**ICAR-ATARI, Pune**

**success stories/case studies**

**Success story of Organic grower**

**Introduction**

Amravati district is one of the major crop growing districts in Maharashtra state. The total geographical area of district is 121723 ha. The total cultivable area of district is 7.81 lakh ha. Out of total cultivable area 7.15 lakh ha area comes under Kharip season whereas 1.48 lakh comes under Rabi season. Only 0.94 lakh ha area comes under summer season in the district. The farmers in Amravati district cultivate Cotton, Soybean, Red gram, Green gram, Black gram in Kharip season, whereas Bengal gram and Wheat, vegetables were cultivate in Rabi season. Some farmers are cultivated vegetables, summer ground nut, and summer green gram in irrigation.

**Situation analysis/Problem statement**

Wadhona is a small village in Achalpur taluka of Amravati district. Mr. Raosaheb Wasudeorao Karale at village Wadhona Tq. Achalpur is a progressive farmer having 58 years old. Initially he sown the seed without any seed treatment of bio fertilizer and bio pesticides and used traditional method of sowing involves a process called “drilling”, in which the seeds are sown in a straight line while ploughing the land. Unfortunately, not much attention is given to the spacing between the seeds sown. He indiscriminately used fertilizers and pesticides which affects the yield of the crop, and increase the cost of cultivation. He faced Climate Change factor. This is a major threat to agriculture like unseasonal rain, cloudy weather; it has great impact on crop growth. Sometimes if a farmer gets a good price for a crop, then most of the farmers in the taluka cultivate the same crop, and due to this 'low demand and high supply' economic heterogeneity, the finished crop has to be sold at a loss. Most of the farmers are totally dependent on traders. He has to sell his crop to the market yard, and there he has to settle for whatever price the adat/merchant will give. Due to this situation, it is impossible for the farmer to contribute financially to his family from his 11 acres of irrigated land and traditional cropping system.

**Plan, Implement and Support:**

To minimize the cost of cultivation & increase the net return from crop, horticulture crop and vegetables he contacted to KVK and they interacted with KVK Scientists and officers of State Agriculture department. He also participated in the various trainings & Front line demonstration programme organized by KVK and adopted natural farming technology in Cotton ,Mandarin orange and vegetables in guidance of KVK scientists.

**KVK intervention:**

Earlier KVK implemented various trainings and front line demonstration programmes at village Wadhona and develop rapport in the village. The progressive farmer Mr. Raosahev Karale came forward and made up his mind to cultivate his total 11 acres of land with adoption of improved technology and organic farming practices in a sustainable manner. And with that vision he started a unilateral movement and increased his participation in every program of the Krishi Vigyan Kendra. Seeing his work, KVK honored him with a letter of appreciation.

**Practices adopted**

1. Decomposition of Agriculture waste
2. Fallow crop rotation
3. Application of bio-fertilizer and application of bio-pesticides in each crop
4. Preparation and application of composts, FYM manures and Biodynamic preparations at their farms
5. Green manuring with sunhemp/sesbania
6. Soaking of seeds/seedlings in cow pat pit solution (1:7 ratio stirred for 30 minutes) prior to sowing.
7. Spray of Natural formulations
8. Used Mulching

**Pest Management**

• Spraying of natural formulations prepared from cow urine, neem, karanjleaves.

**Disease Management:**

* Spraying of fresh cowdung/biodynamic liquid manures prepared from cow urine, neem and karanj
* Used of Jivamruit and Ghanjivamruit

**Output and Outcomes**

The farmer used to get net annual income of Rs. 318000 /- from using sowing of vegetables, Soybean, cotton and Red gram crop, Non-descript Milch Cattle, use of inorganic fertilizers as well as chemical pesticides. He faced problems like high cost of production in pest & disease management practices and inorganic fertilizer management. Now by adoption of organic farming practices like soil test based fertilizer management, followed regularly Crop Rotation, used of bio dynamics, used of green manures, followed intercropping system, mulching, used of composting, drip irrigation, used of bio pesticides, used pheromone and yellow sticky traps, used of biological pesticides and used of Milch cow ( Gir breed). He is getting net annual income of Rs 640500 /-. In addition, there is cost saving of Rs 81000 /- in chemical pesticides, inorganic fertilizers and weed intensity and also increase organic carbon from 0.33 to 0.88. , and expressed his opinion that the hard work has paid off.

**Benefits and achievements**

* Saved labour cost by land preparation and ploughing through work-sharing.
* No pest incidents were observed
* Increased water holding capacity of the soil.
* Resulted in chemical free produce.
* Motivated fellow farmers to adopt natural farming.
* Increased count of earthworms and beneficiary insects.
* Increased soil fertility by adoption of natural farming

**Impact of the Technology**

Seeing their farming, other farmers in the village and farmers in the group have taken the initiative to do some natural farming practices. Farmers are grouped together to sell organic produce.

The customers themselves express the opinion that the quality and taste of the vegetables grown by Karale is excellent. The vegetables supplied are of good quality and have a very long shelf life hence cost effective as well. So the demand for it is increasing day by day.

* Other farmers in group are engaged in production of inputs at their farm. Therefore cost of cultivation is reduced as compared to spraying of pesticides/fungicides to control pest and diseases.
* Other farmers in village are also interested in natural farming practices due to net profit per unit area
* Because of better taste and flavour, produce are sold at premium price in the markets.

** **

Mulching and use of Natural formulation to Cotton Crop

****

Biodynamic

**Technology Module and success story under CFLDs**

**On Pulses/Oilseed 2023**

**(Same template should be used for different crops and submitted separately)**

**Crop: Red gram**

**Technology Module:**

|  |  |  |
| --- | --- | --- |
| Improved Varieties | : | BDN-716 |
| Seed Rate/ha | : | 10 kg |
| Seed Treatment | : | Rhizobium 5 ml , PSB- 5ml and Trichoderma 5 gm /kg |
| Sowing Time | : | Last week of June to Second week of July |
| Spacing (cm) | : | 180x10 cm |
| Irrigation with stages | : | 2 irrigation First at flowering and 2nd at Pod filling stage |
| Moisture Conservation Practices Followed | : | Ridge and Furrow between two rows |
| Fertilizer Application | : | Aapplication of 25 kg N and 50 kg P2O5 along with 30 kg K20 and 20 kg S per hectare in Red gram |
| Insect/pest Management Practices | : | Consortia 10 ml /kg . Tricoderma 500 gm to each farmer , Azaderectin 300 ppm 500 ml , Emamectine Benzoate 100 gm , Zn EDTA- 500 gm , FE EDTA 500 gm-50 per farmer |
| Weed Control | : | Weed control by Hoeing and Manual weeding by Labor |
| Harvesting | : | Manual Harvesting by Labor |
| Existing Cropping Systems | : | Soybean + Red gram |

**Information about successful technological interventions under CFLDs on pulses: (Good quality action photographs along with caption should be placed in the writeup and same should be given separately in JPEG format)**

* Short title of the technological intervention:Demonstration on New variety of Pigeon pea BDN-716 + ICM for increasing yield of Pigeonpea
* Farming situation :Irrigated
* Climatic vulnerability : The annual rain fall of the district 742.8 mm spread over 58 rainy days
* Problems identified :Farmers are unaware about new variety as well as unaware about integrated crop management
* Technological intervention in brief : Use of New variety of Pigeonpea BDN-716
* Efforts made by KVK / methodology followed: Provided major critical input (Seed -6 Kg, Rhizobium 30 ml , PSB-30 ml . Tricoderma 500 gm to each farmer , Azaderectin 300 ppm 500 ml , Lambda Cylothrine 250 ml , Emamectin Benzoate 100 gm, Zn EDTA- 250 gm , FE EDTA 500 gm-100 per farmer) with 1 proper training on cultivation practices and use of critical input and 1 proper training on weed management and insect pest management to reduce cost of cultivation and increase yield. Also provided guidance to interested farmers on In-Situ moisture conservation practices for avoiding moisture stress to crop . Visited to each and every farmers field for guidance on various problem at critical stage. Conducted 5 diagnostic visit for resolving critical problem of some farmers. At harvesting stage organised field day programme and showed performance of demonstration and guided farmers to adopt proper practices for increasing yield. Also advised to farmers for keeping seed for next year sowing.
* Output, outcome and impact of the intervention –
* **Table 2: Yield and Economic of Demonstration plot over check**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Crop** | **Thematic Area** | **technology demonstrated** | **Variety** | **No. of Farmers** | **Area**  **(ha)** | **Yield (q/ha)** | | | | **% Increase in yield** | **Economics of demonstration (Rs./ha)** | | | | **Economics of check**  **(Rs./ha)** | | | |
| **Demo** | | | **Check** | **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **BCR**  **(R/C)** | **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **BCR**  **(R/C)** |
| **High** | **Low** | **Average** |
| Pigeonpea | Integrated Crop management | New variety of Red gram BDN-716 + ICM | BDN 716 | 125 | 50 | - | - | - | - | - | - | - | - | - | - | - | - | - |

Result : Crop is at harvesting stage and result is awaited .

**Technology Module and success story under CFLDs**

**on Pulses During Rabi2022**

**Crop: Chickpea**

**Technology Module:**

|  |  |  |
| --- | --- | --- |
| Improved Varieties | : | RVG-202 |
| Seed Rate/ha | : | 75 kg |
| Seed Treatment | : | Rhizobium 5ml , PSB- 5 ml and Trichoderma 5 gm /Kg |
| Sowing Time | : | 1st week to 2nd week of November |
| Spacing | : | 30x10 |
| Irrigation with stages | : | Protective Irrigation |
| Moisture Conservation Practices Followed | : | Ridge and Furrow between two rows |
| Fertilizer Application | : | 20 Kg N, 50 Kg P and 30 kg K /ha |
| Insect/pest Management Practices | : | First spray of 5 % NSKE and in 2nd spray Chlorantranilprole 18.5%SC -2.5 ml or Emamectine Benzoate 5 SG-3 gm or Quinolphos 25 % 20 ml/10 lit of water for controlling Pod Borer |
| Weed Control | : | Weed control by Hoeing and Manual weeding by Labor |
| Harvesting | : | Manual Harvesting by Labor |
| Existing Cropping system | : | Soybean-Bengal gram |

**Information about successful technological interventions under CFLDs on oilseeds and pulses: (Good quality action photographs along with caption should be placed in the writeup and same should be given separately in JPEG format)**

* **Short title of the technological intervention** : Demonstration on new variety of Bengal gram RVG-202 with ICM
* **Farming situation** : Irrigated
* **Climatic vulnerability**: The average annual rain fall of the district 860.9 mm spread over 51 rain days. average rainfall received during season from 1st June to 30th Nov is 1100.6 mm
* **Problems identified**: 1. Use of old variety susceptible to wilt which affects on yield of chickpea
* **Technological intervention in brief** : Use of New and wilt resistant variety of chickpea RVG-202
* **Efforts made by KVK / methodology followed**: Provided detailes programme of implementation and critical input (Seed 75 kg, Rhizobium, 375 ml,PSB 375 ml, and Trichoderma 375 gm/ha . Guided to farmers through training and field visit for resolving field problem . Also organised diagnostic visit fro critical problem . Organised field day programme for showing outcome to other farmers . Also help in marketing and processing of crop.
* **Output, outcome and impact of the intervention**

**Table: Yield (q/ha) and Economics of Demonstration and check plot**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **technology demonstrated** | **Variety** | **No. of Farmers** | **Area**  **(ha)** | **Yield (q/ha)** | | | | **% Increase in yield** | **Economics of demonstration (Rs./ha)** | | | | **Economics of check**  **(Rs./ha)** | | | |
| **Demo** | | | **Check** | **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **BCR**  **(R/C)** | **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **BCR**  **(R/C)** |
| **High** | **Low** | **Average** |
| New variety of Bengal gram RVG-202 + ICM | RVG-202 | 75 | 30 | 29.60 | 18.2 | 20.90 | 17.5 | 19.43 | 37500 | 98230 | 60730 | 2.61 | 35400 | 82250 | 4850 | 2.32 |

It is observed that Yield of Chickpea cv. RVG-202 is 19.43 % more than local variety Vijay. Farmers are accepted the variety as well as technology provided in the Demonstration by which yield is increased. Near about 46% farmers are adopted this technology and in this year near about 50-60 % area of the village will be covered through this variety. In the district also farmers are adopting the technology.

**Technology Module and success story under CFLDs**

**on Oilseeds 2023-24**

**(Same template should be used for different crops and submitted separately)**

**Crop: Soybean**

**Technology Module:**

|  |  |  |
| --- | --- | --- |
| Improved Varieties | : | Phule Sangam (KDS-726) |
| Seed Rate/ha | : | 50 kg /ha |
| Seed Treatment | : | Rhizobium 5 ml , PSB- 5ml and Trichoderma 5 gm /kg |
| Sowing Time | : | Last week of June |
| Spacing (cm) | : | 60x10 cm |
| Irrigation with stages | : |  |
| Moisture Conservation Practices Followed | : | Open ridges in two rows |
| Fertilizer Application | : | 30 :75:30 Kg N, P, K /ha |
| Insect/pest Management Practices | : | Clorotrantraniliprol 18.5 E.C. 3 ml/10 lit of water for controlling  Semilooper , Endoxicarb 15.8 S.C. 6.6 ml /10 lit of water for  controlling leaf eating caterpillar and Girdle beetle and Stem fly. |
| Weed Control | : | Pre-emergence Pendimethelene 4lit/ha , Post emergence  Emazithyper 75 gm/ha but in this year 60 % farmers are not used  the weedicide |
| Harvesting | : | Manual Harvesting by Labor |
| Existing Cropping Systems | : | Soybean + Red gram |

**Information about successful technological interventions under CFLDs on oilseeds: (Good quality action photographs along with caption should be placed in the writeup and same should be given separately in JPEG format)**

* Short title of the technological intervention :Demonstration on variety of soybean KDS-726 (Phule Sangam) with ICM for increasing yield of Soybean
* Farming situation :Rainfed/Protective irrigation
* Climatic vulnerability:The average annual rain fall of the district 742.8 mm spread over 58

rainy days.

* Problems identified : Mono culturing of variety with no use of proper package of practices affects Yield
* Technological intervention in brief: Use of early and high yielding variety with ICM
* Efforts made by KVK / methodology followed : Provided details programme of implementation and critical input (Seed 75 kg , Rhizobium 500 ml, PSB 500 ml, Trichoderma 500gm/ha .Guided to farmers through training and field visit for resolving field problem . Also organised diagnostic visit for critical problem . Organised field day programme for showing outcome to other farmers.Also help in marketing and processing of crop.
* Output, outcome and impact of the intervention –
* **Table 1: Yield Details of Demonstration and check plot**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Details of Technology** | **No. of Farmers /Demos** | **Area**  **(ha)** | **Yield (q/ha)** | | | | **% Increase in yield** |
| **Demo** | | | **Check** |
| **Highest** | **Lowest** | **Average** |
| New variety of Soybean KDS-726 | 75 | 30 | 21.30 | 12.60 | 16.40 | 13.20 | 21.85 |

It is observed that higher plant height was observed by the variety KDS-726 at all the growth stages which were followed by JS-335.  The variety KDS-726 recorded highest mean number of pods per plant (49.46.) followed by variety JS-335 (41.90) .Plant height of KDS-726 is erect type while plant height of JS-335 is semi erect type. KDS-726 is long duration variety and JS-335 is medium duration variety. Infestation of stem fly was observed more on variety JS-335 than KDS-726

**Table 2: Economics of Demonstrations and check plots**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Details of Technology** | **No. of Farmers /demos** | **Area**  **(ha)** | **Economics of demonstration (Rs./ha)** | | | | **Economics of  check**  **(Rs./ha)** | | | |
| **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **CBR** | **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **CBR** |
|
| New variety of Soybean KDS-726 | 75 | 30 | 44260 | 73800 | 29540 | 1.66 | 42690 | 59400 | 16710 | 1.39 |

* Result of cluster front line demonstration shows that both variety KDS-726 recorded higher mean yield 16.40 q/ha than  Yield (13.20 q/ha) recorded in variety JS-335. Variety KDS-726  shows best performance than variety JS-335. Best performance of variety KDS-726 observed due to its medium duration fit for medium to high  rainfall received in Amravati district..
* Infestation of Semilooper, Stem fly, Spodoptera, Girdle beetle and White fly is observed and suggested control measure to install 20 yellow sticky tarp for controlling white fly and ultimately control of YMV. Uprooted infected plant by YMV and buried in soil.
* For controlling wilt seed treated by trichoderma before sowing in CFLD plot and suggested to farmers for seed treatment  by trichoderma.
* Soil sample of all demonstration plot were collected and tested in Laboratory and applied fertilizer as per recommendation dose (25 N :50 P : 30 K kg /ha ) .

**Name of KVK: Amravati I**

**Success story oilseed Kharif 2022-23**

|  |  |  |
| --- | --- | --- |
| **Name of KVK** | Amravati I | |
| **Title of Intervention** | Demonstration on New variety of Soybean Phule Sangam (KDS-726)for increasing yield | |
| **Crop and Variety** | Soybean KDS-726 (Phule Sangam) | |
| **Name of farmer & Address** | Shri Manoj Sadashivrao Malode , Sonegaon, ,Ta Dhamangaon, Dist Amravati | |
| **Details of technology demonstrated** | Demonstration on new variety of Soybean KDS-726 + ICM | |
| **Institutional Involvement** | Prior implementation of demonstration KVK has conducted group meeting and provided information about implementation of Demonstration. Then provided critical input ( Seed -30 kg Rhizobium 625 ml, PSB 625 ml , and Trichoderma -1250 gm /ha. ) Before implementation provided training on cultivation practices of Soybean. Then trained to farmers for insect pest management and water management . After that we have organised field visit and Diagnostic visit for resolving problem of farmers. Before harvesting conducted field day on same farmers field and showed to other farmers about performance of variety | |
| **Success Point** | 1. Farmers got good yield (21.30q/ha) which is 38.31% more than Check Plot (15.40 q/ha) in late sown condition under limited package of practices 2. Fetches good price for crop (Rs. 4800/per quintal ) 3. Got Net Income OF Rs. 102240/ha | |
| **Farmer Feedback** | 1. KDS-726 is good variety of Soybean for getting more yield 2. Very good response under early sowing condition 3. Seed is very bold and required less seed 40 kg/ha 4. Spacing for sowing should be more | |
| **Yield (q/ha) 28.25 q/ha** | | |
| **Demonstration** | | 21.30 q/ha |
| **Potential yield of variety/technology** | | 23-25 q/ha |
| **District average** | | 9.20 q/ha (First advance Estimate during 2023) |
| **State average** | | 9.04 q/ha (First Advance Estimate during the year 2023-24). |
| **National average** | | - |

**Performance of technology vis-à-vis Local check (Increase in productivity and returns)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Practice used** | **Yield (q/ha)** | **Gross cost (Rs/ha)** | **Gross income (Rs/ha)** | **Net income (Rs/ha)** | **B:C ratio** |
| **Farmer practices** | 15.40 | 47350.00 | 73920 | 26570 | 1.56 |
| **Demonstration** | 21.30 | 48400.00 | 102240 | 53840 | 2.11 |
| **% Increase** | 38.31 |  | | | |

|  |  |
| --- | --- |
| E:\2023-24\Photo\Soybean CFLD\IMG_20230808_161225.jpg | **E:\2023-24\Photo\Soybean CFLD\IMG-20231009-WA0087 - Copy.jpg** |
| **SMS Agro and PA Plant protection discussing with farmers regarding success of demo plot** | **A view of Demonstration plot with Shri. Manoj Malode** |
| C:\Users\spandan\Desktop\CFLD Oilseed  report\Photot (SMS agronomy observing pod per plant to demo plot under CFLD).jpg | E:\2023-24\Photo\Soybean CFLD\IMG-20231009-WA0064.jpg |
| SMS agronomy observing pod per plant to demo plot under CFLD | KVK team and farmers observing good yiel of crop |

**Technology Module and success story under CFLDs**

**on Oilseeds Summer 2023**

**(Same template should be used for different crops and submitted separately)**

**Crop: Groundnut**

**Technology Module:**

|  |  |  |
| --- | --- | --- |
| Improved Varieties | : | TAG-24 |
| Seed Rate/ha | : | 100 kg /ha |
| Seed Treatment | : | Trichoderma 5 gm /kg , Corboxin 37.5 % + Thirum 37.5 % DS 3g /kg |
| Sowing Time | : | 4th week of January |
| Spacing (cm) | : | 30 cm x10 cm |
| Irrigation with stages | : | Irrigation at 15 days interval total 12 irrigation |
| Moisture Conservation Practices Followed | : | Nil |
| Fertilizer Application | : | 25 kg N: 50 Kg P : 30 Kg K /ha |
| Insect/pest Management Practices | : | Boron 20 % 2kg, Zink EDTA 500 gm , 19:19:19- 1 kg ,FE EDTA 500gm , Quinolphos 500 ml , Thiomethaxom + Labmda Cylothrin (Rage 80 ml) per farmer for 50 farmers |
| Weed Control | : | By hoeing and hand weeding |
| Harvesting | : | 2nd week of May to third week of May |
| Existing Cropping Systems | : | Soybean-Groundnut |

**Information about successful technological interventions under CFLDs on oilseeds and pulses: (Good quality action photographs along with caption should be placed in the writeup and same should be given separately in JPEG format)**

* **Short title of the technological intervention**: Demonstration on new variety of Groundnut Tag24 + ICM
* **Farming situation**: Irrigated
* **Climatic vulnerability**: Assured rainfall zone having Average rainfall 1200 mm
* **Problems identified:** Non availability of seed of high yielding variety TAG-24 and unawareness of improved proper cultivation practices
* **Technological intervention in brief** : New variety of Groundnut TAG-24 + ICM
* **Efforts made by KVK / methodology followed**: Provided major critical input (Seed -20 Kg, Tricoderma 500 gm Boron 20 % 2kg, Zink EDTA 500 gm , 19:19:19- 1 kg ,FE EDTA 500gm , Quinolphos 500 ml , Thiomethaxom + Labmda Cylothrin (Rage 80 ml) per farmer for 50 farmers) with 1 proper training on cultivation practices and use of critical input and 1 proper training on weed management and insect pest management to reduce cost of cultivation and increase yield. Also provided guidance to interested farmers on moisture conservation practices . Visited to each and every farmers field for guidance on various problem at critical stage. Conducted 4 diagnostic visit for resolving critical problem of some farmers. At harvesting stage organised field day programme and showed performance of demonstration and guided farmers to adopt proper practices for increasing yield. Also advised to farmers for keeping seed for next year sowing.
* **Output, outcome and impact of the intervention** –

**Table 2: Yield and Economic of Demonstration plot over check**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Crop** | **Thematic Area** | **technology demonstrated** | **Variety** | **No. of Farmers** | **Area**  **(ha)** | **Yield (q/ha)** | | | | **% Increase in yield** | **Economics of demonstration (Rs./ha)** | | | | **Economics of check**  **(Rs./ha)** | | | |
| **Demo** | | | **Check** | **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **BCR**  **(R/C)** | **Gross**  **Cost** | **Gross**  **Return** | **Net Return** | **BCR**  **(R/C)** |
| **High** | **Low** | **Average** |
| Groundnut | Integrated Crop management | New variety of Groundnut TAG-24 + ICM | TAG-24 | 50 | 20 | 28.30 | 18.60 | 17.90 | 15.40 | 16.23 | 38960 | 107400 | 68440 | 2.75 | 36620 | 92960 | 56340 | 2.53 |

Result : It is observed that TAG -24 found beneficial for increasing yield of Groundnut at in this particular soil and environmental condition. Particular object of the demonstration is to increase yield and. TAG-24 is one of most high yielding variety suitable for the area

Now the farmers are ready for seed treatment and adopted practices implemented in the CFLD like spraying at proper stage for controlling of disease and pest. Near about 60 percent diseases decreases by advising the proper insecticide for proper diseases and saves cost upto 17 % . Now near about 78 % farmers are adopting the proper practices of spraying and seed treatment for increasing yield in same village and near about 20 -30 % farmers adopted same practices in near by village. It is also suggested to keep proper storge for seed and use same seed for next year.

**Number of case studies /success stories of KVK interventions published**

1. **Case study of Organic Farmer**

**Situation analysis/Problem statement:** Amala is a small village in Chandur rly taluka of Amravati district. Mr. Narendra Pandurangji Nalhey at village Amala Tq. Chandur rly is a progressive farmer having 47 years old. Initially he sown the seed without any seed treatment of bio fertilizer & chemicals and used traditional method of sowing involves a process called “drilling”, in which the seeds are sown in a straight line while ploughing the land. Unfortunately, not much attention is given to the spacing between the seeds sown. He indiscriminately used fertilizers and pesticides which affects the yield of the crop, and increase the cost of cultivation. He faced Climate Change factor. This is a major threat to agriculture like unseasonal rain, cloudy weather; it has great impact on crop growth. Sometimes if a farmer gets a good price for a crop, then most of the farmers in the taluka cultivate the same crop, and due to this 'low demand and high supply' economic heterogeneity, the finished crop has to be sold at a loss. Most of the farmers are totally dependent on traders. He has to sell his crop to the market yard, and there he has to settle for whatever price the adat/merchant will give. Due to this situation, it is impossible for the farmer to contribute financially to his family from his 6 hectares of irrigated land and traditional cropping system.

**KVK Intervention:** To minimise the cost of cultivation & increase the net return from crop, horticulture crop and vegetables he contacted to KVK and they interacted with KVK Scientists. He also participated in the trainings & Front line demonstration programme organized by KVK and adopted recommended technology of Mandarin orange and vegetables production in guidance of KVK scientists. But there is a problem of Mandarin orange & vegetable marketing. Hence he contacted to KVK Scientists and started the FPO in the name of Vishveshriya Farmer Producer Organisation.

**Output & Out come**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Crop | Area | Adoption | Yield | Cost of cultivation | Gross return | Net return |
| Tomato | 500 sq.m. shed net | Organic farming | 66 qt | 20700 | 90000 | 74300 |

Due to the organic method of production, regular sale started from the farm itself at higher prices.

The farmer used to get net annual income of **Rs.** **298500 /-** from using sowing of vegetables, Soybean, cotton and Red gram crop, Non-descript Milch Cattle, use of inorganic fertilizers as well as chemical pesticides. He faced problems like high cost of production in pest & disease management practices and inorganic fertilizer management. Now by adoption of organic farming practices like soil test based fertilizer management, followed regularly Crop Rotation, used of bio dynamics, used of green manures, followed intercropping system, mulching, used of composting, used of shed net house for vegetable production, used pheromone and yellow sticky traps, used of biological pesticides, used of cross breed Milch cow ( Gir breed). he is getting net annual income of **Rs 638125 /-**. In addition, there is cost saving of **Rs 85000 /-** in chemical pesticides, inorganic fertilizers and weed intensity and also increase organic carbon from 0.33 to 0.88. , and expressed his opinion that the hard work has paid off.

**Impact:**

Seeing their farming, other farmers in the village and farmers in the group have taken the initiative to do organic farming. Farmers are grouped together to sell organic produce. The customers themselves express the opinion that the quality and taste of the vegetables grown by Nalhey is excellent. The vegetables supplied are of good quality and have a very long shelf life hence cost effective as well. So the demand for it is increasing day by day.

* Other farmers in group are engaged in production of inputs at their farm. Therefore cost of cultivation is reduced as compared to spraying of pesticides/fungicides to control pest and diseases.
* Other farmers in village are also interested in organic farming due to net profit per unit area
* Because of better taste and flavour, produce are sold at premium price in the markets.

1. **Case study on Oyster mushroom cultivation by the tribal farm women in Tribal area of Amravati District**

**Intervention**

KVK conducted training & front line demonstration programme programme on on how to make Oyster mushrooms at home from the available paddy straw & to use the mushrooms in their daily diet. The programme was conducted at tribal villages viz Nanduri & Kara Tq. Dharni with an objective to minimise the malnutrition problem by using the mushroom in daily diet & income generation.

Generally tribals in the adopted villages after the rice is harvested, straw is kept on the field itself and let it decompose and later burnt it which is ecologically unsustainable.

Hence, it is ideal to preserve the paddy straw immediately after rice is harvested under a shade to protect from direct exposure of sunlight and rainfall for year round availability of substrate for mushroom production, as a mulching material and raw materials for vermi-composting.

Under the FLD on Oyster mushroom interventions were made in order to utilized the paddy straws generated, one such being the popularizing of scientific mushroom cultivation technology among the farmers of that district. For mushroom production, Oyster mushrooms (*Pleurotus* sp.) were chosen, as the prevailing weather conditions are suitable for its production. Besides, the mushrooms are also known for its ample amounts of proteins (20-35%), vitamins and fibre apart from having certain medicinal properties, which will also act as the additional dietary supplements for the poor farmers.

Initially for the intervention, numbers of training programmes were conducted since the year 2017 and trial on Oyster mushroom cultivation with low cost mushroom production units were established at Nanduri and Kara village under this programme. Total 6 units with forty five (45) beneficiaries adopted this technology. Inputs viz. mushroom spawn, transparent poly bag, watering can, plastic robe etc. were provided to the beneficiaries.

**Outputs**

The yield of mushrooms per bag (of 250g capacity) and per unit was recorded. It was found that yield of mushroom was 56.5 kg per unit and 1.4 kg per bag. Net benefit was Rs. 14,495/- with benefit cost ratio of 3.8:1, and this data was up to the year 2019 and still the production process is continuing with so many acceptances from the farmers of those villages in Dharni taluka of Amravati district.

**Impact:**

Jassu Zamarkar, a tribal woman and a resource-poor farmer, having only 1 acre agricultural land in Nanduri village was struggling for subsistence income for many years. In the year 2017, she came in contact with KVK and participated in training programme on mushroom cultivation conducted by KVK at village Nanduri tq. Dharni. After successfully completion of training programme she created interest on Mushroom production at village level for minimising malnutrition and increase the income. She interacted with KVK scientist about critical input for mushroom production and KVK was supported to beneficiaries’ farmer with the help of oyster mushroom demonstration programme. Now she was trained in mushroom production in a small piece of waste land in the backyards of her dwelling unit. Now she is earning an income of Rs. 10,000/- after deducting all the expenses. Other women were emulating her success story and started mushroom cultivation with the guidance and technology from KVK. The beneficaries farmers included the mushrooms in their daily diet for supplemented additional nutrition as well as remaining fresh oyster mushrooms to sold at Rs 80/kg to the local markets for income generation.

In this way by popularised the scientific mushroom production technology, tribals utilised the paddy straw for mushroom production and the mushrooms were produced in 20-22 days. Majority of tribal’s used the oyster mushroom in daily diet and the extra mushrooms were dried and stored and utilize in summer season, ultimately minimise the malnutrition problem.

1. **Success story of Mandarin grower**

**Situation analysis/Problem statement:**

In a Amravati district the Total Area under Mandarin orange are 69000 ha of land .In mandarin production the no of factors affected the overall production and productivity of the crop .The productivity reduces up to 9 t/ha only and the life of the orchard also reduces .But there is wide potential to increase the production as well as productivity from the productive orchard and also there are a chance to reduce the losses from fruit drop.

**Plan, Implement and Support:**

Name of the farmer: Mr.SumitSopanraoJirapure

Age: 30 Yrs

Education : Graduate

Farming Experience: 08 yrs

Village: MardaTq: Tiosa Dist: Amravati

Cultivable land 2.00 ha

Source of irrigation: well

Crop to be taken: Mandarin orange 1.40ha, Onion and some vegetable -0.60ha

The village Marda comes 21 km away from centre of KVK .The Mr .Sumit SopanraoJirapure is a very Sincere and enthauznestic in its work. Mr .Sumit come contact to KVK since 2017-18 and they join the KVK for different technical information through training, awareness programme, attain the Krishi Melawa at KVK, before to join KVK they had taken the annual income 3.50 lakh only from total Cultivable area. Then in 2018-19 KVK selected the Marda as a focal village and conducted the PRA of the village and identified the problem of the Mandarin crop and conducted the demonstration as per soil test base fertilizer application for mandarin under OFT and FLD Programme. The farmer attending the, different programmes from KVK and they set his mind ,he his lacking in new techaniques .Therefore he decide the different crop to be Cultivate only under the guidance of KVK scientistandFarmers concentrated on the application of FYM + soil test base application of fertilizer and use of biofertilizer as Azotobactor, P.S.B, trichoderma, The impact of integrated nutrient management in Mandarin orange and onion increases the Production with improving the quality of the produce.The result of it’s the mandarin Orange fruits Sale to 7.50 lakh, also the problem of Phytopthora on Mandarin orange covered by the treatment suggested by Scientist of KVK, that increase the Yield and improve the quality of fruit. Therefore, Purchaser given high rate to them and also utilizes the improved techniques of KVK scientist for Onion and Vegetable crop. The impact of its increase the yield by 20% and Annual Net income increase upto 7.50lakh.

**Output**:

Mr Sumit attended the 30 days skill orientedtrainingprogramme for mandarin which was organized by KVK and Planned under advice of SMS (Horti) given the soil test base fertilizer treatment, including Organic and inorganic inputs .Then also kvk provided the Onion variety (Akola Safed) with technical back up under FLD .The variety given the higher production 200 q with better quality. The effect of proper fertigation doses as per the growth stages , taken the yield up to 50 ton from Mandarin orange ,also improve the quality of the fruit reduces the pest and diseases .The net income was 7.58 lakh from Mandarin and Onion crop .

**Outcome**:

The increasing yield with net profit from the same land and the effects that the vertical as well as horizontal spread of the farmers in that village and in surrounding village increases and interested mandarin grower visited to Mr. Sumit’s field and taken the information regarding cultivation practices and also asks about the source of technology Then some farmer immediately contact to KVK and ask about the Production technology of Mandarin and Onion crop.

**Impact**:

The overall impact of the net profit, farmers doing the work of house of Rs.2.00lakh, Renovation of Well in the field at Rs.1.50lakh.Also, Return the loan of the motor cycle and doing the vehicle free in a single installment of Rs.0.50 lakh and balance 3.50 lakh fix deposited on fathers name for next season activity. These types of social development take place due to the additional benefits of adopting the new technologies from the KVK Scientist .The overall impact of the development; farmers status in his society as well in village level increases. They point out that the area under Mandarin and vegetables will be increases in a next year in our village and in surrounding villages also.

 

Farmers showing the quality of Fruit KVK Scientist visit to farmer’s field

1. **Agronomy Interventions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No.** | **Name of Intervention** | **Name of farmer** | **Details of Technology Demonstarted** | **Remark** |
| **01** | Demonstration of new variety of Wheat | Shri Balakram Ganaji Bethekar , At Kesharpur TA: Chikahldara, Dist: Amravati, Maharashtra | New Variety of wheat PDKV –Sardar | Farmers got first pricein crop completion in melghat area by Maharshtra Agriculture Department . Success story Submitted to ATARI Pune |
| **02** | Demonstration of new variety of Red gram | Shri Gopal Vijayrao Pund , At: Beskheda, Po: Borala, Ta: Chandur (B) , Dist: Amravati -444707 , Maharashtra | New Variety BDN-716 + ICM | Success story submitted to ATARI Pune, |
| **03** | Demonstration on New variety of Soybean Phule Sangam (KDS-726)for increasing yield | Shri Yogesh Vithalrao Jirapure , At, Marda, Ta:Teosa, Dist:Amravati | Demonstration on new variety of Soybean KDS-726 + ICM | Success story Submitted to ATARI Pune |