------------------|----------|
| Farmers practice: Hand bud chipper | 11 | 2649 | 30.4 | 0.11 | 2.3 | 362 | 1.2 |
| Motor operated sugarcane bud chipper | | 7417 | 10.8 | 0.041 | 2.6 | 1554 | 5.2 |

Use of multi crop ridger for sowing of Bengal gram

KVK, Pune (Baramati) evaluated sowing of Bengal gram with multi crop ridger at 30 x 10 cm. Results indicated that sowing seed with multi crop ridger is

more effective, economical and gave higher yield than farmers practice of seed drilling.

| Technology Assessed | No. of trials | Production kg/ha | Net Return in Rs./ha. | BC Ratio |
|--|---------------|------------------|-----------------------|----------|
| Farmers practice: Sowing with seed drill 30 X10 cm spacing | 10 | 1255 | 23150 | 2.59 |
| Sowing with multi crop ridger 30 x 10 cm spacing. | | 1512 | 30860 | 3.12 |

3.1.4 Livestock

Regional specific mineral mixture for feeding cattle

Effect of regional specific mineral mixture on production performance in milch buffaloes was assessed by KVK, Kurnool (Yagantipalle). Feeding with regional specific mineral mixture improved

milk production in milch buffaloes and gave higher net returns. Similarly KVK Ahmednagar compared the performance of area specific mineral mixture with farmers practice in cattle. Cattle fed with area specific mineral mixture gave more milk and higher net returns.

KVK, Kurnool (Yagantipalle)

| Technology Assessed | No. of trials | Milk Production litre/cattle | Net Return Rs./unit | BC Ratio |
|--|---------------|------------------------------|---------------------|----------|
| Farmers practice: feeding without mineral mixture | 20 | 400.5 l | 12015 | 3.22 |
| Technology assessed: Farmers practice + RSMM @ 80g/day | | 461.7 l | 16159 | 3.47 |

KVK Ahmednagar (Dahigoan)

| Technology Assessed | No. of trials | Milk Production litre/cattle/90 day | Net Return Rs./unit | BC Ratio |
|---|---------------|-------------------------------------|---------------------|----------|
| Farmer practice : Feeding of mineral mixture 50 gram daily for 90 days | 10 | 945 | 22680 | 1.9 |
| Technology assessed: Feeding of area specific mineral mixture 50 gram daily for 90 days | | 990 | 23780 | 2.03 |

Chelated mineral mixture feeding in cross breed cattle

KVK Hingoli assessed the impact of feeding of chelated mineral mixture to cross breed cattle. Results revealed that feeding of chelated mineral mixture increased the milk production and net returns.

| Technology Assessed | No. of trials | Milk Production Lit/day | Net Return | BC Ratio |
|---|---------------|-------------------------|------------|----------|
| Farmers Practice – No use of minerals | 10 | 4.38 | 68.6 | 0.98 |
| Technology assessed: Use of mineral mixture | | 5.16 | 89.6 | 1.5 |

Azolla as cattle feed

Azolla was tested as cattle feed supplement by KVK, Beed (Ambajogai), Hingoli and Ahmednagar (Babhaleshwar). At all the places increased milk production was found with the cattle fed with azolla. Due to the use of azolla as feed supplement cost of milk production reduced and net income increased.

KVK, Beed (Ambajogai)

| Technology Assessed | No. of trials | Milk Production Lit /day | Cost of Production (Rs/lit) |
|--|---------------|--------------------------|-----------------------------|
| Farmers practice: No use of Azolla | 10 | 4.0 | 18 |
| Technology assessed: Azolla as feed supplement | | 5.5 | 15 |

KVK Hingoli

| Technology Assessed | No. of trials | Milk Production lit/day/cow | Net Return in/unit | BC Ratio |
|--|---------------|-----------------------------|--------------------|----------|
| Farmer practice: Roughages + concentrates | 10 | 9 | 31950 | 2.2 |
| Technology assessed: Azolla feeding + Roughages+concentrates | | 10 | 36570 | 2.5 |

KVK, Ahmednagar (Babhaleshwar)

| Technology Assessed | No. of trials | Fat percent | Milk Production lit/cow/month | Net Return Rs./month/cow | BC Ratio |
|--|---------------|-------------|-------------------------------|--------------------------|----------|
| Farmers practice: Concentrate feed @ 5 kg./day/cow | 10 | 3.10 | 349 | 2709 | 1.51 |
| Technology assessed: Use of 100 gm azolla powder by minimizing 25 percent concentrate feed per day | | 3.52 | 379 | 3956 | 1.83 |

Azolla as poultry feed

Use of Azolla as a feed supplement of poultry was tested by KVK, Kurnool and East Godavari. In Kurnool district Azolla supplementation increased the body weight of the birds as well as net income

when compare with farmers practice. In East Godavari feed cost was reduced by Rs. 2 /kg due to Azolla supplementation.

KVK, Kurnool (Yagantipalle)

| Technology Assessed | No. of trials | Body weight Gr/bird | Net Return Rs./bird | BC Ratio |
|---|---------------|---------------------|---------------------|----------|
| Scavenging + Grains : Farmer practice | 50 | 1086 | 57 | 0.54 |
| Scavenging + Grains + Azolla @50g/day : Technology assessed | | 1341 | 101 | 2.01 |

KVK, East Godavari (CTRI)

| Technology Refined | No. of trials | Production of eggs per year per bird | Saving in poultry feed cost Rs./kg | BC Ratio |
|---|---------------|--------------------------------------|------------------------------------|----------|
| Poultry feed purchase from local market: Farmer practice | 6 | 60 | - | |
| Poultry feed fortified with 10% Azolla: Technology assessed | | 60 | 2 | 1.5 |

Poultry Breed evaluation

Performance of improved poultry breeds Vanaraja and Gram Priya were a evaluated by KVK, Nalgonda (Gaddipally). Evaluation revealed that egg production was comparatively more (500 eggs per bird per year) in Vanaraja and Gram Priya when

compared with local birds (350 eggs per bird per year). Similarly KVK, Ahmednagar (Babhaleshwar) evaluated the performance of Swarnadhara poultry breed which produced 168 eggs per bird per year while egg production in local breed was only 63 eggs per bird per year.

KVK, Nalgonda (Gaddipally)

| Technology Assessed | No. of trials | Production Eggs per bird |
|-----------------------------|---------------|--------------------------|
| Desi Birds: Farmer practice | 5 | 350 |
| Vanaraja | | 500 |
| Gram Priya | | 500 |

KVK, Ahmednagar (Babhaleshwar)

| Technology Assessed | No. of trials | Production per bird (Eggs) |
|--|---------------|----------------------------|
| Farmer's practice- Local poultry | 10 | 63 |
| Technology assessed- Swarnadhara poultry | | 168 |

Evaluation of stocking density of *Latopenaeus vannamei*

KVK, West Godavari (Undi) evaluated the stocking density of *Latopenaeus vannamei* and found that Vannamei at 2, 50,000 per ha stocking density gave

higher yield (2838 kg per ha) and income (Rs 2, 33,480 / ha) than other densities.

| Technology Assessed | No. of trials | Production kg per ha | Net Return Rs./ha | BC Ratio |
|--|---------------|----------------------|-------------------|----------|
| Farmers practice: Vannamei at 62,000 per ha stocking density | 6 | 762 | 35,520 | 1.18 |
| Vannamei at 1.25.000 per ha stocking density | | 1308 | 62,180 | 1.18 |
| Vannamei at 2,50,000 per ha stocking density | | 2838 | 2,33,480 | 1.37 |

Managing mastitis in crossbred cows

At KVK, Kolhapur a trail was conducted to manage mastitis in crossbred cows in which 'Saaf - Kit' & antiseptic solution was used. This technology

reduced mastitis to 15 percent from 42 percent besides increasing milk production.

| Technology Assessed | No. of trials | Percentage of mastitis | Production per unit (lit/animal/day) | Net Return in Rs / unit | BC Ratio |
|--|---------------|------------------------|--------------------------------------|-------------------------|----------|
| Farmers practice: Non – adoption of preventive measures for mastitis | 05 | 42 | 6.20 | 10500 | 1.29 |
| Use of 'Saaf - Kit' & antiseptic solution | | 15 | 10.50 | 27750 | 1.88 |

3.1.5 Gender specific technologies

Double screen grain cleaner

Double screen grain cleaner was tested by KVK Akola, Amravati (G), Nasik and Solapur. At all the locations double screen grain cleaner performed efficiently in terms of cleaning capacity (kg/Hr.), Labor Requirement, (Man Hr/Quintal.) and Operating Cost.

KVK, Akola

| Technology tested | Capacity (kg /Hr.) | Labour Requirement, (Man Hr/ Quintal) | Operating Cost, Rs./ Quintal | Production per unit (kg/day) |
|--|--------------------|---------------------------------------|------------------------------|------------------------------|
| Farmers practice :- cleaning with normal Sieve | 27 | 3 hrs. 12 mins. | 92 | 216 |
| Technology Assessed :- Double Screen Grain Cleaner | 138 | 38 mins. | 31 | 1104 |

KVK, Amravati (Ghatkhed)

| Technology tested | Labor cost Rs. per qt | Cleaning capacity Kg/hr | Heart Rate (b/min) |
|-----------------------------|-----------------------|-------------------------|--------------------|
| Farmers practice : By hand | 150 | 10 | 12.1 |
| Double screen grain cleaner | 07 | 100 | 7.97 |

KVK, Nashik (Y.C.M.O.U)

| Technology assessed | No. of trials | Grain cleaning capacity-kg /hr | Labor cost Rs/qtl | Heart rate beat/min |
|---|---------------|--------------------------------|-------------------|---------------------|
| Farmers practice: Traditional practice | 10 | 20 | 150 | 10.12 |
| Technology assessed: Manual double screen grain cleaner | | 100 | 7 | 7.97 |

KVK, Solapur

| Technology assessed | Quantity of seed fed per batch, Kg | Time required for cleaning /batch (minutes) | Output Kg/hour |
|---|------------------------------------|---|----------------|
| Traditional Practice : using Supa | 1.5 | 3.4 | 24 |
| Recommended Practice Hanging manual double screen cleaner | 8 | 2.2 | 215 |

Vaibhav and Laxmi Sickle

To reduce the drudgery of farmwomen in harvesting of paddy, improved sickles Vaibhav and Laxmi were used at KVK, Nashik (Malegaon). These

improved sickles increased the efficiency by making the women to cover more area per hour.

| Technology Assessed | No. of trials | Weight (gm) | Output (Sq.m/hour) |
|-------------------------------------|---------------|-------------|--------------------|
| Farmers Practice-Traditional Sickle | 10 | 360 | 135 |
| Laxmi Sickles | | 220 | 149 |
| Vaibhav Sickles | | 190 | 163 |

Use of Cotton apron for cotton picking

KVK, Parbhani tested ergonomically designed women friendly cotton apron for cotton picking.

The use of apron improved the work output from 32 kg/person/day to 43 kg/person/day.

KVK, Parbhani

| Technology Assessed | Work output kg/8hrs/person |
|--|----------------------------|
| Farmers practice: cotton picking without apron | 32 |
| Improved cotton picking apron | 43 |

Evaluation of finger guard for harvesting of chilies

In a study by KVK, Warangal using finger guard in harvesting of chilies was found to improve the

harvesting efficiency of rural woman while reducing the drudgery.

| Technology Assessed | Work output kg/day/person |
|----------------------------|---------------------------|
| Manual plucking | 23 |
| Plucking with Finger guard | 27 |



Finger guard for harvesting of chilies, KVK Warangal

Supplementation of iron rich toffee to improve Hemoglobin level of Adolescent Girls

Effect of Iron Rich Toffee on the Hemoglobin Level of Adolescent Girls was tested by KVK, Jalna. The results indicated that daily consumption of Iron

Rich Toffee (20g) for 60 days increased hemoglobin level of the girls.

| Technology option | No. of Trials | Pretest Hb level (%) | Post test Hb level (%) |
|--|---------------|----------------------|------------------------|
| Normal diet - Existing Practice | 10 | 9.25 | 8.95 |
| Normal Diet + Iron Rich Toffee- 20 g daily for 60 days | | 9.88 | 10.38 |

Assessment of drumstick seed as water purification agent

At KVK, Chandrapur drumstick seed was tested as water purification agent. Addition of Drumstick seed

powder @ 100mg/lit water significantly reduced the bacterial count of potable water.

| Technology option | No. of trails | Total colliforms (MPN/100ml) | Faecal colliforms (MPN/100ml) | E- coli (MPN/100ml) |
|--|---------------|------------------------------|-------------------------------|---------------------|
| Filtration with cloth- Existing Practice | 8 | 16.85 | 5.21 | 2.46 |
| Drumstick seed powder 100mg/lit water | | 6.66 | 2.47 | 1.8 |

Impact of soy milk in 3-6 year children growth

At KVK, Amravati (Durgapur) impact of soy milk on the growth of 3-6 year children was tested. Result showed that increase in weight by (800 gm)

and height (1.30 cm) of a children supplemented with Soymilk.

| Technology option | No. of trials | Weight (kg) | Height (cm) |
|-------------------------|---------------|-------------|-------------|
| Existing practice - Tea | 9 | 11.20 | 93.00 |
| Dairy Milk 250 ml daily | | 11.40 | 93.40 |
| Soy milk 100 ml daily | | 12.0 | 94.30 |

Effects of soya in rice flakes laddoo on weight gain to combat under nourishment in preschool children

Effect of soy poha laddoo for the management of malnutrition among preschool children was tested by KVK, Akola, Amravati (G), Hingoli, Nagpur and Sangli. At all the centers the increase in the weight,

height and hemoglobin percent was more in the children supplemented with soya poha laddoo then in the children with normal diet.

KVK, Akola

| Technology option | No. of trials | Initial Weight (kg) | Weight after 3 Months kg |
|---------------------------------------|---------------|---------------------|--------------------------|
| Existing Practice - Normal diet | 13 | 12.58 | 12.84 |
| Normal diet + Soya rice flakes laddoo | | 13.03 | 13.63 |

KVK, Amravati (G)

| Technology option | No. of Trials | Average Height (cm) of pre-school children | | Average Weight (kg) of pre-school children | |
|--|---------------|--|-----------|--|-----------|
| | | Before OFT | After OFT | Before OFT | After OFT |
| Existing Practice - Regular diet | 10 | 87.9 | 88.1 | 13.17 | 13.54 |
| Protein energy rich food (Soya Poha Laddu) | | 80.8 | 81.1 | 9.79 | 10.43 |

KVK Hingoli

| Technology option | No. of Trials | Weight kg | HB level (%) |
|-------------------------------------|---------------|-----------|--------------|
| Existing Practice - Normal diet | 25 | 16.23 | 11.6 |
| Normal daily diet + Soya poha laddu | | 23.24 | 14.52 |

KVK, Nagpur

| Technological Options | No. of Trials | Body Weight (kg) | Hb % |
|--|---------------|------------------|------|
| Normal diet – Cereals -125 g , pulses 30 g, Green leafy vegetable 25 g, other vegetables – 25 g, Fruits-20 g, milk & its products 75 ml, fat and oil 30 ml, sugar and jaggary 30 g . | 18 | 10.01 | 8.01 |
| Recommended treatment: Cereals - 250 g, pulses - 50g, Green leafy vegetables 75 g, other vegetables - 50 g, fruits - 50 g, milk - 250 ml, fats 30 g, Sugar & jaggary 50 gm (ICMR) for 3 months. | | 11.35 | 9.14 |

KVK, Sangli

| Technology Assessed | No. of trials | Avg. wt gain (kg) |
|--|---------------|-------------------|
| Existing Practice – Regular diet | 20 | 0.5 |
| Soya Poha Laddu (200gm/child/day)+regular diet | | 1.8 |

3.2 Frontline Demonstrations

KVKs organize frontline demonstrations (FLDs) to demonstrate the production potential of the important varieties and various production technologies in a given farming situation. Training programmes and field days are organized for extension workers and farmers for rapid dissemination of improved technologies.

3.2.1 Field crops

A total of 7964 demonstrations covering 3109.8ha under pulses, cereals, oilseeds and commercial crops (cotton & sugar cane) were organized by KVKs in Zone-V (Table 15). The major categories covered under FLDs in Andhra Pradesh include pulses (1348), cereals (420) and oilseeds (319). In Maharashtra the major categories of the

demonstrations were pulses (2708), millets (962), oilseeds (958) and cereals (336). In pulses, 1818 demonstrations covering 632.9ha were organized on bengal gram followed by red gram (1241), black gram (563) and green gram (434). Among oilseed crops, 511 demonstrations covering 195 ha were organized on soybean followed by groundnut (483),

sunflower (105), mustard (86), castor (39), sesamum (35), and linseed (18). In cotton 727 demonstrations covering 326 ha were organized, while in sugarcane 151 demonstrations were organized in 64.6 ha. In Sorghum 947 demonstrations were conducted in 386 ha.

Table: 15. Details of category wise area under FLD on field crops

| Category | Crop | Andhra Pradesh | | Maharashtra | | Total | |
|--------------------|----------------|----------------|---------------|--------------|---------------|--------------|---------------|
| | | No. of Demos | Area (ha) | No. of Demos | Area (ha) | No. of Demos | Area (ha) |
| Pulse | Green gram | 215 | 89 | 219 | 88 | 434 | 177 |
| | Black gram | 393 | 87.4 | 170 | 68 | 563 | 155.4 |
| | Red gram | 419 | 185 | 822 | 298.9 | 1241 | 483.9 |
| | Bengal gram | 321 | 138 | 1497 | 494.9 | 1818 | 632.9 |
| Total | | 1348 | 499.4 | 2708 | 949.8 | 4056 | 1449.2 |
| Oilseed | Groundnut | 185 | 113.4 | 298 | 113.2 | 483 | 226.6 |
| | Castor | 39 | 21.6 | | | 39 | 21.6 |
| | Sunflower | 95 | 86 | 10 | 1 | 105 | 87 |
| | Soybean | | | 511 | 195 | 511 | 195 |
| | Linseed | | | 18 | 2.95 | 18 | 2.95 |
| | Mustard | | | 86 | 20.6 | 86 | 20.6 |
| | Sesame | | | 35 | 11.2 | 35 | 11.2 |
| Total | | 319 | 221 | 958 | 343.95 | 1277 | 564.95 |
| Cereals | Maize | 189 | 94 | 23 | 8 | 212 | 102 |
| | Rice | 231 | 86.2 | 122 | 47 | 353 | 133.2 |
| | Wheat | | | 191 | 73.85 | 191 | 73.85 |
| Total | | 420 | 180.2 | 336 | 128.85 | 756 | 309.05 |
| Commercial Crops | Cotton | 409 | 191 | 318 | 135 | 727 | 326 |
| | Sugarcane | 10 | 4 | 141 | 60.6 | 151 | 64.6 |
| Total | | 419 | 195 | 459 | 195.6 | 878 | 390.6 |
| Millet | Finger millet | | | 25 | 10 | 25 | 10 |
| | Sorghum | 10 | 4 | 937 | 372 | 947 | 376 |
| | Foxtail millet | 25 | 10 | | | 25 | 10 |
| Total | | 35 | 14 | 962 | 382 | 997 | 396 |
| Grand Total | | 2541 | 1109.6 | 5423 | 2000.2 | 7964 | 3109.8 |

3.2.2 Pulses

In Andhra Pradesh, frontline demonstrations on Bengal gram were organized at Anantapur, Adilabad, Kadapa, Karimnagar, Kurnool, Nellore, Nizamabad, Mahaboobnagar and Prakasam. Improved variety JAKI-9218, JG-11 and Digvijay along with improved management gave higher yield (16.45 q/ha) compared to local check. In Maharashtra, higher yield response (26.67%) was noted with cv. JAKI-9218, Vijay and Digvijay along with integrated nutrient and pest management practices compared to farmers practice at Ahmednagar, Akola, Beed, Bhandara, Chandrapur, Dhule, Gadchiroli, Gondia, Hingoli, Kolhapur, Latur, Nagpur, Nanded, Nandurbar, Osmanabad, Parbhani, Raigadh, Satara, Sangli, Washim, Amaravati, Aurangabad, Buldana, Pune, Nasik, Solapur, Jalna, and Jalgaon (Table 16).

Demonstrations on Red gram were organized by KVKs in Adilabad, Anantapur, Chittoor, Kadapa, Khammam, Kurnool, Nalgonda, Nizamabad, Mahabubnagar, Prakasam, Ranga Reddy, Warangal, Srikakulam, Vizianagaram, Visakhapatnam of Andhra Pradesh and improved varieties (cv. PRG-158 and LRG-41) gave 22.50 per cent higher yield compared to local check. In Maharashtra, improved varieties viz. BSMR-736, Vipula, PKV-TARA and BDN-708 along with improved management practices gave average yield increase of 26.45 percent in demonstrations at Ahmednagar, Aurangabad, Amaravati, Akola, Beed, Bhandara, Buldana, Chandrapur, Jalna, Hingoli, Nanded, Gondia, Nandurbar, Nagpur, Osmanabad, Parbhani, Pune, Solapur, and Washim.

Table: 16. Performance of Front Line Demonstrations on pulses

| State | Crop | No. of Demos | Area (ha) | Yield | | Increase (%) |
|----------------|-------------|--------------|-----------|-------|-------|--------------|
| | | | | Demo | Check | |
| Andhra Pradesh | Green gram | 215 | 89 | 8.85 | 7.11 | 24.55 |
| | Black gram | 393 | 87.4 | 7.67 | 6.27 | 22.37 |
| | Red gram | 419 | 185 | 12.69 | 10.35 | 22.5 |
| | Bengal gram | 321 | 138 | 16.45 | 14.34 | 14.74 |
| Maharashtra | Green gram | 219 | 88 | 7.44 | 5.94 | 25.12 |
| | Black gram | 170 | 68 | 8.33 | 6.87 | 21.03 |
| | Red gram | 822 | 298.9 | 12.39 | 9.8 | 26.45 |
| | Bengal gram | 1497 | 494.9 | 15.80 | 12.47 | 26.67 |

In blackgram, demonstrations were conducted at Krishna, Nellore, Prakasam, Vishakhapatnam, East Godavari, Kadapa, West Godavari and Srikakulam in Andhra Pradesh with improved variety (LBG-752, LGG-460 and PU-31) and nutrient management, which resulted in higher yield response (22.37%) compared to local check. In Maharashtra, improved varieties viz. TAU-1, BDU-1 and AKU-15 and improved management gave higher average yield (8.33q/ha) compared to local check at Nandurbar, Buldana, Washim and Osmanabad.

Frontline demonstrations on greengram were organized at Nalgonda, Nizamabad, Prakasam, Guntur, Srikakulam, Karimnagar, Khammam, Mahaboobnagar, Visakhapatnam and Warangal in Andhra Pradesh and Amaravati, Beed, Buldana, Washim, Jalna, Nanded, Nandurbar and Parbhani in Maharashtra with improved management and high yielding varieties viz. WGG-37, MGG-47 and LGG-460 (Andhra Pradesh) and Unnati, Kopergaon and AKM-8802 (Maharashtra). There was 24.55 per cent increase in yield of greengram in Andhra

Pradesh and 25.12% in Maharashtra as compared to local check.

3.2.3 Oilseeds

KVKs organized frontline demonstrations on soybean in eighteen districts of Maharashtra (Ahmednagar, Aurangabad, Amravati, Beed, Buldhana, Hingoli, Jalgaon, Jalna, Latur, Nanded, Osmanabad, Parbhani, Sholapur, Washim, Kolhapur, Pune, Wardha, Gadchiroli and Satara). Improved varieties MAUS-71, DS-228, JS-9305 and JS-335 were demonstrated along with nutrient management and plant protection measures. Results showed that improved varieties and management practices gave higher yield in Maharashtra (21.10 q/ha) compared to local check (Table 17).

Frontline demonstrations on groundnut were conducted in ten districts of Andhra Pradesh, covering Anantapur, Chittoor, Kadapa, Khammam, Mahaboobnagar, Srikakulam, Kurnool, Krishna, Visakhapatnam and Nellore. Improved varieties K-6, TAG-24 and Dharani along with balanced fertilization and pest management gave higher average yield (20.62q/ha) compared to local check.

Similarly in Maharashtra, demonstrations were organized in nine KVKs (Pune, Jalgaon, Nasik, Sangli, Satara, Sindhudurg, Thane, Solapur and Nanded). Improved varieties viz. cv. TG-37A, TG-24, and JL-286 with nutrient management resulted in higher yield (16.04 q/ha) than local check (11.53 q/ha) (Table 17).



Groundnut variety TCGS - 1073

Table: 17. Performance of Front Line Demonstrations on oilseeds

| State | Crop | No. of Demos | Area (ha) | Yield | | Increase (%) |
|----------------|-----------|--------------|-----------|-------|-------|--------------|
| | | | | Demo | Check | |
| Andhra Pradesh | Groundnut | 185 | 113.40 | 20.62 | 19.05 | 8.25 |
| | Castor | 39 | 21.6 | 13.34 | 7.9 | 68.9 |
| | Sunflower | 95 | 86 | 24.88 | 22.15 | 12.31 |
| Maharashtra | Groundnut | 298 | 113.2 | 16.04 | 11.53 | 39.2 |
| | Soybean | 511 | 195 | 21.1 | 17.4 | 21.28 |
| | Sunflower | 10 | 1 | 14.69 | 9.34 | 57.28 |
| | Linseed | 18 | 2.95 | 10 | 7.38 | 35.45 |
| | Mustard | 86 | 20.6 | 5.9 | 4.78 | 23.25 |
| | Sesame | 35 | 11.2 | 5.8 | 3.6 | 61.11 |

In case of sunflower improved management practices resulted in higher yield (24.88 q/ha in Andhra Pradesh and 14.69 q/ha in Maharashtra) compared to local check. Frontline demonstrations on sesamum organized only in Chandrapur (MS) with improved varieties (NT-11) showed yield

increase to the tune of 61.11 percent as compared to local check. Frontline demonstrations on castor in Andhra Pradesh and linseed in Maharashtra gave higher yield (68.9 and 35.45 per cent in castor and linseed respectively) compared to local check.



FLD on sunflower APSH-66 hybrid by KVK, Chittoor (RASS)

3.2.4 Cereals

Frontline demonstrations on rice were organized in eighteen districts of Andhra Pradesh (Anantapur, Chittoor, East Godavari, Karimnagar, Krishna, Kadapa, Kurnool, Mahaboobnagar, Nalgonda, Nellore, Nizamabad, Vishakhapatnam, Vizianagaram, Prakasam, Rangareddy, Srikakulam, Warangal and West Godavari) and seven districts of Maharashtra (Bhandara, Gondia, Gadchiroli, Nasik Pune, Raigadh and Satara). Improved varieties viz. cv. RGL-2332, MTU-1075, NLR-3041 JGL-11470 (Andhra Pradesh) and cv. PKV-HMT, Karjat-3, Karjat-6 and Karjat-7 (Maharashtra) along with improved management resulted in higher yield as compared to local check (Table 18).

Maize demonstrations were organized in fourteen districts of Andhra Pradesh (East Godavari, Karimnagar, Kurnool, Mahaboobnagar, Rangareddy, Warangal, Anantapur, Khammam, Krishna, Prakaam, Vizianagaram, Vishakhapatnam, Srikakulam and

West Godavari) and Ahmednagar in Maharashtra with improved varieties viz. DHM-117, Kaveri and Sugar-75 and improved management such as zero tillage, soil test based nutrient management etc. Results indicated that improved varieties along with improved crop management technologies recorded higher yields (9.36 and 15.21 percent in Andhra Pradesh and Maharashtra respectively) compared to local check (Table 18).

Sixteen KVKs in Maharashtra (Chandrapur, Dhule, Ahmednagar, Kolhapur, Pune, Amravati, Satara, Beed, Solapur, Jalna, Nanded, Nasik, Akola, Bhandara and Wardha) organized demonstrations on wheat with high yielding varieties viz. Netravati, AKAW-4727, GW-496, MACS-6222, and Triambak along with management practices such as nutrient and weed management. There was increase in yield due (16.03 %) to improved varieties and management compared to local check (Table 18).

Table: 18. Performance of Front Line Demonstrations on cereals

| State | Crop | No. of Demos | Area (ha) | Yield | | % increase |
|----------------|-------|--------------|-----------|-------|-------|------------|
| | | | | Demo | Check | |
| Andhra Pradesh | Maize | 239 | 113 | 79.22 | 72.44 | 9.36 |
| | Rice | 231 | 86.2 | 61.39 | 59.41 | 3.33 |
| Maharashtra | Maize | 23 | 8 | 84.25 | 71.25 | 15.21 |
| | Rice | 122 | 47 | 35.81 | 30.09 | 19.09 |
| | Wheat | 191 | 73.85 | 28.43 | 24.50 | 16.03 |

3.2.5 Commercial crops

Frontline demonstrations on cotton were organized by 13 districts in Andhra Pradesh (Adilabad, Anantapur, Karimnagar, Khammam, Nalgonda, Guntur, Kadapa, Mahaboobnagar, Prakasam, Rangareddy, Vizianagaram, Warangal and Srikakulam) and 13 districts in Maharashtra (Ahmednagar, Akola, Aurangabad, Amaravati, Beed, Buldhana, Dhule, Hingoli, Jalna, Nanded, Nandurbar, Parbhani and Yavatmal) with improved varieties and management practices (pest and nutrient management and row spacing). Results indicated that improved varieties and management technologies resulted in higher yield in Andhra

Pradesh (18.44 q/ha) and Maharashtra (23.45 q/ha) compared to local varieties and management practices (Table 19).

Sugarcane demonstrations were organized in three districts of Andhra Pradesh (Khammam, Chittoor and Mahaboobnagar) and four districts of Maharashtra (Ahmednagar, Pune, Satara and Kolhapur) focusing mainly on biological control of early shoot borer and scales, management of white grub and integrated nutrient management. There was higher yield response to biological pest control of early shoot borer (2.5%) in Andhra Pradesh and improved management practices for ratoon crop (23.73%) in Maharashtra (Table 19).

Table: 19. Performance of Front Line Demonstrations on commercial crops

| State | Crop | No. of Demos | Area (ha) | Yield | | % increase |
|----------------|-----------|--------------|-----------|--------|-------|------------|
| | | | | Demo | Check | |
| Andhra Pradesh | Cotton | 409 | 191 | 18.44 | 15.77 | 16.95 |
| | Sugarcane | 10 | 4 | 81.6 | 79.7 | 2.5 |
| Maharashtra | Cotton | 318 | 135 | 23.45 | 18.48 | 26.87 |
| | Sugarcane | 141 | 60.6 | 115.27 | 93.16 | 23.73 |

3.2.6 Millets

Frontline demonstrations on finger millet were organized in Thane district of Maharashtra with improved variety Dapoli-1, which increased yield by 29.9% (Table 20). In sorghum, three districts of Andhra Pradesh (East Godavari, Warangal and Mahaboobnagar) and thirteen districts of Maharashtra (Buldana, Beed, Chandrapur, Jalna, Nandurbar, Nasik, Nanded, Parbhani, Pune, Satara, Sangli, Yavatmal and Solapur) conducted frontline

demonstrations. Improved varieties Phule Revati, Phule vasudha, Bagyalaxmmi-296, Parbhani Moti and PKV Kranti and integrated nutrient management resulted in higher yield in Andhra Pradesh (19 q/ha) and Maharashtra (21.01q/ha).

KVK, Kurnool (Andhra Pradesh) conducted frontline demonstrations on foxtail millet with improved variety Suryanadi. There was higher yield response with improved variety (14%).

Table: 20. Performance of Front Line Demonstrations on millets

| State | Crop | No. of Demos | Area (ha) | Yield | | % increase |
|----------------|----------------|--------------|-----------|-------|-------|------------|
| | | | | Demo | Check | |
| Andhra Pradesh | Foxtail Millet | 25 | 10 | 21.5 | 18.86 | 14 |
| | Sorghum | 10 | 4 | 19 | 16.8 | 12.55 |
| Maharashtra | Sorghum | 937 | 372 | 21.01 | 15.9 | 32.14 |
| | Finger millet | 25 | 10 | 12.6 | 9.7 | 29.9 |

3.2.7 Horticultural crops

A total of 2068 demonstrations covering 688.9 ha under fruits, vegetables, plantation crops, spices and condiments, were organized by KVKs in Zone-V (Table 21). The major categories covered in Andhra Pradesh include vegetables (303), fruits (240), spices and condiments (144) and Flowers (57). In Maharashtra also the demonstrations were conducted on vegetables (587), fruits (527),

spices and condiments (108) and Flowers (50). In vegetables, 225 demonstrations were organized on Onion in 66.95ha followed by Tomato (212), Brinjal (157) and okra (80). Among 767 demonstrations on fruits, 212 demonstrations covering 70.3 ha were organized on mango followed by Banana (164), Orange (124), watermelon (80) and Pomegranate (72).

Table: 21. Details of category wise area under FLD on horticultural crops

| Category | Crop | Andhra Pradesh | | Maharashtra | | Total | |
|------------------|---------------|----------------|-------------|--------------|--------------|--------------|--------------|
| | | No. of Demos | Area (ha) | No. of Demos | Area (ha) | No. of Demos | Area (ha) |
| Flowers | Aster | 3 | 1 | 5 | 1 | 8 | 2 |
| | Gaillardia | | | 18 | 6.2 | 18 | 6.2 |
| | Jasmine | 20 | 9 | | | 20 | 9 |
| | Marigold | 34 | 13.6 | 6 | 0.12 | 40 | 13.72 |
| | Tuberose | | | 13 | 5.2 | 13 | 5.2 |
| | Total | 57 | 23.6 | 56 | 13.22 | 113 | 36.82 |
| Fruits | Banana | 34 | 15.8 | 130 | 48 | 164 | 63.8 |
| | Custard Apple | | | 16 | 4.8 | 16 | 4.8 |
| | Guava | 5 | 0.4 | 17 | 6.8 | 22 | 7.2 |
| | Lime | 20 | 0.4 | 12 | 2.4 | 32 | 2.8 |
| | Orange | 74 | 30 | 50 | 19 | 124 | 49 |
| | Mango | 87 | 33.8 | 125 | 36.5 | 212 | 70.3 |
| | Papaya | | | 5 | 2 | 5 | 2 |
| | Pomegranate | | | 72 | 33 | 72 | 33 |
| | Sapota | | | 40 | 28 | 40 | 28 |
| | Water melon | 20 | 8 | 60 | 38 | 80 | 46 |
| | Total | 240 | 88.4 | 527 | 218.5 | 767 | 306.9 |
| Plantation Crops | Cashew | 22 | 5.5 | 6 | 0.6 | 28 | 6.1 |
| | Coconut | 10 | 12 | 20 | 8 | 30 | 20 |
| | Total | 32 | 17.5 | 26 | 8.6 | 58 | 26.1 |
| Spices | Ajwain | | | 10 | 4 | 10 | 4 |
| | Chili | 106 | 46.8 | 35 | 14 | 141 | 60.8 |
| | Cumin | | | 10 | 2 | 10 | 2 |
| | Garlic | | | 29 | 1.5 | 29 | 1.5 |
| | Turmeric | 13 | 4.6 | 24 | 7.6 | 37 | 12.2 |
| | Ginger | 12 | 5 | | | | |
| | Total | 144 | 60.4 | 108 | 29.1 | 240 | 84.5 |

| Category | Crop | Andhra Pradesh | | Maharashtra | | Total | |
|--------------------|---------------|----------------|---------------|--------------|--------------|--------------|--------------|
| | | No. of Demos | Area (ha) | No. of Demos | Area (ha) | No. of Demos | Area (ha) |
| Vegetables | Agakara | 3 | 1 | | | 3 | 1 |
| | Bottle gourd | | | 15 | 1.5 | 15 | 1.5 |
| | Ridge gourd | 15 | 5 | | | 15 | 5 |
| | Brinjal | 40 | 13 | 117 | 26.55 | 157 | 39.55 |
| | Cabbage | 20 | 9 | | | 20 | 9 |
| | Capsicum | | | 10 | 1 | 10 | 1 |
| | Cluster bean | | | 20 | 2 | 20 | 2 |
| | Dolichos Bean | | | 10 | 1 | 10 | 1 |
| | Field Bean | 22 | 8.4 | | | 22 | 8.4 |
| | Drum Stick | | | 27 | 1.65 | 27 | 1.65 |
| | Okra | 5 | 1 | 75 | 10 | 80 | 11 |
| | Onion | 30 | 10 | 195 | 56.95 | 225 | 66.95 |
| | Sweet potato | | | 25 | 5 | 25 | 5 |
| | Tomato | 166 | 61.6 | 46 | 9.82 | 212 | 71.42 |
| | Wal | | | 47 | 10 | 47 | 10 |
| | Total | 303 | 109.08 | 587 | 125.5 | 890 | 234.6 |
| Grand Total | | 776 | 298.98 | 1304 | 394.9 | 2068 | 688.9 |

3.2.8 Vegetables

Three KVKs in Andhra Pradesh (Kurnool, Mahaboobnagar and Mahaboobnagar (P)) and 15 KVKs in Maharashtra (Amravati (G), Ahmednagar (D), Akola, Beed, Buldana (J), Dhule, Hingoli, Nanded (P), Aurangabad, Nasik, Pune, Pune (B), Solapur, Solapur (M) and Nasik (M)) organized frontline demonstrations on onion with improved varieties (cv. Phule Baswant, AFLR, Akola Safed and Phule Safed) and management practices.

There was higher yield response to varieties and management practices in Andhra Pradesh (11.88%) and Maharashtra (28.5%) compared to local check (Table 22). Frontline demonstrations on tomato were organized with improved varieties and management practices. Results showed that improved varieties and management practices recorded higher yield both in Andhra Pradesh (24.03%) and Maharashtra (16.49%) compared to local check (Table 22).

Table: 22. Performance of Front Line Demonstrations on vegetables

| State | Crop | No. of Demos | Area (ha) | Yield (q/ha) | | Increase (%) |
|----------------|-------------|--------------|-----------|--------------|-------|--------------|
| | | | | Demo | Local | |
| Andhra Pradesh | Brinjal | 40 | 13 | 258 | 239 | 7.95 |
| | Cabbage | 20 | 9 | 296 | 243 | 21.81 |
| | Field bean | 22 | 8.4 | 5.2 | 5.4 | -3.7 |
| | Onion | 30 | 10 | 339 | 303 | 11.88 |
| | Ridge gourd | 15 | 5 | 81 | 74 | 9.46 |
| | Tomato | 126 | 41.6 | 449 | 362 | 24.03 |

| State | Crop | No. of Demos | Area (ha) | Yield (q/ha) | | Increase (%) |
|-------------|---------------|--------------|-----------|--------------|-------|--------------|
| | | | | Demo | Local | |
| Maharashtra | Bottle gourd | 15 | 1.5 | 188 | 140 | 34.29 |
| | Brinjal | 117 | 26.55 | 262 | 220 | 19.09 |
| | Cluster bean | 20 | 2 | 49.8 | 37.6 | 32.45 |
| | Dolichos Bean | 10 | 1 | 65 | 44.2 | 47.06 |
| | Drumstick | 27 | 1.65 | 111 | 83 | 33.73 |
| | Okra | 75 | 10 | 144 | 120 | 20 |
| | Onion | 195 | 56.95 | 248 | 193 | 28.5 |
| | Ridge gourd | 54 | 32 | 230 | 140 | 64.29 |
| | Sweet potato | 25 | 5 | 127 | 96.5 | 31.61 |
| | Tomato | 46 | 9.82 | 438 | 376 | 16.49 |
| | Wal | 47 | 10 | 7.7 | 6.2 | 24.19 |

3.2.9 Fruits

Frontline demonstrations on banana were conducted in five districts of Andhra Pradesh (East Godavari, Anantapur, Kadapa, Kurnool (Y), and Guntur (Lam)) and one district of Maharashtra (Pune (N)) with improved management practices. There was higher yield with improved technology both in Andhra Pradesh (15.92%) and Maharashtra

(14.55%) compared to local practice (Table 23). Similar response was also noted in pomegranate (16.83% in Maharashtra) and mango (26.51% in Andhra Pradesh and 17.57% in Maharashtra) and Sweet Orange (Andhra Pradesh 15.04% & Maharashtra 45.38%) (Table 23).

Table: 23. Performance of Front Line Demonstrations on fruits

| State | Crop | No of Demos | Area (ha) | Yield (q/ha) | | Increase (%) |
|----------------|---------------|-------------|-----------|--------------|-------|--------------|
| | | | | Demo | Local | |
| Andhra Pradesh | Banana | 34 | 15.8 | 648 | 559 | 15.92 |
| | Lime | 20 | 0.4 | 185.5 | 165.6 | 12.02 |
| | Mango | 87 | 33.8 | 105 | 83 | 26.51 |
| | Sweet Orange | 74 | 30 | 130 | 113 | 15.04 |
| | Watermelon | 20 | 8 | 58.7 | 41.3 | 42.13 |
| Maharashtra | Banana | 130 | 48 | 630 | 550 | 14.55 |
| | Custard Apple | 16 | 4.8 | 99 | 79 | 25.32 |
| | Guava | 17 | 6.8 | 242.5 | 210 | 15.48 |
| | Lime | 12 | 2.4 | 200.7 | 120.4 | 66.69 |
| | Mango | 125 | 36.5 | 87 | 74 | 17.57 |
| | Pomegranate | 72 | 33 | 118 | 101 | 16.83 |
| | Sapota | 40 | 28 | 113 | 103 | 9.71 |
| | Sweet orange | 50 | 19 | 189 | 130 | 45.38 |
| | Water melon | 60 | 38 | 166 | 159 | 4.4 |

3.2.10 Plantation crops

Frontline demonstrations on cashew nut were organized in Vizayanagaram district of Andhra Pradesh and Sindhudurg of Maharashtra with improved management practices including pest and

disease control and nutrient management. Results indicated that improved management practices gave higher average yield of 6.8 q/ha in Vizayanagaram and 13.75 q/ha in Sindhudurg over local check (Table 24).

Table: 24 Performance of Front Line Demonstrations on plantation crops

| State | Crop | No of Demos | Area (ha) | Yield (q/ha) | | % Increase |
|----------------|-------------------|-------------|-----------|--------------|-------|------------|
| | | | | Demo | Local | |
| Andhra Pradesh | Cashew | 22 | 5.5 | 6.8 | 5.2 | 30.76 |
| Maharashtra | Cashew | 6 | 0.6 | 13.75 | 10.23 | 16.5 |
| Maharashtra | Coconut (Nuts/ha) | 20 | 8 | 10610 | 8268 | 28.34 |

3.2.11 Spices

Frontline demonstrations on Chilli were organized with improved varieties and management practices. Results showed that improved varieties and management practices recorded higher yield both in Andhra Pradesh (17.14%) and Maharashtra (38%) compared to local check (Table 25). Similarly, the

yield response to improved management practices including varieties was higher in turmeric (98.47% in Andhra Pradesh and 62% in Maharashtra) as compared to local check. Similar results were found in Garlic, Ginger and Ajwain in Maharashtra.

Table: 25 Performances of Frontline Demonstrations on Spices

| State | Crop | No. of Demos | Area (ha) | Yield (q/ha) | | % Increase |
|----------------|----------|--------------|-----------|--------------|-------|------------|
| | | | | Demo | Local | |
| Andhra Pradesh | Chilies | 106 | 46.8 | 41 | 35 | 17.14 |
| | Turmeric | 26 | 8.6 | 98.47 | 65.7 | 49.98 |
| Maharashtra | Ajwain | 10 | 4 | 2.5 | 2 | 25 |
| | Chilies | 35 | 14 | 138 | 100 | 38 |
| | Garlic | 29 | 1.5 | 46 | 36 | 27.78 |
| | Ginger | 12 | 5 | 30 | 26 | 23.07 |
| | Turmeric | 24 | 7.6 | 62 | 51 | 21.57 |

3.2.12 Flowers

In Andhra Pradesh frontline demonstrations were organized on Marigold, Jasmine and Astor. Improved varieties and management practices resulted in 33.75% yield increase in Marigold and 19.25% yield increase in Jasmine in Andhra

Pradesh. In Maharashtra frontline demonstrations were organized in Gaillardia, Tuberose and Aster. Demonstration of Gaillardia showed an increase of 25.37% yield followed by Tuberose (22.22%) and Aster (21%) (Table 26).

Table: 26 Performances of Frontline Demonstrations on Flowers

| State | Crop | No. of Demos | Area (ha) | Yield (q/ha) | | Increase (%) |
|----------------|-------------|--------------|-----------|--------------|-------|--------------|
| | | | | Demo | Local | |
| Andhra Pradesh | China Aster | 3 | 1 | 63.31 | 60.1 | 0.33 |
| | Jasmine | 20 | 9 | 48.26 | 40.47 | 19.25 |
| | Marigold | 34 | 13.6 | 17 | 12.71 | 33.75 |
| Maharashtra | Aster | 5 | 1 | 95 | 75 | 21 |
| | Gaillardia | 18 | 6.2 | 84 | 67 | 25.37 |
| | Tuberose | 13 | 5.2 | 110 | 90 | 22.22 |

3.2.13 Tools and Implements

KVKs organized 1502 demonstrations on 60 improved tools and implements to reduce the drudgery of farm women and facilitate timely field operations viz. land and seed bed preparation, planting / sowing, weeding and intercultural operations and harvesting and threshing (Table: 27 & 28). Out of 1502 demonstrations, 911 demonstrations were organized to improve the farm operations in case of rice followed by Wheat (206),

Groundnut (128), Bengal gram (46), Soybean (44), Bhendi (35), cotton (30), fodder (25), Sugarcane (19), Watermelon (15) and Sorghum (10). Among various field operations, demonstrations were conducted on Planting and Seeding (1163), followed by threshing (102), Weeding and Inter-culture (90), Harvesting (57), Land preparation (55), Post Harvest Technology (5) and other equipment (29).

Table: 27. Details of FLDs on improved tools and implements

| Crop | Andhra Pradesh | | Maharashtra | | Total | |
|------------|----------------|-----|-------------|-----|-------|------|
| | NI | ND | NI | ND | NI | ND |
| Rice | 3 | 839 | 4 | 72 | 7 | 911 |
| Wheat | | | 1 | 206 | 1 | 206 |
| Sorghum | | | 1 | 10 | 1 | 10 |
| Soybean | | | 2 | 44 | 2 | 44 |
| Groundnut | 2 | 26 | 5 | 102 | 7 | 128 |
| Bengalgram | | | 1 | 46 | 1 | 46 |
| Bhendi | 1 | 35 | | | 1 | 35 |
| Chilli | 1 | 20 | | | 1 | 20 |
| Watermelon | | | 1 | 15 | 1 | 15 |
| Sugarcane | | | 1 | 19 | 1 | 19 |
| Cotton | | | 1 | 30 | 1 | 30 |
| Fodder | | | 2 | 25 | 2 | 25 |
| Mango | | | 1 | 1 | 1 | 1 |
| Lemon | | | 1 | 12 | 1 | 12 |
| Total | 7 | 920 | 21 | 582 | 28 | 1502 |

NI: Number of implements

ND: Number of demonstrations

Table: 28. Details of operation wise FLDs on improved tools and implements

| Name of operation | Andhra Pradesh | Maharashtra | Total |
|-----------------------------|----------------|-------------|-------------|
| Land preparation | 10 | 45 | 55 |
| Planting & seeding | 850 | 313 | 1163 |
| Weeding and inter-culture | 5 | 85 | 90 |
| Harvesting | 55 | 2 | 57 |
| Threshing | | 102 | 102 |
| Post harvest technology | | 5 | 5 |
| Plant protection equipments | | 1 | 1 |
| Others | | 29 | 29 |
| Total | 920 | 582 | 1502 |

The performance of improved tools and implements under FLDs vis-à-vis the relevant indicators of performance viz. saving of labor, time required for

completing the field operation, energy expenditure, field performance, output, cost of field operations etc. are presented in Table 29.


Demo on using cono weeder in machine planted paddy KVK Chittoor
Table: 29. Performance of FLD on Improved Tools, Implements and Farm Equipment

| Operation | Implement | No. of farmers | Area (ha) | Parameter | Result | |
|------------------|-------------------|----------------|-----------|--------------------------------------|-------------|-------------|
| | | | | | Demo | Local check |
| Land preparation | Rotavator | 25 | 19.0 | ha/hr | 0.45 | 0.19 |
| | Surry Ridger | 15 | 15.0 | ha/hr Cost (Rs/ha) | 0.8 1500 | 0.1 4500 |
| | Mini Power tiller | 15 | 2.0 | Field efficiency (%) Cost (Rs/ha) | 78 500 | 56 3500 |

| Operation | Implement | No. of farmers | Area (ha) | Parameter | Result | |
|---------------------------|--------------------------|----------------|-----------|---|-------------------------|-------------------------|
| | | | | | Demo | Local check |
| Planting & seeding | Seeder cum Ferti-drill | 310 | 156.8 | Labor (No.) Time (ha/day) Cost (Rs./ha) | 01 1.1 795 | 04 0.82 1200 |
| | Rice Transplanter | 17 | 19.2 | Cost of cultivation (Rs./ha) Time (hr/ha) Labor (No.) | 9500 1 2 | 4800 32 8 |
| | Paddy drum seeder | 817 | 414.6 | Cost of cultivation (Rs./ha) Time (hr/ha) Labor (No.) | 2845 1.5 1 | 5620 28 10 |
| | Sugarcane bud chipper | 19 | - | Buds/hr | 451 | 257 |
| Weeding and inter-culture | Cycle hoe | 10 | 10.0 | Lab our required (ha/day) Cost of operation (Rs./ha) | 6 900 | 36 5400 |
| | Improved sickle | 10 | - | hr/ha | 36 | 61 |
| | Improved wheel hoe | 15 | 2.9 | Time (ha/day) Cost (Rs/ha) | 1.6 210 | 0.4 570 |
| | Cono weeder | 50 | 5.0 | Overall discomfort Body part discomfort Work output hr/m2 | 5.20 24.34 124.50 | 8.60 44.28 73.79 |
| | Swastik hoe | 5 | 1.0 | Labor required Time (hr) | 2 1 | 7 2 |
| Harvesting | Bhendi plucker | 35 | 0.9 | Qty. harvested in kgs/ day/person Labor Saved In Rs/day | 62.5 360 | 55 600 |
| | Groundnut Digger | 2 | 0.8 | Labor (No.) Time (hr/ha) Cost (Rs/ha) | 4.00 1.50 966.67 | 8.00 0.60 2666.67 |
| | Finger guards | 20 | 1.5 | Quantity harvested (kg/8 hrs/ person/day) | 64.8 | 55.6 |
| Threshing | Groundnut Decorticator | 50 | | kg/hr | 39.2 | 1.9 |
| | Groundnut Stripper | 32 | 2.9 | Cost (kg/day) | 397.96 | 175.61 |
| | Maize Sheller | 20 | 5.0 | Field efficiency (%) Muscular Skeletal problem occur (%) | 78 16.2 | 25 83.8 |
| Post harvest technology | Grain Cleaner cum Grader | 5 | | Cost (Rs/hr) | 16.67 | 41.67 |

| Operation | Implement | No. of farmers | Area (ha) | Parameter | Result | |
|-----------------------------|--------------------------|----------------|-----------|--|-------------------------|-------------------------|
| | | | | | Demo | Local check |
| Plant protection equipments | Sprayer | 1 | 1.0 | Labour Time Cost | 2.00 1.80 2111.11 | 6.00 0.40 3500.00 |
| Others | Cotton Slasher | 15 | 6.0 | Labour (man hrs/ha) | 3.3 | 120 |
| | Brush cutter (Lemon) | 12 | | Time required (hr/ha) Cost of operation (Rs/ha) | 8.12 874 | 144 3060 |
| | Vertical conveyor Reaper | 2 | 2.0 | Labour Time (hrs) Cost (Rs/ha) | 1 1.92 1552.08 | 4 0.43 1860.47 |



Demo on tractor drawn zero till seed cum ferti drill for sowing wheat & gram KVK Latur

3.2.14 Livestock and other enterprises

In order to demonstrate the efficacy of improved technologies, KVKs organized 1083 demonstrations on various livestock species. The state and enterprise wise details of demonstrations are furnished in Table 30.

Table: 30. Details of FLD on livestock and other enterprises

| Category | Andhra Pradesh | | Maharashtra | | Total | |
|--------------|----------------|------------|-------------|------------|-----------|-------------|
| | NT | ND | NT | ND | NT | ND |
| Cattle | 8 | 212 | 7 | 350 | 15 | 562 |
| Sheep & Goat | 1 | 20 | 3 | 68 | 4 | 88 |
| Poultry | 3 | 140 | 3 | 142 | 6 | 282 |
| Fisheries | 4 | 151 | 0 | 0 | 4 | 151 |
| Total | 16 | 523 | 13 | 560 | 29 | 1083 |

NT: No. of technologies

ND: No. of demonstrations

The performance of various improved technologies vis-à-vis the indicators with regard to livestock species are presented in Table 31. The improved technologies significantly increased the milk yield and reduced the incidence of mastitis and other diseases in dairy animals. In case of poultry, improved

breeds like Rajasree, Suwarandhara, Giriraja, Vanaraja and Gramapriya were demonstrated for meat and egg yield, while de-worming and mineral mixtures were tested for weight gain in sheep and goat.

Table: 31. Performance of FLD on Livestock Enterprises

| Enterprise | Thematic area | Technology | No. of demos | Parameter | Demo | Check |
|------------|--|------------------------------------|--------------|---|------|-------|
| Buffalo | Feed and nutrition management | Azolla feeding | 27 | Milk yield (L/animal/day) | 4.3 | 3.7 |
| | | Mineral mixtures | 49 | Milk yield (L/animal/day) | 4.2 | 2.1 |
| | | Urea treated paddy straw | 9 | Milk yield (L/animal/day) | 5.3 | 2.3 |
| | | Heylage making | 10 | Milk yield (L/animal/day) | 3.8 | 3.5 |
| | | Supplemental green fodder | 45 | Milk yield (L/animal/day) | 4.2 | 2.8 |
| | Disease Management Breed evaluation | Ecto and Endo parasitic infection | 10 | Parasite occurrence (%) | Nil | 7 |
| | | Graded murrah | 10 | Body weight gain (kg/90 days) | 8.9 | 6.4 |
| Cow | Feed and nutrition management | Mineral mixtures | 67 | Milk yield (L/animal/day) | 9.4 | 7.8 |
| | | Supplemental green fodder roughage | 205 | Milk yield (L/animal/day) | 3.8 | 2.3 |
| | | Silage making | 35 | Milk yield (L/animal/day) | 44 | 40 |
| | Disease Management | Clean guard for Mastitis control | 65 | Mastitis occurrence (%) | 0 | 10 |
| | | SAAF kit for Mastitis control | 30 | Mastitis occurrence (%) | 2.2 | 36.1 |
| Sheep | Nutrition management | Mineral mixtures | 20 | Body weight (kg/animal) at marketable age | 23.0 | 18.2 |
| Goatary | Breed evaluation | Osmanabadi | 28 | Body Weight (kg/8 months) | 17.6 | 15.3 |
| | Disease Management | Ecto and Endo parasitic infection | 28 | Parasite occurrence (%) | 4 | 20 |
| | Nutrition management | Supplimentary feed (GNC) | 12 | Body Weight (kg/animal) | 18 | 13 |

| Enterprise | Thematic area | Technology | No. of demos | Parameter | Demo | Check |
|------------|------------------|------------------------|--------------|-------------------------------------|------|-------|
| Poultry | Breed evaluation | Rajasree | 50 | Live weight (Kg/bird) at 12th month | 4.0 | 2.5 |
| | | Giriraja | 64 | Live weight (Kg/bird) at 12th month | 3.1 | 1.8 |
| | | Suwarandhara | 28 | Live weight (Kg/bird) at 12th month | 3.3 | 1.5 |
| | | Vanaraja | 70 | Live weight (Kg/bird) at 12th month | 2.7 | 1.3 |
| | | Grampriya | 50 | Live weight (Kg/bird) at 12th month | 1.7 | 1.1 |
| | Feed management | Azolla feeding | 20 | Live weight (Kg/bird) at 12th month | 3.2 | 2.6 |
| Fishery | Breed evaluation | Composite fish culture | 72 | Yield (q/ha) | 72.8 | 53.4 |
| | | Indian Majorcarp | 28 | Yield (q/ha) | 28 | 23 |
| | Feed management | Prawn culture | 20 | Yield (q/ha) | 50.5 | 42.8 |
| | | Murrel culture | 31 | Yield (q/ha) | 13.3 | 12.0 |

3.2.15 Gender specific technologies

To relieve farmwomen of household drudgery and improve their health, nutritional status and income, KVKs organized 719 demonstrations (Table 32). Among technologies demonstrated on health and nutrition of women and children, iron and protein fortified diet resulted in increased hemoglobin

in pregnant women. Technologies for economic empowerment of rural women viz. papad making processing and production of oyster mushrooms, sericulture, vermicompost, mini dal mill were also demonstrated by KVKs (Table 33).



Demonstration of mango peeling with steel peeler for tribal women, KVK Nandurbar

Table: 32. Details of FLDs on Gender Specific Technologies

| Thematic area | Andhra Pradesh | | Maharashtra | | Zone | |
|-------------------------------|----------------|------------|-------------|------------|-----------|------------|
| | NT | ND | NT | ND | NT | ND |
| Entrepreneurship Development | 2 | 104 | 5 | 120 | 7 | 224 |
| Health and Nutrition | 2 | 184 | 3 | 191 | 5 | 375 |
| House hold drudgery reduction | 2 | 35 | 2 | 70 | 4 | 105 |
| Drudgery Reduction | 0 | 0 | 1 | 15 | 1 | 15 |
| Total | 6 | 323 | 11 | 396 | 16 | 719 |

NT: No. of technologies

ND: No. of demonstrations

Table: 33. Performance of FLDs on Gender Specific Technologies

| Thematic area | Technology | No. of Demos | Parameter | Demo | Control |
|-------------------------------|-------------------------------|--------------|------------------------------|------|---------|
| Entrepreneur ship Development | Mini Dal Mill | 30 | kg/hr | 79 | 22 |
| | Oyester Mushroom | 10 | Yield (kg/bed) | 1.25 | 0.85 |
| | Papad making | 30 | kg/8 hours of day | 8.5 | 3 |
| | Sericulture | 111 | Income Rs. (Lakh/unit) | 1.8 | 0.25 |
| | Vermi compost | 43 | kg/6 months | 900 | 500 |
| Health and nutrition | Nutrition garden | 165 | Expenditure of monthly (Rs.) | 535 | 980 |
| | Iron & protein fortified diet | 120 | Hb content (mg/dL) | 12.5 | 9.2 |
| | Amylase Rich Food | 90 | Wegiht (kg) | 1.59 | 0.88 |
| House hold Drudgery Reduction | Kisan Cooker | 30 | Fuel (g/kg food) | 300 | 1025 |
| | Smokeless Chulla | 75 | Fuel (g/kg food) | 550 | 900 |
| Drudgery Reduction | Cotton Picking Coat | 15 | kg/8 hours of day | 84 | 62 |

3.3 Training

Training is an important activity of KVK which play a pivotal role in enhancing the knowledge and skill about various improved technologies. KVKs assess the training needs and prioritized them and based on the need skill oriented training programs for various clientele groups were organized. The training for farmers and farmwomen is primarily focused on knowledge and skills, while it is entrepreneurship development and knowledge on frontier areas of science and technology for rural youth and extension personnel respectively.

In all, 5972 training programs were conducted with 185796 participants including 148233 farmers, 25281 rural youth and 13087 extension functionaries (Table 34). KVKs in Andhra Pradesh organized 2037 training courses with a participation of 65611 farmers, rural youth and extension functionaries, while the KVKs in Maharashtra conducted 3935 courses with a total participation of 120990 beneficiaries.

The main thematic areas covered under training include integrated crop management, improved tools and implements, capacity building and

group dynamics, women empowerment, improved production practices for horticultural crops, productivity enhancement in livestock species, integrated pest management and soil health and fertility management.

The details of training courses vis-à-vis coverage of disciplines for farmers are given in Table 35. A total

of 4598 training courses were conducted for 148232 farmers on various subjects, 958 (35450) on crop production followed by 803 courses were conducted with 21547 participants for empowerment of women, 774 (26136) on horticulture, 630 (20853) on plant protection, 430 (11569) on livestock production and management, etc.

Table: 34. Details of client wise training programs organized by KVKs in Zone V

| Clientele | No. of Courses | Other Beneficiaries | | | SC/ST Beneficiaries | | | Total | | |
|----------------|----------------|---------------------|--------|--------|---------------------|--------|-------|--------|--------|--------|
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Andhra Pradesh | | | | | | | | | | |
| EF | 87 | 1157 | 763 | 1920 | 274 | 354 | 628 | 1431 | 1117 | 2548 |
| FFW | 1648 | 25612 | 9582 | 35194 | 11046 | 7846 | 18892 | 36658 | 17428 | 54086 |
| RY | 302 | 3652 | 2752 | 6404 | 1312 | 1261 | 2573 | 4964 | 4013 | 8977 |
| Total | 2037 | 30421 | 13097 | 43517 | 12632 | 9461 | 22093 | 43053 | 22558 | 65611 |
| Maharashtra | | | | | | | | | | |
| EF | 347 | 6613 | 1439 | 8052 | 1829 | 658 | 2487 | 8442 | 2097 | 10539 |
| FFW | 2950 | 54552 | 13073 | 67625 | 19025 | 7497 | 26522 | 73577 | 20570 | 94147 |
| RY | 638 | 8079 | 3175 | 11254 | 3283 | 1767 | 5050 | 11362 | 4942 | 16304 |
| Total | 3935 | 69244 | 17687 | 86931 | 24137 | 9922 | 34059 | 93381 | 27609 | 120990 |
| Zone | | | | | | | | | | |
| EF | 434 | 7770 | 2202 | 9972 | 2103 | 1012 | 3115 | 9873 | 3214 | 13087 |
| FFW | 4598 | 80164 | 22655 | 102819 | 30071 | 15343 | 45414 | 110235 | 37998 | 148233 |
| RY | 940 | 11731 | 5927 | 17658 | 4595 | 3028 | 7623 | 16326 | 8955 | 25281 |
| Total | 5972 | 99665 | 30784 | 130449 | 36769 | 19383 | 56152 | 136434 | 50167 | 186601 |

EF: Extension Functionaries FFW: Farmers and Farm Women RY: Rural Youth

Table: 35. State wise and discipline wise training programs conducted for farmers

| Discipline | Andhra Pradesh | | Maharashtra | | Total | |
|--------------------------------------|----------------|-------|-------------|-------|-------|-------|
| | NC | NB | NC | NB | NC | NB |
| Agril. Engineering | 18 | 501 | 166 | 4729 | 184 | 5230 |
| Agricultural Extension | 9 | 335 | 1 | 25 | 10 | 360 |
| Agro-forestry | 4 | 20 | 2 | 115 | 6 | 135 |
| Capacity Building and Group Dynamics | 35 | 1586 | 140 | 4784 | 175 | 6370 |
| Crop Production | 334 | 11681 | 624 | 23769 | 958 | 35450 |
| Fisheries | 80 | 2955 | 34 | 788 | 114 | 3743 |
| Home Science/Women empowerment | 347 | 9339 | 456 | 12208 | 803 | 21547 |

| Discipline | Andhra Pradesh | | Maharashtra | | Total | |
|--------------------------------------|----------------|--------------|-------------|--------------|-------------|---------------|
| | NC | NB | NC | NB | NC | NB |
| Horticulture | | | | | | |
| a) Vegetable Crops | 126 | 4733 | 207 | 5927 | 333 | 10660 |
| b) Fruits | 134 | 4781 | 173 | 6800 | 307 | 11581 |
| c) Ornamental Plants | 19 | 574 | 18 | 464 | 37 | 1038 |
| d) Plantation crops | 15 | 407 | 17 | 657 | 32 | 1064 |
| e) Tuber crops | 3 | 84 | 9 | 277 | 12 | 361 |
| f) Spices | 18 | 532 | 20 | 569 | 38 | 1101 |
| g) Medicinal and Aromatic Plants | 12 | 234 | 3 | 97 | 15 | 331 |
| Total | 327 | 11345 | 447 | 14791 | 774 | 26136 |
| Livestock Production and Management | 114 | 3482 | 316 | 8087 | 430 | 11569 |
| Plant Protection | 229 | 7502 | 401 | 13351 | 630 | 20853 |
| Production of Inputs at site | 22 | 692 | 21 | 441 | 43 | 1133 |
| Soil Health and Fertility Management | 129 | 4648 | 342 | 11059 | 471 | 15707 |
| Total | 1648 | 54086 | 2950 | 94147 | 4598 | 148233 |

NC : Number of courses

NB : No. of beneficiaries

A total of 940 training programs covering 25281 rural youth were conducted by KVKs in Zone-V (Table 36). The main thematic areas of training include value addition (155), integrated farming

(69), Protected Cultivation (56), Post Harvest Technology (53), dairying (52), Organic Inputs (46) poultry production (45) etc.

Table: 36. Details of training programs for rural youth

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|--|----------------|-----|-------------|------|-------|------|
| | NC | NB | NC | NB | NC | NB |
| Bee-keeping | | | 4 | 99 | 4 | 99 |
| Cold water fisheries | | | 1 | 44 | 1 | 44 |
| Commercial fruit production | | | 12 | 306 | 12 | 306 |
| Composite fish culture | 1 | 61 | 1 | 20 | 2 | 81 |
| Cultivation of vegetables | | | 1 | 42 | 1 | 42 |
| Dairying | 13 | 351 | 39 | 887 | 52 | 1238 |
| Fish harvest and processing technology | 2 | 104 | | | 2 | 104 |
| Floriculture | 1 | 46 | 2 | 49 | 3 | 95 |
| Fry and fingerling rearing | | | 3 | 66 | 3 | 66 |
| Integrated farming | 20 | 680 | 49 | 1580 | 69 | 2260 |
| Integrated Fish Farming | | | 3 | 51 | 3 | 51 |

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|---|----------------|------|-------------|------|-------|------|
| | NC | NB | NC | NB | NC | NB |
| Integrated pest Management | 7 | 146 | 7 | 135 | 14 | 281 |
| Mushroom Production | 17 | 378 | 15 | 371 | 32 | 749 |
| Nursery Management of Horticulture crops | 15 | 679 | 25 | 604 | 40 | 1283 |
| Ornamental fisheries | 1 | 34 | 10 | 250 | 11 | 284 |
| Para extension workers | 1 | 30 | 29 | 606 | 30 | 636 |
| Para vets | | | 2 | 41 | 2 | 41 |
| Pearl culture | | | 2 | 47 | 2 | 47 |
| Piggery | | | 1 | 102 | 1 | 102 |
| Planting Material Production | 15 | 434 | 11 | 341 | 26 | 775 |
| Post Harvest Technology | 7 | 213 | 46 | 1122 | 53 | 1335 |
| Poultry production | 6 | 187 | 39 | 941 | 45 | 1128 |
| Production of organic inputs | 14 | 348 | 32 | 719 | 46 | 1067 |
| Production of quality animal products | 2 | 80 | 3 | 62 | 5 | 142 |
| Production technology | 6 | 208 | | | 6 | 208 |
| Protected cultivation of vegetable crops | 11 | 390 | 45 | 1366 | 56 | 1756 |
| Quail farming | | | 3 | 80 | 3 | 80 |
| Rabbit farming | | | 1 | 24 | 1 | 24 |
| Repair & maintenance of farm machinery & implements | 5 | 183 | 10 | 260 | 15 | 443 |
| Rural Crafts | 8 | 166 | 9 | 257 | 17 | 423 |
| Seed production | 6 | 272 | 17 | 545 | 23 | 817 |
| Sericulture | 9 | 256 | 5 | 224 | 14 | 480 |
| Sheep and goat rearing | 3 | 48 | 26 | 689 | 29 | 737 |
| Shrimp farming | | | 1 | 20 | 1 | 20 |
| Small scale processing | 8 | 171 | 28 | 793 | 36 | 964 |
| Tailoring and Stitching | 16 | 350 | 2 | 37 | 18 | 387 |
| Training and pruning of orchards | 10 | 330 | 4 | 76 | 14 | 406 |
| Value addition | 51 | 1827 | 104 | 2243 | 155 | 4070 |
| Vermi-culture | 6 | 180 | 20 | 624 | 26 | 804 |
| Others | | | | | | |
| Agro Service Centre | | | 1 | 19 | 1 | 19 |
| Agro tourism | | | 2 | 48 | 2 | 48 |
| Awareness Creation | | | 1 | 18 | 1 | 18 |

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|---|----------------|-------------|-------------|--------------|------------|--------------|
| | NC | NB | NC | NB | NC | NB |
| Briquette Production | | | 1 | 17 | 1 | 17 |
| Capacity building for ICT application | | | 1 | 21 | 1 | 21 |
| Community farming | | | 1 | 20 | 1 | 20 |
| Drudgery reduction | 1 | 30 | | | 1 | 30 |
| Entrepreneurial development | | | 7 | 197 | 7 | 197 |
| Extension skills | 7 | 47 | | | 7 | 47 |
| Feed & Fodder Management | | | 1 | 20 | 1 | 20 |
| Group Dynamics | | | 1 | 16 | 1 | 16 |
| Installation & maintenance of micro irrigation system | | | 1 | 30 | 1 | 30 |
| Leadership development | 1 | 60 | | | 1 | 60 |
| PRA techniques | 3 | 123 | | | 3 | 123 |
| Resource conservation technique | | | 1 | 38 | 1 | 38 |
| Rolling and polishing | 11 | 56 | | | 11 | 56 |
| Screen printing | 3 | 73 | | | 3 | 73 |
| Skill development | 5 | 42 | | | 5 | 42 |
| Tribal youth network programme | 4 | 95 | | | 4 | 95 |
| Science clubs | 3 | 168 | | | 3 | 168 |
| Soil testing | | | 1 | 19 | 1 | 19 |
| Weed management | 2 | 61 | | | 2 | 61 |
| Women and child care | 1 | 70 | 7 | 118 | 8 | 188 |
| Total | 302 | 8977 | 638 | 16304 | 940 | 25281 |

NC : Number of courses

NB : No. of beneficiaries



**Training on preparation herbal products at
KVK Chittoor (RASS)**



**Training on making Pickle & chutney at KVK,
Amaravati (G)**

In Zone-V, 434 training courses with a participation of 13087 Extension Personnel covering various thematic areas viz. Productivity Enhancement in Field Crops (75), Integrated Pest Management (55), Integrated Nutrient Management (36), Group

Dynamics and Farmers Organizations (34), Women and Child Care (27), Livestock feed and fodder production (24) etc., were organized by KVKs (Table 37).

Table: 37. Details of training for extension functionaries

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|---|----------------|-----|-------------|------|-------|------|
| | NC | NB | NC | NB | NC | NB |
| Capacity building for ICT application | 11 | 245 | 10 | 246 | 21 | 491 |
| Care & maintenance of farm machinery & implements | 1 | 50 | 10 | 289 | 11 | 339 |
| Formation and Management of SHGs | 3 | 91 | 10 | 355 | 13 | 446 |
| Gender mainstreaming through SHGs | 2 | 28 | 3 | 71 | 5 | 99 |
| Goat Management | | | 2 | 28 | 2 | 28 |
| Group Dynamics and farmers organization | 1 | 138 | 33 | 1033 | 34 | 1171 |
| Household food security | 2 | 98 | 7 | 137 | 9 | 235 |
| Information networking among farmers | 6 | 178 | 12 | 367 | 18 | 545 |
| Integrated Nutrient management | 5 | 140 | 31 | 767 | 36 | 907 |
| Integrated Pest Management | 8 | 237 | 47 | 1712 | 55 | 1949 |
| Livestock feed and fodder production | 5 | 94 | 19 | 589 | 24 | 683 |
| Low cost and nutrient efficient diet designing | 8 | 124 | 9 | 292 | 17 | 416 |
| Production & Management | | | 1 | 22 | 1 | 22 |
| Production and use of organic inputs | 3 | 56 | 15 | 322 | 18 | 378 |
| Productivity enhancement in field crops | 12 | 448 | 63 | 2402 | 75 | 2850 |
| Protected cultivation technology | 2 | 54 | 17 | 531 | 19 | 585 |
| Quail management | | | 1 | 23 | 1 | 23 |
| Rejuvenation of old orchards | 2 | 51 | 6 | 122 | 8 | 173 |
| Women and child care | 9 | 309 | 18 | 474 | 27 | 783 |
| WTO and IPR issues | 1 | 37 | 2 | 31 | 3 | 68 |
| Others | | | | | | 0 |
| Agricultural Marketing | 1 | 37 | | | 1 | 37 |
| Composite fish culture | | | 3 | 54 | 3 | 54 |
| Culture based capture fisheries | 1 | 14 | | | 1 | 14 |
| Dairying | 1 | 63 | 10 | 263 | 11 | 326 |
| Dissemination of technology | 2 | 31 | | | 2 | 31 |
| Documentation and reporting skills | 1 | 25 | | | 1 | 25 |
| Effect of climate change in agriculture | | | 3 | 84 | 3 | 84 |
| Entrepreneurial development of farmers | | | 1 | 20 | 1 | 20 |

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|---|----------------|-------------|-------------|--------------|------------|--------------|
| | NC | NB | NC | NB | NC | NB |
| FET (Field Experience Training) | | | 1 | 6 | 1 | 6 |
| Food processing | | | 1 | 15 | 1 | 15 |
| Location specific Drudgery Reduction technologies | | | 1 | 31 | 1 | 31 |
| Market Led Extension | | | 2 | 48 | 2 | 48 |
| PARA extension worker | | | 1 | 16 | 1 | 16 |
| Small scale processing (PHT) | | | 5 | 105 | 5 | 105 |
| PRA | | | 2 | 45 | 2 | 45 |
| SREP | | | 1 | 39 | 1 | 39 |
| Total | 87 | 2548 | 347 | 10539 | 434 | 13087 |

NC: Number of courses NB: No. of beneficiaries

3.3.1 Sponsored Training

With the available infrastructure and technical manpower, KVKs facilitated various research institutes, line departments of state and central government, financial institutions etc., in organizing sponsored training in rural areas. KVKs organized 1025 sponsored training programmes covering 27848 farmers and rural youth (Table 38). The important organizations that contributed to sponsored training include Agricultural Technology Management Agency (ATMA), National Horticultural Mission (NHM), National Bank for Agriculture and Rural Development (NABARD), etc. The important thematic areas include capacity building of rural youth (1898), integrated farming

(1942), commercial horticulture (2667), value addition (3284), dairying (1116) etc.

3.3.2 Vocational Training

In order to facilitate entrepreneurship development, income generation and self-employment especially among rural youth and school dropouts, KVKs organized vocational training programs. In all, 330 vocational training programs covering 9576 rural youth were organized by KVKs during 2013-14 (Table 39). The important thematic areas include Value Addition (76), Income Generation for Women (69), Poultry (21), Planting Material Production (16), Dairy (15), Commercial Horticulture (13), Vermin-culture (10) etc.

Table: 38. Details of sponsored training programs

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|-------------------------|----------------|-----|-------------|------|-------|------|
| | NC | NP | NC | NP | NC | NP |
| Capacity building | 8 | 396 | 61 | 1502 | 69 | 1898 |
| Cocoa Cultivation | 3 | 50 | | | 3 | 50 |
| Commercial Horticulture | 8 | 290 | 45 | 2377 | 53 | 2667 |
| Compost making | 2 | 75 | | | 2 | 75 |
| Crop Diversification | 8 | 175 | | | 8 | 175 |
| Crop management | 5 | 239 | | | 5 | 239 |
| Crop Production | 13 | 590 | 4 | 701 | 17 | 1291 |

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|------------------------------------|----------------|------|-------------|------|-------|------|
| | NC | NP | NC | NP | NC | NP |
| Dairy Management | 1 | 16 | 44 | 1100 | 45 | 1116 |
| Drudgery reduction | | | 12 | 701 | 12 | 701 |
| Dry land Agriculture | 1 | 27 | 68 | 392 | 69 | 419 |
| Entrepreneurship Development | 4 | 134 | 12 | 288 | 16 | 422 |
| Farm Implements | | | 1 | 35 | 1 | 35 |
| Fisheries | 10 | 146 | | | 10 | 146 |
| Floriculture | 1 | 70 | | | 1 | 70 |
| fodder Management | 5 | 46 | 7 | 239 | 12 | 285 |
| ICT | 4 | 25 | | | 4 | 25 |
| Income generation | 53 | 626 | 14 | 452 | 67 | 1078 |
| INM | 11 | 493 | 20 | 672 | 31 | 1165 |
| Integrated Crop Management | 16 | 427 | 86 | 3955 | 102 | 4382 |
| Integrated farming | 21 | 1158 | 22 | 784 | 43 | 1942 |
| Integrated Pest Management | 6 | 261 | 21 | 774 | 27 | 1035 |
| Market Management | | | 44 | 63 | 44 | 63 |
| Millet production | 2 | 80 | | | 2 | 80 |
| Mushroom | 4 | 60 | 3 | 70 | 7 | 130 |
| Orchard Management | 4 | 80 | | | 4 | 80 |
| Organic Farming | 2 | 80 | 3 | 59 | 5 | 139 |
| Plantation crops | 1 | 20 | | | 1 | 20 |
| Para extension workers | | | 6 | 186 | 6 | 186 |
| Plant protection | 2 | 130 | | | 2 | 130 |
| Planting material production | | | 7 | 224 | 7 | 224 |
| Post Harvest Technology | | | 3 | 60 | 3 | 60 |
| Poultry | 19 | 107 | 18 | 506 | 37 | 613 |
| PPV & FR | 5 | 254 | 1 | 110 | 6 | 364 |
| Production & Use of organic inputs | | | 2 | 64 | 2 | 64 |
| Production of Bio products | 1 | 33 | | | 1 | 33 |
| Promotion of Kitchen garden | 1 | 7 | 1 | 20 | 2 | 27 |
| Protected cultivation | | | 20 | 466 | 20 | 466 |
| Resource Conservation Technology | 1 | 47 | 5 | 211 | 6 | 258 |
| Seed Production | | | 1 | 98 | 1 | 98 |
| Sericulture | 2 | 61 | | | 2 | 61 |

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|---------------------------|----------------|-------------|-------------|--------------|-------------|--------------|
| | NC | NP | NC | NP | NC | NP |
| Sheep & Goat rearing | 6 | 312 | 12 | 266 | 18 | 578 |
| Soil & water conservation | | | 20 | 852 | 20 | 852 |
| Sustainable agriculture | 1 | 32 | | | 1 | 32 |
| Tailoring & Stitching | 1 | 66 | | | 1 | 66 |
| Training and Pruning | | | 1 | 31 | 1 | 31 |
| Value addition | 34 | 450 | 175 | 2834 | 209 | 3284 |
| Water management | 2 | 69 | 7 | 185 | 9 | 254 |
| Watershed mgt. | | | 3 | 98 | 3 | 98 |
| Weed management | 2 | 86 | 1 | 40 | 3 | 126 |
| Women empowerment | 5 | 215 | | | 5 | 215 |
| Total | 275 | 7433 | 750 | 20415 | 1025 | 27848 |

NC : Number of courses

NP : No. of participants

Table: 39. Details of vocational training programs organized by KVKs

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|--|----------------|------|-------------|------|-------|------|
| | NC | NP | NC | NP | NC | NP |
| Capacity building (Agri Journalism) | 2 | 65 | 2 | 82 | 4 | 147 |
| Repair & maintenance of Drip & Sprinkler irrigation system | 1 | 32 | | | 1 | 32 |
| Motor rewinding | 1 | 36 | | | 1 | 36 |
| Repair & Maintenance of pesticide application equipment | 1 | 28 | | | 1 | 28 |
| Commercial Horticulture | 1 | 30 | 12 | 494 | 13 | 524 |
| Drudgery reduction | 1 | 23 | | | 1 | 23 |
| Fisheries | 2 | 56 | 3 | 58 | 5 | 114 |
| kitchen garden | 1 | 30 | | | 1 | 30 |
| Income Generation for Women | 58 | 1728 | 11 | 317 | 69 | 2045 |
| Mushroom Production | 9 | 238 | 4 | 109 | 13 | 347 |
| Production of organic inputs | 2 | 64 | 5 | 128 | 7 | 192 |
| Poultry Management | 1 | 25 | 20 | 559 | 21 | 584 |
| Seed production | 2 | 85 | 3 | 71 | 5 | 156 |
| Tailoring and Stitching | 13 | 369 | 2 | 76 | 15 | 445 |
| Value addition | 21 | 690 | 55 | 1445 | 76 | 2135 |

| Thematic area | Andhra Pradesh | | Maharashtra | | Total | |
|------------------------------------|----------------|-------------|-------------|-------------|------------|-------------|
| | NC | NP | NC | NP | NC | NP |
| Vermi Culture | 2 | 41 | 8 | 207 | 10 | 248 |
| Marketing skills | 1 | 55 | | | 1 | 55 |
| Sheep & Goat rearing | | | 14 | 381 | 14 | 381 |
| Sericulture | | | 2 | 67 | 2 | 67 |
| Protective Cultivation | | | 8 | 326 | 8 | 326 |
| Planting material Production | | | 16 | 388 | 16 | 388 |
| Para Extension workers | | | 5 | 172 | 5 | 172 |
| Integrated Pest Management | | | 3 | 66 | 3 | 66 |
| Integrated Crop Management | | | 7 | 165 | 7 | 165 |
| Integrated Farming | | | 1 | 20 | 1 | 20 |
| Azolla production | | | 2 | 69 | 2 | 69 |
| Soil ,Water and fertilizer testing | | | 5 | 72 | 5 | 72 |
| Biomass charcoal Briquetting | | | 2 | 71 | 2 | 71 |
| Entrepreneurship Development | | | 6 | 258 | 6 | 258 |
| Dairy Management | | | 15 | 380 | 15 | 380 |
| Total | 119 | 3595 | 211 | 5981 | 330 | 9576 |

NC: Number of courses

NP: No. of Participants

3.4 Extension Activities

In order to create awareness among farmers about improved agricultural technologies, KVKs in Zone-V organized 30264 extension activities covering 781284 participants (Table 40). The extension activities included advisory services, exposure visits, animal health camps, technology

week, group discussions, method demonstrations, soil health camps, kisan melas, kisan ghosti, etc. KVKs in Andhra Pradesh organized 13215 extension activities covering 258502 participants and the corresponding figures for Maharashtra are 17049 and 522782 (Table 41 and 42).



**Visit of Sri Sharad Pawar, Union Agril. Minister to KVK Chittor stall
at KVK, Baramati, Pune Dist.**

Table: 40. Details of Extension Activities organized by KVKs in Zone V

| Activity | No. of activities | Participants | | | | | | | | |
|--|-------------------|-------------------------|--------|--------|---------------------|--------|-------|-------------|--------|--------|
| | | Farmers (Others+ SC/ST) | | | Extension Officials | | | Grand Total | | |
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Advisory Services | 4057 | 74241 | 17548 | 91789 | 347 | 225 | 572 | 74588 | 17773 | 92361 |
| Phone In Program | 2 | 34 | 0 | 34 | 0 | 0 | 0 | 34 | 0 | 34 |
| Agri mobile clinic | 181 | | | | | | | | | |
| Plant Clinic | 5 | 62 | 0 | 62 | 4 | 0 | 4 | 66 | 0 | 66 |
| Animal Health Camp | 659 | 4009 | 1245 | 5254 | 177 | 30 | 207 | 4186 | 1275 | 5461 |
| Celebration of important days | 273 | 7554 | 8405 | 15959 | 492 | 370 | 862 | 8046 | 8775 | 16821 |
| Diagnostic Visit | 4023 | 10253 | 5679 | 15932 | 602 | 101 | 703 | 10855 | 5780 | 16635 |
| Exhibition | 182 | 99431 | 44844 | 144275 | 3596 | 1536 | 5132 | 103027 | 46380 | 149407 |
| Exposer Visit | 462 | 9215 | 2471 | 11686 | 135 | 62 | 197 | 9350 | 2533 | 11883 |
| Farmers Rallies | 21 | | | | | | | | | |
| Farmers Seminar | 212 | 11286 | 2046 | 13332 | 330 | 37 | 367 | 11616 | 2083 | 13699 |
| Farmers visit to KVK | 3378 | 147489 | 53049 | 200538 | 2163 | 323 | 2486 | 149652 | 53372 | 203024 |
| Field Day | 485 | 14716 | 6169 | 20885 | 871 | 140 | 1011 | 15587 | 6309 | 21896 |
| Film Show | 389 | 10121 | 6935 | 17056 | 459 | 173 | 632 | 10580 | 7108 | 17688 |
| Video conference | 7 | | | | | | | | | |
| Video Show | 1 | 0 | 15 | 15 | 0 | 0 | 0 | 0 | 15 | 15 |
| Group meetings | 942 | 10401 | 6854 | 17255 | 447 | 105 | 552 | 10848 | 6959 | 17807 |
| Kisan Ghosthi | 258 | 11254 | 6328 | 17582 | 518 | 163 | 681 | 11772 | 6491 | 18263 |
| Kisan Mela | 157 | 34991 | 17153 | 52144 | 1449 | 452 | 1901 | 36440 | 17605 | 54045 |
| Lectures delivered as resource persons | 1402 | 41325 | 12972 | 54297 | 2611 | 834 | 3445 | 43936 | 13806 | 57742 |
| Mahila Mandals Conveners meetings | 47 | 138 | 1414 | 1552 | 32 | 247 | 279 | 170 | 1661 | 1831 |
| Method Demonstrations | 986 | 10919 | 7583 | 18502 | 435 | 171 | 606 | 11354 | 7754 | 19108 |
| News paper coverage | 3421 | | | | | | | | | |
| Radio Talk | 1420 | | | | | | | | | |
| Scientists visit to farmers field | 6129 | 18537 | 8432 | 26969 | 740 | 207 | 947 | 19277 | 8639 | 27916 |
| Self Help Group Conveners meetings | 124 | 205 | 1834 | 2039 | 41 | 49 | 90 | 246 | 1883 | 2129 |
| Soil health Camp | 391 | 19804 | 2381 | 22185 | 484 | 67 | 551 | 20288 | 2448 | 22736 |
| TV talks | 332 | | | | | | | | | |
| Workshops & Meeting | 129 | 3230 | 1239 | 4469 | 875 | 1093 | 1968 | 4105 | 2332 | 6437 |

| Activity | No. of activities | Participants | | | | | | | | |
|-----------------------------------|-------------------|-------------------------|---------------|---------------|---------------------|-------------|--------------|---------------|---------------|---------------|
| | | Farmers (Others+ SC/ST) | | | Extension Officials | | | Grand Total | | |
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Others | | | | | | | | | | |
| Farmer-scientist interaction meet | 13 | 210 | 2 | 212 | 24 | 0 | 24 | 234 | 2 | 236 |
| Farmers-scientist forum meeting | 12 | 355 | 70 | 425 | 75 | 0 | 75 | 430 | 70 | 500 |
| Farm Science Club Conveners meet | 128 | 1417 | 189 | 1606 | 80 | 5 | 85 | 1497 | 194 | 1691 |
| Farmers Field School | 2 | 25 | 26 | 51 | 0 | 0 | 0 | 25 | 26 | 51 |
| Ex-trainee Sammelan | 14 | 352 | 48 | 400 | 9 | 0 | 9 | 361 | 48 | 409 |
| Innovative Farmers Meet | 1 | 10 | 0 | 10 | 2 | 0 | 2 | 12 | 0 | 12 |
| Stake Holders Meet | 1 | 0 | 0 | 0 | 13 | 0 | 13 | 13 | 0 | 13 |
| KVK at Village | 1 | 14 | 0 | 14 | 1 | 0 | 1 | 15 | 0 | 15 |
| Live Web casting Program | 2 | 152 | 53 | 205 | 5 | 0 | 5 | 157 | 53 | 210 |
| Millet festival | 2 | | | | | | | | | |
| Nutrition week | 1 | 0 | 92 | 92 | 5 | 5 | 10 | 5 | 97 | 102 |
| Breast feeding week | 1 | 0 | 185 | 185 | 0 | 5 | 5 | 0 | 190 | 190 |
| Parthenium Awareness Week | 6 | 459 | 150 | 609 | 22 | 1 | 23 | 481 | 151 | 632 |
| Health Camp | 5 | 34 | 172 | 206 | 3 | 10 | 13 | 37 | 182 | 219 |
| Total | 30264 | 542243 | 215583 | 757826 | 17047 | 6411 | 23458 | 559290 | 221994 | 781284 |

Table: 41. Details of Extension Activities organized by KVKs in Andhra Pradesh

| Activity | No. of activities | Participants | | | | | | | | |
|-------------------------------|-------------------|-------------------------|--------|-------|---------------------|--------|-------|-------------|--------|-------|
| | | Farmers (Others+SC/ST) | | | Extension Officials | | | Grand Total | | |
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Advisory Services | 2374 | 42822 | 15175 | 57997 | 326 | 212 | 538 | 43148 | 15387 | 58535 |
| Agri. mobile SMS | 136 | | | | | | | | | |
| Animal Health Camp | 556 | 1107 | 937 | 2044 | 79 | 29 | 108 | 1186 | 966 | 2152 |
| Celebration of important days | 78 | 2761 | 3288 | 6049 | 176 | 252 | 428 | 2937 | 3540 | 6477 |
| Diagnostic visits | 1493 | 3849 | 4326 | 8175 | 147 | 58 | 205 | 3996 | 4384 | 8380 |
| Exhibition | 47 | 15466 | 17303 | 32769 | 695 | 377 | 1072 | 16161 | 17680 | 33841 |

| Activity | No. of activities | Participants | | | | | | | | |
|--|-------------------|-------------------------|---------------|---------------|---------------------|-------------|-------------|---------------|---------------|---------------|
| | | Farmers (Others+SC/ST) | | | Extension Officials | | | Grand Total | | |
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Exposure visits | 86 | 805 | 847 | 1652 | 19 | 6 | 25 | 824 | 853 | 1677 |
| Farmers Rallies | 21 | | | | | | | | | |
| Farmers Seminar | 21 | 691 | 638 | 1329 | 16 | 6 | 22 | 707 | 644 | 1351 |
| Farmers visit to KVK | 1242 | 28162 | 18248 | 46410 | 737 | 99 | 836 | 28899 | 18347 | 47246 |
| Field days | 200 | 5420 | 4836 | 10256 | 298 | 74 | 372 | 5718 | 4910 | 10628 |
| Film Show | 143 | 2917 | 4806 | 7723 | 50 | 30 | 80 | 2967 | 4836 | 7803 |
| Video conference | 7 | | | | | | | | | |
| Group Discussions | 515 | 4783 | 4948 | 9731 | 59 | 42 | 101 | 4842 | 4990 | 9832 |
| Kisan Ghosthi | 56 | 4523 | 5250 | 9773 | 200 | 102 | 302 | 4723 | 5352 | 10075 |
| Kisan Mela | 33 | 8765 | 9232 | 17997 | 580 | 257 | 837 | 9345 | 9489 | 18834 |
| Lectures delivered as resource persons | 558 | 6670 | 6296 | 12966 | 693 | 254 | 947 | 7363 | 6550 | 13913 |
| Method Demonstrations | 567 | 5841 | 5824 | 11665 | 169 | 53 | 222 | 6010 | 5877 | 11887 |
| Newspaper coverage | 1640 | | | | | | | | | |
| Radio talks | 414 | | | | | | | | | |
| Scientists visit to farmers field | 2644 | 6787 | 5335 | 12122 | 242 | 145 | 387 | 7029 | 5480 | 12509 |
| Self Help Group Conveners meetings | 30 | 120 | 506 | 626 | 0 | 12 | 12 | 120 | 518 | 638 |
| Soil health Camp | 69 | 274 | 285 | 559 | 15 | 4 | 19 | 289 | 289 | 578 |
| TV talks | 237 | | | | | | | | | |
| Workshops & Meeting | 19 | 845 | 708 | 1553 | 30 | 23 | 53 | 875 | 731 | 1606 |
| Others | | | | | | | | | | |
| Farmer-scientist interaction meet | 7 | | | | | | | | | |
| Farm Science Club Conveners meet | 2 | | | | | | | | | |
| Mahila Mandals Conveners meetings | 16 | 0 | 214 | 214 | 0 | 34 | 34 | 0 | 248 | 248 |
| Millet festival | 2 | | | | | | | | | |
| Nutrition week | 1 | 0 | 92 | 92 | 5 | 5 | 10 | 5 | 97 | 102 |
| Breast feeding week | 1 | 0 | 185 | 185 | 0 | 5 | 5 | 0 | 190 | 190 |
| Total | 13215 | 142608 | 109279 | 251887 | 4536 | 2079 | 6615 | 147144 | 111358 | 258502 |



Visit of farmers to floriculture plots
KVK Chittoor



Visit of farm women, Chittoor dist to
KVK Utkur, Kadapa dist

Table: 42. Details of Extension Activities organized by KVKs in Maharashtra

| Activity | No. of activities | Participants | | | | | | | | |
|-------------------------------|-------------------|------------------------|--------|--------|---------------------|--------|-------|-------------|--------|--------|
| | | Farmers (Others+SC/ST) | | | Extension Officials | | | Grand Total | | |
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Advisory Services | 1683 | 31419 | 2373 | 33792 | 21 | 13 | 34 | 31440 | 2386 | 33826 |
| Phone In Programme | 2 | 34 | 0 | 34 | 0 | 0 | 0 | 34 | 0 | 34 |
| Agri mobile clinic | 45 | | | | | | | | | |
| Plant Clinic | 5 | 62 | 0 | 62 | 4 | 0 | 4 | 66 | 0 | 66 |
| Animal Health Camp | 103 | 2902 | 308 | 3210 | 98 | 1 | 99 | 3000 | 309 | 3309 |
| Celebration of important days | 195 | 4793 | 5117 | 9910 | 316 | 118 | 434 | 5109 | 5235 | 10344 |
| Diagnostic Visit | 2530 | 6404 | 1353 | 7757 | 455 | 43 | 498 | 6859 | 1396 | 8255 |
| Exhibition | 135 | 83965 | 27541 | 111506 | 2901 | 1159 | 4060 | 86866 | 28700 | 115566 |
| Exposer Visit | 376 | 8410 | 1624 | 10034 | 116 | 56 | 172 | 8526 | 1680 | 10206 |
| Farmers Seminar | 191 | 10595 | 1408 | 12003 | 314 | 31 | 345 | 10909 | 1439 | 12348 |
| Farmers visit to KVK | 2136 | 119327 | 34801 | 154128 | 1426 | 224 | 1650 | 120753 | 35025 | 155778 |
| Field Day | 285 | 9296 | 1333 | 10629 | 573 | 66 | 639 | 9869 | 1399 | 11268 |
| Film Show | 246 | 7204 | 2129 | 9333 | 409 | 143 | 552 | 7613 | 2272 | 9885 |
| Video Show | 1 | 0 | 15 | 15 | 0 | 0 | 0 | 0 | 15 | 15 |
| Group Discussions | 427 | 5618 | 1906 | 7524 | 388 | 63 | 451 | 6006 | 1969 | 7975 |
| Kisan Ghosthi | 202 | 6731 | 1078 | 7809 | 318 | 61 | 379 | 7049 | 1139 | 8188 |
| Kisan Mela | 124 | 26226 | 7921 | 34147 | 869 | 195 | 1064 | 27095 | 8116 | 35211 |

| Activity | No. of activities | Participants | | | | | | | | |
|--|-------------------|------------------------|---------------|---------------|---------------------|-------------|--------------|---------------|---------------|---------------|
| | | Farmers (Others+SC/ST) | | | Extension Officials | | | Grand Total | | |
| | | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Lecture Delivered as a Resource Person | 844 | 34655 | 6676 | 41331 | 1918 | 580 | 2498 | 36573 | 7256 | 43829 |
| Method Demonstrations | 419 | 5078 | 1759 | 6837 | 266 | 118 | 384 | 5344 | 1877 | 7221 |
| News paper Coverage | 1781 | | | | | | | | | |
| Radio Talk | 1006 | | | | | | | | | |
| Scientist Visit to farmers field | 3485 | 11750 | 3097 | 14847 | 498 | 62 | 560 | 12248 | 3159 | 15407 |
| Self Help Group Conveners meetings | 94 | 85 | 1328 | 1413 | 41 | 37 | 78 | 126 | 1365 | 1491 |
| Soil health Camp | 322 | 19530 | 2096 | 21626 | 469 | 63 | 532 | 19999 | 2159 | 22158 |
| TV Talks | 95 | | | | | | | | | |
| Workshops & Meeting | 110 | 2385 | 531 | 2916 | 845 | 1070 | 1915 | 3230 | 1601 | 4831 |
| Others | | | | | | | | | | |
| Farmer Scientist interaction | 6 | 210 | 2 | 212 | 24 | 0 | 24 | 234 | 2 | 236 |
| Farmers-scientist forum meeting | 12 | 355 | 70 | 425 | 75 | 0 | 75 | 430 | 70 | 500 |
| Ex-trainee Sammelan | 14 | 352 | 48 | 400 | 9 | 0 | 9 | 361 | 48 | 409 |
| Farm Science Club Conveners meet | 126 | 1417 | 189 | 1606 | 80 | 5 | 85 | 1497 | 194 | 1691 |
| Farmers Field School | 2 | 25 | 26 | 51 | 0 | 0 | 0 | 25 | 26 | 51 |
| Innovative Farmers Meet | 1 | 10 | 0 | 10 | 2 | 0 | 2 | 12 | 0 | 12 |
| Stake Holders Meet | 1 | 0 | 0 | 0 | 13 | 0 | 13 | 13 | 0 | 13 |
| Mahila Mandals Conveners meetings | 31 | 138 | 1200 | 1338 | 32 | 213 | 245 | 170 | 1413 | 1583 |
| Health Camp | 5 | 34 | 172 | 206 | 3 | 10 | 13 | 37 | 182 | 219 |
| KVK at Village | 1 | 14 | 0 | 14 | 1 | 0 | 1 | 15 | 0 | 15 |
| Live Web casting Programme | 2 | 152 | 53 | 205 | 5 | 0 | 5 | 157 | 53 | 210 |
| Parthenium Awareness Week | 6 | 459 | 150 | 609 | 22 | 1 | 23 | 481 | 151 | 632 |
| Total | 17049 | 399635 | 106304 | 505939 | 12511 | 4332 | 16843 | 412146 | 110636 | 522782 |

Twelve KVKs in Andhra Pradesh and 30 KVKs in Maharashtra organized Technology Week to show case and popularize the latest technologies for the benefit of farmers. The details of various activities organized during technology week are presented

in Table 43. Similarly, KVKs also provided Kisan Mobile Advisory on weather information, market prices of various commodities, weather and crop based technology advisory etc. (Table 44)

Table: 43. Details of technology week celebration in KVKs of Zone V

| Activity | Andhra Pradesh | | Maharashtra | | Zone (Total) | |
|-----------------------------|----------------|--------------|----------------|---------------|----------------|---------------|
| | Q/No. | NF | Q/No. | NF | Q/No. | NF |
| 1. Diagnostic Practical | 9 | 33 | 35 | 3184 | 44 | 3217 |
| 2. Exhibition | 20 | 3566 | 45 | 26424 | 65 | 29990 |
| 3. Farm Visit | 44 | 2636 | 59 | 24940 | 103 | 27576 |
| 4. Film show | 24 | 2047 | 64 | 15926 | 88 | 17973 |
| 5. Gosthies | 37 | 1135 | 87 | 9836 | 124 | 10971 |
| 6. Lectures organized | 97 | 4198 | 199 | 31365 | 296 | 35563 |
| 7. Fair | 1 | 112 | 0 | 0 | 1 | 112 |
| 8. Distribution of material | | | | | | |
| a. Bio Fertilizers (q) | 0 | 0 | 15.19 | 191 | 15.19 | 191 |
| b. Planting materials (No.) | 40 | 0 | 4501 | 1565 | 4541 | 1565 |
| c. Seed (q) | 1 | 23 | 4.35 | 76 | 5.35 | 99 |
| d. Literature (No.) | 34 | 1514 | 53 | 33781 | 87 | 35295 |
| e. Seminar (No.) | 0 | 0 | 1 | 121 | 1 | 121 |
| Total | 307 | 15264 | 5063.54 | 147409 | 5370.54 | 162673 |

Q: Quantity; NF: No. of farmers

Table: 44. Details of Kisan Mobile Advisory by KVKs in Zone V

| Category | Group | Andhra Pradesh | | Maharashtra | | Total | |
|----------|------------------|----------------|--------------|-------------|---------------|------------|---------------|
| | | NM | NP | NM | NP | NM | NP |
| Animals | Diary | 2 | 1585 | 81 | 90718 | 83 | 92303 |
| | Fisheries | 17 | 755 | 10 | 18890 | 27 | 19645 |
| | Poultry | 35 | 1354 | 18 | 12431 | 53 | 13785 |
| | Sheep & Goat | 4 | 7141 | 32 | 13100 | 36 | 20241 |
| | TOTAL | 58 | 10835 | 141 | 135139 | 199 | 145974 |
| Crops | Cereals | 118 | 71601 | 187 | 105858 | 305 | 177459 |
| | Commercial Crops | 48 | 37418 | 212 | 215072 | 260 | 252490 |
| | Fodder | 1 | 25 | 28 | 31317 | 29 | 31342 |
| | Fruits | 104 | 16214 | 291 | 210430 | 395 | 226644 |
| | Oilseeds | 52 | 10159 | 149 | 119851 | 201 | 130010 |

| Category | Group | Andhra Pradesh | | Maharashtra | | Total | |
|----------|------------------------|----------------|---------------|-------------|----------------|-------------|----------------|
| | | NM | NP | NM | NP | NM | NP |
| | Ornamental Crops | | | 7 | 6382 | 7 | 6382 |
| | Pulses | 50 | 19091 | 152 | 132395 | 202 | 151486 |
| | Spices | | | 8 | 19203 | 8 | 19203 |
| | Vegetables | 145 | 21188 | 198 | 170464 | 343 | 191652 |
| | TOTAL | 518 | 175696 | 1232 | 1010972 | 1750 | 1186668 |
| Others | Agro Advisories | 16 | 4436 | 75 | 99044 | 91 | 103480 |
| | Critical Tech Products | 0 | 0 | 11 | 19606 | 11 | 19606 |
| | KVK Programmes | 80 | 40595 | 284 | 231416 | 364 | 272011 |
| | Market Information | 2 | 239 | 65 | 25339 | 67 | 25578 |
| | Weather Information | 21 | 32252 | 133 | 71680 | 154 | 103932 |
| | Farm Implements | 0 | 0 | 8 | 13374 | 8 | 13374 |
| | Women & Children | 1 | 540 | 23 | 783 | 24 | 1323 |
| | TOTAL | 120 | 78062 | 599 | 461242 | 719 | 539304 |

NM: No. of messages

NF: No. of farmers

3.5 Publications

To disseminate the information on improved agricultural technologies, KVKs of Zone-V brought out 1248 publications which include 552 popular articles, 124 technical reports, 344 leaflets and folders, 65 Research Papers, 56 Extension literature,

51 Books/Booklets/Brochures, 30 News Letter and 23 electronic publications viz. CD/VCD/DVDs etc. The details of publications brought out by the KVKs are given in Table 45.

Table: 45. Details of Publications by KVKs

| Type of Publication | Andhra Pradesh | | Maharashtra | | Total | |
|-----------------------------|----------------|---------------|-------------|---------------|-------------|---------------|
| | Number | No. of copies | Number | No. of copies | Number | No. of copies |
| Books /Booklets / Brochures | 25 | 18454 | 26 | 20254 | 51 | 38708 |
| Extension literature | 30 | 5719 | 26 | 20350 | 56 | 26069 |
| Electronic Publications | 4 | 206 | 19 | 1647 | 23 | 1853 |
| Posters | 3 | 4038 | | | 3 | 4038 |
| Leaflets/folders/ Pamphlets | 117 | 109384 | 227 | 219025 | 344 | 328409 |
| Popular articles | 151 | 880 | 401 | 1554 | 552 | 2434 |
| Research Papers/ Articles | 36 | | 29 | | 65 | |
| Technical reports | 62 | 2138 | 62 | 1515 | 124 | 3653 |
| News Letter | | | 30 | 25034 | 30 | 25034 |
| Total | 428 | 140819 | 820 | 289379 | 1248 | 430198 |

3.6 Critical Technology Products

In order to facilitate rapid transfer of improved technologies, KVKs produced improved seed and planting material of elite species, various bio-products, improved livestock breeds and species and supplied them to farmers and farmwomen.

3.6.1 Seed and Planting Material

KVKs produced 6329.28q of seed material (cereals and millets - 4780.67q, oilseeds - 947.90q, pulses - 549.54q, Vegetables - 8.12q etc.) and supplied to 12514 farmers (Table 46). KVKs also produced 3213803 saplings (1229679-vegetables, flower crops - 35095, fruits-472687, 714861 fodders, 272164 - forest species etc.) supplied to 20517 farmers (Table 47).

Table: 46. Details of production and supply of seed

| Category | Andhra Pradesh | | | Maharashtra | | | Total | | |
|---------------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|-----------------|----------------|
| | Quantity (q) | Value (Rs) | No. of farmers | Quantity (q) | Value (Rs) | No. of farmers | Quantity (q) | Value (Rs) | No. of farmers |
| Cereals and Millets | 3575.69 | 7599891 | 6874 | 1204.975 | 3128086 | 1401 | 4780.67 | 10727977 | 8275 |
| Flower Crops | 0.36 | 1320 | 202 | - | - | - | 0.36 | 1320 | 202 |
| Oilseeds | 72.785 | 327064 | 231 | 875.11 | 3123961 | 1380 | 947.90 | 3451025 | 1611 |
| Fodder crop | 20 | 10000 | - | 20.09 | 2330 | 29 | 40.09 | 12330 | 27 |
| Spices | 2.61 | 12957 | 128 | - | - | - | 2.61 | 12957 | 128 |
| Pulses | 494.505 | 1992527 | 874 | 55.03 | 256749 | 456 | 549.54 | 2249276 | 1330 |
| Vegetables | 4.81 | 20865 | 458 | 3.31 | 144380 | 481 | 8.12 | 165245 | 939 |
| Total | 4171 | 9964624 | 8767 | 2158.515 | 6655506 | 3747 | 6329.28 | 16620130 | 12514 |

Table: 47. Details of production and supply of planting material

| Enterprise | Andhra Pradesh | | | Maharashtra | | | Zone | | |
|----------------------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|
| | Quantity (q) | Value (Rs) | No. of farmers | Quantity (q) | Value (Rs) | No. of farmers | Quantity (q) | Value (Rs) | No. of farmers |
| Flower Crops | 33065 | 81205 | 99 | 2030 | 12000 | 48 | 35095 | 93205 | 147 |
| Fodder | 144935 | 108650 | 130 | 569926 | 602841 | 1007 | 714861 | 711491 | 1137 |
| Forest Species | 53255 | 158765 | 478 | 218909 | 2260890 | 1447 | 272164 | 2419655 | 1925 |
| Fruits | 23335 | 657943 | 866 | 449352 | 11313209 | 6439 | 472687 | 11971152 | 7305 |
| Medicinal & Aromatic crops | 60200 | 1500 | 7275 | - | - | - | 60200 | 1500 | 7275 |
| Ornamental Species | 2200 | 24985 | 216 | 20821 | 396465 | 440 | 23021 | 421450 | 656 |
| Plantation Crops | 6069 | 60405 | 207 | - | - | - | 6069 | 60405 | 207 |
| Spices | 71400 | 53550 | 23 | 97 | 1955 | 17 | 71497 | 55505 | 40 |
| Tuber crops | | | | 700 | 275 | 30 | 700 | 275 | 30 |
| Vegetables | 618260 | 179975 | 187 | 611419 | 464105 | 1510 | 1229679 | 644080 | 1697 |
| Mulberry seedlings | 125000 | 125000 | 25 | 100000 | 100000 | - | 225000 | 225000 | 25 |
| Commercial crops | - | - | - | 102830 | 625872 | 73 | 102830 | 625872 | 73 |
| Total | 1137719 | 1451978 | 9506 | 2076084 | 15777612 | 11011 | 3213803 | 17229590 | 20517 |

KVKs produced 290731 kg of bio-fertilizers and 53733 kg of bio-pesticides and supplied to farmers. The details of production of bio-products are given in Table 48.

Table: 48. Details of production and supply of bio-products and bio-agents by KVKs

| Product | Andhra Pradesh | | | Maharashtra | | | Total | | |
|------------------------------|----------------|---------------|----------------|-------------|---------------|-----------------|-------------|---------------|-----------------|
| | Quantity | | Value | Quantity | | Value | Quantity | | Value |
| | No. | Kg | (Rs) | No. | Kg | (Rs) | No. | Kg | (Rs) |
| Bio-agents | - | 12435 | 54950 | 1075 | 33336 | 3709903 | 1075 | 101796 | 3764853 |
| Bio-fertilizers | - | 139605 | 916713 | 2503 | 151126 | 6271290 | 2503 | 290731 | 7188003 |
| Bio-foods & herbal medicines | - | - | - | - | 62 | 69675 | - | 62 | 69675 |
| Bio-pesticides | - | 12445 | 491938 | 1489 | 41287 | 4590268 | 1489 | 53733 | 5082206 |
| Total | - | 164485 | 1463601 | 5067 | 225811 | 14641136 | 5067 | 446322 | 16104737 |

3.6.2 Livestock Species

KVKs produced 501860 fish fingerlings, 113032 poultry birds, 906 sheep and goat etc. of elite species and supplied to 10984 farmers (Table 49).

Table: 49. Details of production and supply of livestock, sheep and goat and poultry breeds and fish fingerlings

| Category | Andhra Pradesh | | | Maharashtra | | | Total | | |
|--------------|----------------|----------------|----------------|---------------|----------------|----------------|---------------|----------------|----------------|
| | No. | Value (Rs) | No. of farmers | No. | Value (Rs) | No. of farmers | No. | Value (Rs) | No. of farmers |
| Dairy | 14 | 283000 | 0 | 68 | 832134 | 8 | 82 | 1115134 | 8 |
| Fisheries | 435900 | 203375 | 104 | 65960 | 121480 | 135 | 501860 | 324855 | 239 |
| Poultry | 23381 | 1689897 | 1745 | 89651 | 3354761 | 8805 | 113032 | 5044658 | 10550 |
| Sheep & Goat | 87 | 376725 | 33 | 819 | 1943238 | 154 | 906 | 2319963 | 187 |
| TOTAL | 459382 | 2552997 | 1882 | 156498 | 6251613 | 9102 | 615880 | 8804610 | 10984 |

3.6.3 Soil and water testing

KVKs undertake soil and water testing primarily to ascertain the nutrient status of fields earmarked for technology assessment and refinement so as to make soil test based nutrient recommendations in various micro-farming situations in the district.

A total number of 129861 samples including soil (102479), water (26468), plant (861), etc. were analyzed by the KVKs benefitting 111345 farmers of 16505 villages (Table 50).

Table: 50. Details of soil and water testing by KVKs of Zone-V

| Sample | Andhra Pradesh | | | | Maharashtra | | | | Total | | | |
|----------------|----------------|--------------|-------------|----------------|---------------|--------------|--------------|-----------------|---------------|---------------|--------------|-----------------|
| | NS | NB | NV | Amount (Rs.) | NS | NB | NV | Amount (Rs.) | NS | NB | NV | Amount (Rs.) |
| Plant Samples | 64 | 64 | 2 | 38400 | 797 | 640 | 158 | 189350 | 861 | 704 | 160 | 227750 |
| Soil Samples | 14077 | 12648 | 1601 | 924980 | 88402 | 74285 | 9760 | 10360636 | 102479 | 86933 | 11361 | 11285616 |
| Water Samples | 5886 | 5593 | 1186 | 187770 | 20582 | 18081 | 3786 | 1641810 | 26468 | 23674 | 4972 | 1829580 |
| Compost sample | | | | | 53 | 34 | 12 | 13900 | 53 | 34 | 12 | 13900 |
| Total | 20027 | 18305 | 2789 | 1151150 | 109834 | 93040 | 13716 | 12205696 | 129861 | 111345 | 16505 | 13356846 |

NS: No. of samples

NB: No. of beneficiaries

NV: No. of villages

3.7 Rainwater Harvesting

The details of training programmes on rainwater harvesting conducted by KVKs are given in Table

51. A total of 57 courses were conducted for 1782 farmers and farmwomen and extension personnel.

Table: 51. Details of training programmes conducted by KVK on rainwater harvesting

| State | KVK | No. of courses | Beneficiaries | | |
|-------|-------------------|----------------|---------------|------------|-------------|
| | | | Male | Female | Total |
| AP | Anantapur | 2 | 79 | 0 | 79 |
| AP | Guntur (Lam) | 2 | 35 | 0 | 35 |
| AP | Kadapa | 2 | 35 | 0 | 35 |
| | AP Total | 6 | 149 | 0 | 149 |
| MS | Amaravathi (D) | 9 | 521 | 126 | 647 |
| MS | Beed | 3 | 50 | 0 | 50 |
| MS | Buldana (J) | 3 | 112 | 10 | 122 |
| MS | Hingoli | 8 | 102 | 45 | 147 |
| MS | Nagpur | 2 | 35 | 0 | 35 |
| MS | Nandurbar | 8 | 132 | 44 | 176 |
| MS | Osmanabad | 2 | 35 | 0 | 35 |
| MS | Parbhani | 1 | 52 | 0 | 52 |
| MS | Pune (B) | 2 | 35 | 0 | 35 |
| MS | Thane | 8 | 138 | 38 | 176 |
| MS | Jalna | 5 | 156 | 2 | 158 |
| | MS Total | 51 | 1368 | 265 | 1633 |
| | Zone Total | 57 | 1517 | 265 | 1782 |

3.8 National Initiative on Climate Resilient Agriculture (NICRA)

Under the Technology Demonstration component of NICRA, the available options from the National Agricultural Research System that help farmers to cope with the climate variability are being tested in 100 village panchayats in the vulnerable districts. In Zone V, 13 districts (6 in Andhra Pradesh and 7 in Maharashtra) are selected for conducting such technology demonstrations. During the year KVKs conducted 1833 demonstrations under NRM interventions viz. in-situ moisture conservation practices, water harvesting and recycling, ground water recharge, improved drainage in flood prone area, micro irrigation systems and various resource conservation technologies. A total of 2107 crop production demonstrations were conducted in 800 ha on drought tolerant and short duration varieties, location specific inter cropping systems,

crop diversification, disease and pest management, nutrient management etc. Under livestock and fisheries interventions, KVKs covered 765 farmers on breed up gradation, deworming of animals, mitigation of mineral deficiency, improved birds for backyard poultry, preventive vaccination, livestock insurance, fodder production, management of fishponds, etc. Similarly, KVKs also covered 889 farmers under institutional interventions viz. use of community lands for seed production, fodder bank, custom hiring of farm implements, formation of commodity groups etc. KVKs also organized 189 training programmes for 4884 participants (3913 farmers and 971 farmwomen) on soil health management, contingency cropping, vegetable production, farm mechanization, pest and disease management, live stock management, etc.

3.9 Technological Backstopping

The Directorates of Extension of State Agricultural Universities (SAU) and Zonal Project Directorates facilitated technological backstopping and Human Resource Development (HRD) to the KVKs through Extension training, seminars, workshop etc. There are five Directorates of SAUs in Zone-V under Acharya N.G. Ranga Agricultural University, Hyderabad, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Mahatma Phule Krishi Vidyapeeth, Rahuri, Dr. V.N. Marathwada Krishi

Vidyapeeth, Parbhani and Dr. Punjabrao Deshmukh Krishi Vidyapeeth, Akola in Maharashtra. A total of 44 training programmes benefitting 1756 KVK staff in Zone-V were jointly organized by the directorates of extension and the Zonal Project Directorate (Table 52). To review the progress of KVKs, various officials of Directorate of Extension of SAU made 210 visits to KVKs under their operational jurisdiction (Table 53).

Table: 52. Details of training programs and meetings conducted by ZPD and SAUs of AP and MS

| SAU/ZPD | No. of meetings | No. of participants |
|-------------------|-----------------|---------------------|
| ANGRAU, Hyderabad | 16 | 835 |
| BSKV, Dapoli | 6 | 37 |
| VNMKV, Parbhani | 5 | 358 |
| MPKV, Rahuri | 6 | 270 |
| PDKV, Akola | 7 | 114 |
| ZPD, Hyderabad | 4 | 142 |
| Total | 44 | 1756 |

Table: 53. Details of visits by the officials of Directorate of Extension of SAU

| SAU | No. of visits | No. of KVKs |
|-------------------------------|---------------|-------------|
| ANGRAU, Hyderabad | 124 | 18 |
| SVVU, Tirupati | 4 | 2 |
| Dr.YSRHU, Venkataramannagudem | 26 | 3 |
| BSKVV, Dapoli | 21 | 3 |
| VNMKV, Parbhani | 16 | 7 |
| MPKV, Rahuri | 13 | 7 |
| PDKV, Akola | 6 | 4 |
| Total | 210 | 44 |

3.10 Agricultural Technology Information Centre

In view of greater need for direct access of farmers to institutional resources, ICAR established 44 Agricultural Technology Information Centers (ATIC) at some of the renowned institutions of National Agricultural Research System during 1997-98. In Zone-V, six ATICs were established, one each at five State Agricultural Universities viz. Acharya N.G. Ranga Agricultural University (A.P.), Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Mahatma Phule Krishi Vidyapeeth, Marathwada Krishi Vidyapeeth and Dr. Punjabrao Deshmukh Krishi Vidyapeeth in Maharashtra and one at Central Institute for Cotton Research, Nagpur, Maharashtra.

During the year, a total of 108627 farmers visited the ATICs to access the latest technological information and critical technology products viz. seed and planting material (Table 54). ATICs published latest technical information in the form of books, bulletins and electronic print format viz. compact disks and digital virtual discs for the benefit of farmers. The details on number of publications by ATICs are furnished in Table 55. A total of 140867 copies of 149 publications were sold by ATICs, which benefitted 69014 farmers with revenue of Rs. 39.9 lakh .

Table: 54. Details of visits of farmers to ATICS

| Nature of visit | Number of farmers |
|-------------------------|-------------------|
| Technology Information | 68916 |
| Technology Products | 10427 |
| Agro-advisory | 23828 |
| Diagnostic services | 159 |
| Exposure visits | 3697 |
| Farmer-Scientists forum | 1600 |
| Total | 108627 |

Similarly, various critical technology products such as seed and planting material of improved varieties of crops, elite breeds of livestock, improved farm implements etc. were sold by ATICs which generated revenue of Rs. 186 lakh and benefitted 31798 farmers and farmwomen (Table 56). ATICs in Zone-V also facilitated other technology advisory and services viz. soil and water testing, plant diagnostics, special extension education programmes and service to line departments which benefitted 47977 farmers (Table 57).

Table: 55. Details of publication by ATICs

| Publication | Number | No. of copies | Revenue (Rs. lakh) | No. of farmers |
|----------------------|------------|---------------|--------------------|----------------|
| Books | 83 | 53605 | 23.51 | 10841 |
| Technical bulletins | 26 | 41500 | 8.21 | 38600 |
| Technology Inventory | 3 | 13212 | 7.74 | 10073 |
| CD, DVD & Video film | 15 | 1100 | 0.41 | 550 |
| Leaflet | 8 | 12000 | 0 | 7500 |
| Booklet & Pamphlet | 14 | 19450 | 0 | 1450 |
| Total | 149 | 140867 | 39.9 | 69014 |

Table: 56. Details of technology products produced and supplied by ATICs

| Product | Quantity | Revenue (Rs. Lakh) | No. of farmers |
|-------------------------------------|----------|--------------------|----------------|
| Seed (q) | 3300.95 | 110.56 | 12678 |
| Planting Material (No.) | 63282 | 18.91 | 4873 |
| Livestock species (No.) | 175 | 4.77 | 157 |
| Poultry Birds (No.) | 350 | 0 | 60 |
| Bio-Products (q) | 160.605 | 15.18 | 3030 |
| Farm implements (No.) | 10039 | 26.42 | 5392 |
| Processed products (No. of packets) | 11645 | 9.45 | 5535 |
| Vermi compost (q) | 170.75 | 0.21 | 22 |
| Zygogramma Beetles (No.) | 22970 | 0.23 | 45 |
| Turmeric Rhizomes (q) | 13.5 | 0.27 | 6 |
| Total | | 186.00 | 31798 |

Table: 57. Details of technology services provided by ATICs

| Technology service | Number | No. of farmers |
|---------------------------------------|-------------|----------------|
| Soil and water testing | 5250 | 5047 |
| Plant diagnostics visits | 390 | 2176 |
| Animal diagnostic visits/treatment | 29 | 262 |
| Services rendered to line Departments | 349 | 5212 |
| Agro/Veterinary Advisory Services | 588 | 28780 |
| Special Extension programme | 767 | 6500 |
| Total | 7373 | 47977 |

4. Staff Strength of Zonal Project Directorate, Zone- V

| S.No. | Name | Designation |
|-------|--------------------------------|---|
| 1 | Dr. N. Sudhakar | Zonal Project Director |
| 2 | Dr. K. Dattatri | Principal Scientist (Agril. Extn) |
| 3 | Dr. Chari Appaji *(11.09.2013) | Principal Scientist (Agril. Extn) |
| 4 | Dr. J.V. Prasad *(01.05.2014) | Principal Scientist (Agril. Entomology) |
| 5 | Dr. G. Rajender Reddy | Senior Scientist (Soil Science) |
| 6 | Dr. A.R. Reddy *(02.12.2013) | Senior Scientist (Agril. Economics) |
| 7 | Smt. B. Malathi *(07.12.2012) | Scientist (Agril. Economics) |
| 8 | Shri. B. Amarnath | Asst. Admin. Officer |
| 9 | Shri. S. Bala Kamesh | Asst. Finance & Accounts Officer |
| 10 | Vacant (Since 25.10.2010) | Jr. Accounts Officer |
| 11 | Vacant (Since 13.07.2013) | Private Secretary |
| 12 | Shri.V.V. Ramana | Assistant |
| 13 | Smt. N. Archana | Lower Division Clerk |
| 14 | Smt. G. Navneetha | Lower Division Clerk |
| 15 | Shri. N. Vijay Kumar | Lower Division Clerk |
| 16 | Shri. M. Sadanand | Driver |
| 17 | Smt. Subbalakshmi | Skilled Supporting Staff |

* Date of Joining

5. List of KVKs in Zone V

| S.No. | KVK/District | Name and address of KVKs |
|-----------------------|-------------------------------|--|
| Andhra Pradesh | | |
| 1 | Anantapur (Reddipalli) | Krishi Vigyan Kendra, B.K. Samudram (M), Reddipalli-515701, Anantapur. |
| 2 | Anantapur (Kalyandurg) | Krishi Vigyan Kendra, #8-881, Jainagar Colony, Kalyandurg-515795, Anantapur District. |
| 3 | Chittoor | Krishi Vigyan Kendra, Rashterya Seva Samiti, Annamayya Marg, Chittoor, Andhra Pradesh. |
| 4 | Chittoor (Kalikiri) | Krishi Vigyan Kendra, Kalkiri-517234, Chittoor |
| 5 | East Godavari | Krishi Vigyan Kendra, Kalavacharla, Rajanagaram Mandal, Dist. East Godavari-533294. |
| 6 | East Godavari (Pandirimamidi) | Krishi Vigyan Kendra, Pandirimamidi, Rampachodavaram, East Godavari-533288. |
| 7 | Guntur | Prof. NG Ranga, Krishi Vigyan Kendra, PO: Vinayashram, Cherukupalli, Guntur-522309. |
| 8 | Guntur (Lam) | Krishi Vigyan Kendra, Lam, Guntur-522034. |
| 9 | Kadapa | Krishi Vigyan Kendra, PO: Utukur, Near RTO Office, Dist. Kadapa-516003. |
| 10 | Krishna | Dr. K.L. Rao Krishi Vigyan Kendra, Agril. Research Station, Garikapadu, Krishna-521175 |

| S.No. | KVK/District | Name and address of KVKs |
|--------------------|-------------------------------------|---|
| 11 | Krishna (Ghantasala) | C/o. Agril. Research Station, Ghantasala-521133, Krishna |
| 12 | Kurnool | Krishi Vigyan Kendra, PO: Yagantipalli, Via: Banaganapalli Dist. Kurnool-518124. |
| 13 | Kurnool (Banavasi) | Krishi Vigyan Kendra, Banavasi (V), Yemmiganur (M), Kurnool District -518360. |
| 14 | Nellore | Krishi Vigyan Kendra, Mini Bypass Road, Opp. Royal Enfield Show Room, A.K. Nagar Post, Padarupalli, Nellore-524004. |
| 15 | Prakasam | Krishi Vigyan Kendra, Agril. Research Station PO: Darsi, Prakasam-523247. |
| 16 | Prakasam (Kandukur) | Central Tobacco Research Institute, Research Station Premises, Kandukur-523105, Prakasam. |
| 17 | Srikakulam | Krishi Vigyan Kendra, Agril. Research Station, Amdalavalsa, Srikakulam-532185. |
| 18 | Visakhapatnam | Krishi Vigyan Kendra, Farm Complex, Haripuram Rambilli Mandal, Visakhapatnam-531061. |
| 19 | Vizianagaram | Krishi Vigyan Kendra, PO: Rastakuntabai Distt. Vizianagaram-535523 |
| 20 | West Godavari | Krishi Vigyan Kendra, Opp: Civil Supply Godowns, Post: Undi Dist. West Godavari-534199. |
| 21 | West Godavari (Venkataramannagudem) | Krishi Vigyan Kendra, APHU, Venkataramannagudem, Tadepalligudem Mandal, West Godavari-534101. |
| 22 | Adilabad | Krishi Vigyan Kendra, Ramnagar, ARS Premises, Dist. Adilabad-504001. |
| 23 | Karimnagar | Krishi Vigyan Kendra, Post: Jayaprakashnagar, Jammikunta-505122, Distt. Karimnagar. |
| 24 | Karimnagar (Ramgirikilla) | Krishi Vigyan Kendra, Opp: Ramgiri Guest House Centenary Colony, Ramgiri Khilla, Kamanpur (Mandal), Karimnagar- 517501 |
| 25 | Khammam | Krishi Vigyan Kendra, ARS Wyr, Dist. Khammam – 507165 |
| 26 | Mahaboobnagar (Palem) | Krishi Vigyan Kendra, Palem, Mahaboobnagar district-509215 |
| 27 | Mahaboobnagar | Krishi Vigyan Kendra (Field office), Madanapuram (Post) Kothakota (Mandal), Mahabubnagar (Dist)-509110. |
| 28 | Medak | Krishi Vigyan Kendra, Post Box: 24, Post: Zaheerabad, Dist. Medak-502220. |
| 29 | Nalgonda | Krishi Vigyan Kendra, PO: Gaddipalli, Garedapalli Mandal, Dist. Nalgonda -508201 |
| 30 | Nalgonda (Kampasagar) | Krishi Vigyan Kendra, Kampasagar, (Post): Babusaipet, (Mandal): Tripuraram, (Dist.): Nalgonda-508207. |
| 31 | Nizamabad | Krishi Vigyan Kendra, PO: Rudrur, Varmi Mandal, Dist. Nizamabad-503188 |
| 32 | Ranga Reddy | Krishi Vigyan Kendra, Near Deer Park, Bhagyalatha Bus Stop, Hayathnagar Research Farm, Hayathnagar, Hyderabad Dist. Ranga Reddy-500059. |
| 33 | Warangal | Krishi Vigyan Kendra, PO: Malyal, Mahabubabad, Dist. Warangal-506101. |
| 34 | Warangal (Mamnoor) | Krishi Vigyan Kendra, LRS Mamnoor, Warangal-506166. |
| Maharashtra | | |
| 35 | Ahmednagar | Krishi Vigyan Kendra, PO: Babhaleshwar, Tal: Rahata Dist: Ahmednagar-413737. |
| 36 | Ahmednagar (Dahigaon) | Krishi Vigyan Kendra, At. Dnyaneshwarnagar, PO: Bhende S.K, Newasa, Ahmednagar-414 605 |
| 37 | Akola (Udegaon) | Krishi Vigyan Kendra, At. Sisa (Udegaon), Post: Dangargaon Tal. & Dist. Akola-444104. |
| 38 | Amravati (Durgapur) | Krishi Vigyan Kendra, PO: Badnere (Durgapur), Dist. Amravati-444701. |
| 39 | Amravati (Ghatked) | Krishi Vigyan Kendra, Ghatked, Amravati, Chirantan Madhuban Colony, Camp Amravati-444602. |
| 40 | Aurangabad | Krishi Vigyan Kendra, Paithan Road, Dist: Aurangabad- 431517. |
| 41 | Aurangabad (G) | Krishi Vigyan Kendra, Mahatma Gandhi Mission, MGM Campus, N-6, Cidco, Aurangabad-431003. |
| 42 | Beed | Krishi Vigyan Kendra, Deendayal Research Institute, Post Box No. 28, (Digholamba), Tq. Ambajogai, Dist. Beed-431517. |

| S.No. | KVK/District | Name and address of KVKs |
|-------|--------------------|---|
| 43 | Beed (Khamgaon) | Krishi Vigyan Kendra, Khamgaon, Tal. Georai, Dist. Beed-444303. |
| 44 | Bhandara | Krishi Vigyan Kendra, PO: Sakoli, Dist: Bhandara-441802. |
| 45 | Buldhana | Krishi Vigyan Kendra, PO: Jalgaon, Jamod, Buldhana-443402. |
| 46 | Buldhana (ARS) | Krishi Vigyan Kendra, Ajintha Road, Buldhana-443001. |
| 47 | Chandrapur | Krishi Vigyan Kendra, Pathri Road, Sindewahi, Dist-Chandrapur-441222, Maharashtra. |
| 48 | Dhule | Krishi Vigyan Kendra, Dhule, Agriculture College, Parola Chauphuli, Mumbai-Agra Highway (No. NH3) Dist.: Dhule-424004. |
| 49 | Gadchiroli | Krishi Vigyan Kendra, PO: Sonapur, Dist: Gadchiroli-442605. |
| 50 | Gondia | Krishi Vigyan Kendra, Hiwara, Post-Ratnara, Tah & Dist-Gondia-441614. |
| 51 | Hingoli | Krishi Vigyan Kendra, Tondapur, PO: Warabgaq, Tal: Kalamnuri, Dist: Hingoli-431701. |
| 52 | Jalgaon | Krishi Vigyan Kendra, Pal, At & Post-Pal, Tal-Raver, District-Jalgaon-425 508. |
| 53 | Jalgaon (Malegaon) | Krishi Vigyan Kendra, Mamurabad Farm, Mamurabad, Jalgaon (M.S.) - 425 001 |
| 54 | Jalna | Krishi Vigyan Kendra, Marathwada Sheti Sahayya Mandal, PB No.45, Kharpudi, Jalna-431203. |
| 55 | Kolhapur | Krishi Vigyan Kendra, D.Y. Patil Education Society's, KrishiVigyan Kendra (KVK), A/P. – Talsande, Tal.- Hatkananagale, Dist.-Kolhapur-416 112 |
| 56 | Latur | Krishi Vigyan Kendra, Plot No. P-160, Addl. MIDC, Vilasnagar Barshi Road, Harangul (B), Latur-413531 |
| 57 | Nagpur | Krishi Vigyan Kendra, Post Box No. 2, Shankarnagar Post Dist. Nagpur-440 010. |
| 58 | Nanded | Krishi Vigyan Kendra, At. Pokharini, Post- Limbgaon, Nanded-431735 |
| 59 | Nanded (Sagroli) | Krishi Vigyan Kendra, Shardanagar, Sagroli, Dist: Nanded-431731 |
| 60 | Nandurbar | Krishi Vigyan Kendra, Post: Kolde, Via: Dhule, Dist. Nandurbar-425 412 |
| 61 | Nashik | Krishi Vigyan Kendra, Yashwantrao Chavan Maharashtra Open University, Gyanganogtri, Govardhan Area, Near Gangapur Dam, Nashik-422222. |
| 62 | Nashik (Malegaon) | Krishi Vigyan Kendra, 1 st Floor, Nadkarni Chamber (Annexe) Vakilwadi, Nashik-422001 |
| 63 | Osmanabad | Krishi Vigyan Kendra, Tuljapur, Latur Road, Tuljapur, Dist. Osmanabad (MS)- 413601. |
| 64 | Parbhani | Krishi Vigyan Kendra, Jintur Road, Parbhani-431401. |
| 65 | Pune | Krishi Vigyan Kendra, Sharadanagar, Baramati, Dist, Pune-413115, Maharashtra |
| 66 | Pune(Narayangaon) | Krishi Vigyan Kendra, Gramonnati Mandals Krishi Vigyan Kendra, Pune-Nasik Highway, Narayangaon, Tal-Junnar, Dist-Pune-410504 |
| 67 | Raigad | Krishi Vigyan Kendra, Roha, Tal. Roha Dist. Raigad-410201 |
| 68 | Ratnagiri | Krishi Vigyan Kendra, At Post-Deodhe, Tal. Lanja Dist. Ratnagiri-416712 |
| 69 | Sangli | Vasant Prakash Vikas Pratishthan's, KrishiVigyan Kendra, Kanchanpur, Miraj, Sangli-416306. |
| 70 | Satara | Krishi Vigyan Kendra, Kalyani Gorakshan Trust, A/P : Kalwade, Tal : Karad, Satara-415 110. |
| 71 | Satara (Borgaon) | Krishi Vigyan Kendra, Borgaon, Tal. Dist: Satara – 415 519. |
| 72 | Sindhudurg | Krishi Vigyan Kendra, At and Post - Kirlos, Tal. Malvan, Taluka Kudal,Sindhudurg-416616. |
| 73 | Solapur | Krishi Vigyan Kendra, Gate No. 52/1/B, At: Khed, PO: Kegaon Barshi Road, Solapur-413001 |
| 74 | Solapur (Mohol) | Krishi Vigyan Kendra, Agricultural Research Station, Mohol, Dist. Solapur-413213. |
| 75 | Thane | Krishi Vigyan Kendra, Gokhale Education Society, Kosbad Hill, Tal. Dahanu, Thane 40170. |
| 76 | Wardha | Krishi Vigyan Kendra, Selsura, Dist. Wardha-422001. |
| 77 | Washim | Suvide Foundations, Krishi Vigyan, Kendra, Karda, Tq. Risod Dist: Washim-444506 |
| 78 | Yavatmal | Krishi Vigyan Kendra, Waghapur Road, Yavatmal-445001. Maharashtra |

KVK Technological Interventions



Redgram + Soybean (2:4) inter cropping



Sesamum Var. YLM-66



Kesar Mango Export Quality Production



Export Quality Production of Pomegranate



Potato contract farming



Three Tyre Cropping System in Sugarcane



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