Technology Module and success story under CFLDs

on Oilseeds 2022-23

Crop: Soybean

Technology Module: Integrated Crop Management in Soybean

Improved Varieties	:	KDS-753
Seed Rate/ha	:	62.5 kg/ha
Seed Treatment	:	Rhizobium, PSB, Trichoderma
Sowing Time	:	June 2022
Spacing (cm)	:	45 x 10
Irrigation with stages	:	Rainfed
Moisture Conservation Practices Followed	:	BBF
Fertilizer Application	:	50 kg DAP + 10 kg Sulphar + 10 kg K2O per acre
Insect/pest Management Practices	:	Use of Pheromone trap with IPM
Weed Control	:	1 weeding and herbicide spraying
Harvesting	:	October 2022
Existing Cropping Systems	:	Cotton – Chick pea – Soybean (Sole)

- **Short title of the technological intervention** : To Demonstrate Yield potential Use of improved variety KDS-753 under whole component as compare to JS-335 variety
- **Farming situation** : crop cultivation in medium black soil, average rainfall situation is 950 mm during this annual year Soybean crop growing followed by Chick pea crop in rainfed situation.
- **Climatic vulnerability**: Total rainfall 1050 mm received during crop growing period to harvesting the temperature were 30 to 35 ^{0}C in between initial crop stage so Soybean required warm medium climate.
- **Problems identified:**
    - Low productivity of field crops.
    - Wilting problem.
    - Less adoption of ICM, INM, IPM practices.
    - Non availability of laborers.
    - Poor soil fertility, decrease in organic carbon content of soil.
    - Major weed problems in Soybean.
    - High cost of inputs, High Labor charges, High cost of cultivation.
    - Less awareness about importance of soil testing.
    - Imbalanced use of fertilizer without soil testing.
    - Unawareness about micronutrients.

- **Technological intervention in brief** : Use of improved variety of Soybean KDS-753 with whole packages of other input given bio fertilizer for seed treatment with PSB and Rhizobium and Tricoderma with micronutrient of sulphur, pesticide and fungicide for pest and disease control
- **Efforts made by KVK / methodology followed** : The involvement of the KVK scientists plan the 50 demonstrations on the basis of improved variety of KDS-753 are recommended on 0.4 ha and compare with farmer practice by the use of local variety JS-335 on that village conduct the farmer training programme field day, field school, Diagnostic field visit on different growth stages of the crop by the KVK scientist were selected 50 number of farmers for CFLD demonstration on Soybean crop and also provided critical input and technical details to the farmers, because since last five years observed were never obtaining higher yield from Soybean crops. In this demonstration variety of KDS-753 in about 20 ha. seed and another input with full package at each farmer under demonstration.
- **Output, outcome and impact of the intervention** –

Soybean grower got gross return up to Rs.1,24,300/- and B:C ratio calculated 3.24 that show the higher yield with better net return over traditional farmer practice of Soybean. In Acceptance of the recommended improved variety of Soybean KDS-753 Grower told know that the totally change and also turned towards professionally in farming. The grower also understand about the importance of improved variety as well as soil testing, Seed treatment and Balance fertilizers applications to the crop management. In this way farmer get higher net return from per unit area. The direct effect of the net returns to grower himself and motivated the other farmer a use of improved variety and increases the net return. 50 No farmers benefited and 20 ha area covered in adopted village and 20 ha area covered in this technology in Sapti village its due to benefitted to other villages 100 No of farmers benefited and 50 ha area covered by this demonstration conducting in their villages.

Success story for individual farmer:CFLD Oilseeds 2022-23:

Name of KVK : Krishi Vigyan Kendra Pokharni Nanded-I

Title of intervention : Integrated Crop Management in Soybean

Crop and Variety : Soybean, Variety- KDS-753

Name of farmer & Address: Shri. Kailas Anandrao Kadam, At-Sapti Ta-Hadgaon Dist-Nanded

Details of technology demonstrated:

Land preparation: After land preparation well setup farmers planted soybean in dibbling method like two lines on one bed prepared by three feet distance with each beds in one acre. one acre area he required only 12 kg seeds for dibbling with seed of KDS 753.

Seed treatment:-PSB+ Rhizobium 500ml + Trichoderma 100gm use for seed treatment.

Nutrient management:-Soil application of Fertilizer DAP @ 50kg + 10 kg sulphur as per soil test base at the time of sowing.

Plant protection:-1) Foliar application of Chloropiryphos @50ml + 50ml Hexaconozol + 100gm 19:19:19 water soluble fertilizer at 40 DAS. 2) Second Foliar application with emamectin benzoate 10gm+mancozeb 30 gm+ 12:61:0 100gm water soluble fertilizer at 55 DAS. 3) Foliar application of chlorantraniliprole @ 5ml + 0:52:34@100gm water soluble fertilizer at 88 DAS.

General technology :- 1) one weeding should be given at 25 DAS. 2) The application of FYM @ 10 tonn/ acre. 3.soybean were sown dibbling method.

Institutional Involvement:

The involvement of the KVK scientists plan the 50 demonstrations on the basis of improved variety of KDS-753 are recommended on 0.4 ha and compare with farmer practice by the use of local variety JS-335 on that village conduct the farmer training programme field day, field school, Diagnostic field visit on different growth stages of the crop by the KVK Scientist Dr. Deshmukh D.A. Sr.scientist and Head(I/C), Mr. Kalyankar M.G. Scientist (Plant Protection), Mr. Jaybhaye S.H. Scientist (Agronomy), Dr.Deshmukh G.P. Scientist (Agricultural Extension).

Success Point: As per the below table revealed that yield level was increased by 36.14% over farmer cultivation practice. It is impact of the variety KDS-753 dibbling on bed with whole package of technology. To effect of the increase of harvesting yield and improved the net profit of this farmer.

Farmer Feedback:

1) This variety is not susceptible to yellow mosaic virus.

2)If this variety is dibbling on bed, the yield is above 30% more than normal sowing.

3) This variety was found to have higher number of pods, flowers and branches as compare to variety of JS-335.

4) The distance between two rows should be kept more than 18 inches for this variety, if the distance is less the yield may be reduce.

5) If soybean sown on dibbling method seed can be save, 10-12 kg seed is required per acre.

Yield (q/ha)	
Demonstration	35 Q/ha
Potential yield of variety/technology	30 Q/ha
District average	13.75
State average	14.60

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	22.35	40040	122925	82885	3.07
Demonstration	35	40550	192500	151950	4.74
% Increase	36.14				

Good Quality Photographs

Crop Sown on dibbling Method

Crop on Pod development stage

Crop on flowering stage

Pod development stage

View of Soybean crop plot