

Annexure- III

Increase in productivity and impact in farmers in the form of Success Stories published in APR (2014-15)

I. Enhancement of important crops in Ambala by introducing recommended new varieties

Introduction:

Estimate indicates that Indian population will require 325 million tonnes of food grains by 2020 A.D. This demands consistent increase in production & productivity of agricultural crops. About 65% population of India is directly dependent on agriculture. Due to development of other infrastructures like roads, colleges, universities, industries recreational parks, sports grounds, malls showrooms etc., the agricultural lands are decreasing day-by-day, and on the other hand population is increasing. To feed this ever growing population, we need to produce more from the less area.

One of the steps for increasing agricultural production can be the development & introduction of new high yielding varieties. KVKs play an important role in the introduction, testing, demonstration & popularization of new recommended varieties in the particular district or area after the release of varieties by the universities. In Ambala district, wheat, rice, sugarcane, oilseeds & pulses are the important crops which are grown on large scale. KVK Ambala has been playing an important part in the dissemination of new varieties in the district. KVK Ambala has been producing foundation and certified seeds of rice and wheat varieties at its farm which were provided to farmers of the district. Due to vicinity of PAU (Ludhiana), CCSHAU (Hisar) & IARI (New Delhi) to Ambala, information about new varieties reach early. KVK Ambala has been procuring new recommended varieties of wheat, rice, summer moong, mustard, lentil, gram & sugarcane.

KVK Intervention: KVK Ambala conducted OFTs, FLDs, FAS, trainings, field days etc. to popularize new recommended varieties.

I. Popularization & Extension of new varieties through On farm trials: KVK Ambala conducted OFTs for the varietal evaluation of wheat, rice, summer moong crops and based on the performances, it was further selected for FLDs and then it was popularized on the large scale through different extension activities. OFT conducted on varietal evaluation are given below:

(a) OFTs conducted on varietal evaluation of wheat, rice and summer moong -:

Crop	Year	Title of OFT	Technology Assessed	Parameter of assessment	Data on the Parameter	Result of assessment	Feed-back from the farmer
Wheat	2011-12	Varietal Evaluation of Wheat crop	T ₁ - WH-711 (F.P.)	Yield (qtl./ha)	51.25	T ₂ (PBW-621) gave the highest yield as compared to other varieties	Farmers were highly satisfied with the yield of variety PBW-621 of Wheat
				No. of tillers/plant	23.0		
			T ₂ - PBW-621(PAU) -Ass.	Yield (qtl./ha)	63.0		
				No. of tillers/plant	33.0		
			T ₃ -H.D.2733 (IARI)-Ass.	Yield (qtl./ha)	55.0		
				No. of tillers/plant	27.0		
Wheat	2014-15	Assessment of Wheat (WH-1105)	T ₁ - HD-2733 (F.P.)	Plant height(cm)	98.0	HD-2967 gave the highest	WH-1105 is althoug

Crop	Year	Title of OFT	Technology Assessed	Parameter of assessment	Data on the Parameter	Result of assessment	Feed-back from the farmer
		against Yellow Rust infestation		Yield (qtl/ha)	41.87	yield as compared to other varieties	h more tolerant to weather aberrant condition but it gave less tillers and was also prone to Yellow rust disease
				Incidence of Yellow Rust (%)	15-18		
			T ₂ - HD-2967-IARI (Rec.)	Plant height(cm)	95		
				Yield (qtl/ha)	51.25		
				Incidence of Yellow Rust (%)	0-5		
			T ₃ - WH-1105-CCSHAU-(Ass.)	Plant height(cm)	93		
				Yield (qtl/ha)	46.67		
				Incidence of Yellow Rust (%)	8-10		
Rice (<i>Oryza sativa</i>)	2013-14	Promotion of bacterial blight resistant new variety of rice (PR-121) to get higher yield	T ₁ - PR-114 (F.P.)	Plant height (cm.)	99	PR-121 gave the highest yield as compared to others	PR-121 is high yielding variety which is resistant to bacterial blight disease of rice
				Yield (qtl/ha)	61.82		
			T ₂ – HKR-127 (Recd.)	Plant height (cm.)	105		
				Yield (qtl/ha)	58.75		
			T ₃ – PR-121 (Ass.)	Plant height (cm.)	97		
				Yield (qtl/ha)	70.00		
Rice (<i>Oryza sativa</i>)	2013-14	Promotion of short duration basmati rice variety (Pusa Punjab Basmati-1509) for fitting under multiple cropping system and to get higher yield	T ₁ – CSR-30 (F.P.)	Plant height (cm.)	123	Pusa Punjab Basmati-1509 gave the highest yield as compared to other varieties	Pusa Punjab Basmati-1509 is high yielding variety which can fit under multiple cropping system due to short duration
				Yield (qtl/ha)	27.0		
				Crop duration (days)	150-155		
			T ₂ - Pusa Basmati -1121 (Rec.)	Plant height (cm.)	115		
				Yield (qtl/ha)	39.57		
				Crop duration (days)	137		
			T ₃ – Pusa Punjab Basmati-1509	Plant height (cm.)	93		
				Yield (qtl/ha)	42.50		

Crop	Year	Title of OFT	Technology Assessed	Parameter of assessment	Data on the Parameter	Result of assessment	Feed-back from the farmer
			(Ass.)	Crop duration (days)	125		
Rice (<i>Oryza sativa</i>)	2014-15	Assessment of new variety of Rice (PR-122) in Ambala District	T ₁ - P.R.114 (F.P.)	Yield (qtl/ha)	58	PR-122 gave the highest yield as compared to other varieties	PR-122 is high yielding variety which is resistant to bacterial blight disease
				Plant Height (cm.)	99		
			T ₂ - P.R.121(PAU)-Rec.	Yield (qtl/ha)	61.67		
				Plant Height (cm.)	98		
			T ₃ - P.R.122(PAU)-Ass.	Yield (qtl/ha)	66.15		
				Plant Height (cm.)	106		
Rice	2014-15	Assessment of Basmati Rice variety (Pusa Basmati-3) against Bakanae disease	T ₁ - Pusa-1121 (Emisan + Streptocycline) (F.P.)	Yield (qtl/ha)	40.40	Pusa-1121 gave the highest yield as compared to other varieties	PB-3 variety is not resistant to Bakanae disease but yield is better
				Disease Incidence (%)	5-8		
			T ₂ - Punjab Pusa Basmati-1509 (Emisan + Streptocycline) –PAU (Rec.)	Yield (qtl/ha)	33.82		
				Disease Incidence (%)	20-22		
			T ₃ - Punjab Basmati-3 (Emisan + Streptocycline) -PAU- (Ass.)	Yield (qtl/ha)	39.15		
				Disease Incidence (%)	10-12		
Summer Moong (<i>Phaseolus aureus</i>) var.SML-832	2013-14	Promotion of new improved variety of Summer Moong (SML-832) to get higher yield and to enhance the soil health	T ₁ - SML-668 - F.P.	Yield (qt/ha)	5.47	SML-832 (T ₃) gave the highest yield (6.37 qtl/ha) as compared to T ₁ (SML-668) & T ₂ (SML-668)	Farmers were satisfied with the yield of SML-832. Although, pre-monsoon rains damaged the crops to some extent
				No. of Pods/Plant	14		
				No. of Seeds /Pod	7		
			T ₂ - SML-668 -PAU- Rec.	Yield (qt/ha)	5.70		
				No. of Pods/Plant	15		
				No. of Seeds /Pod	9		
			T ₃ - SML-832 - (PAU) –Ass.	Yield (qt/ha)	6.37		
				No. of Pods/Plant	15		
				No. of Seeds /Pod	11		

II. Popularization & Extension of new varieties of crops through FLDs:- After conducting OFTs, the variety which given better performance, it was selected for further promotion through FLDs. The table depicting the FLDs on new recommended varieties during last five years has been given below:

Crop	Year	Variety	Source of Variety	No. of farmers	Area (ha.)	Yield of FLD (qtl/ha)	Yield of local check (qtl/ha)	% increase in yield
Wheat	2010-11	HD-2894	IARI, New Delhi	7	2.8	43.37	30.75	41.04
		DBW-17	DWR, Karnal	5	5.0	34.50	26.75	28.97
	2011-12	HD-2967	IARI, New Delhi	5	2.0	51.15	46.62	9.71
		DPW-621-50	DWR, Karnal	2	2.0	52.5	50.0	5.00
	2012-13	HD-2932	IARI, New Delhi	10	4.0	46.20	43.50	6.20
			Total	29	15.8	Av.=45.54	Av.=39.52	Av.=18.18
Rice	2010-11	HKR-127	CCSHAU, Hisar	7	2.8	46.12	40.75	13.18
	2011-12	HKR-127	CCSHAU, Hisar	7	2.8	48.0	42.0	14.28
	2014-15	PR-121	PAU, Ldh.	15	6.0	55.10	52.23	5.49
		Pusa-1509	PAU, Ldh.	5	2.0	41.25	38.50	7.14
			Total	34	13.6	Av.=47.61	Av.=43.39	Av.=10.02
Summer Moong	2010-11	SML-668	PAU, Ldh.	10	4.0	10.5	9.2	14.13
	2011-12	SML-668	PAU, Ldh.	15	6.0	8.75	7.0	25.00
	2012-13	SML-668	PAU, Ldh.	17	6.8	5.95	4.35	36.78
			Total	42	16.8	Av.=8.4	Av.=6.85	Av.=25.30
Mustard	2010-11	RLC-1	PAU, Ldh.	10	4.0	12.17	10.18	19.54
Lentil	2010-11	HM-1	HAU, Hisar	5	2.0	11.62	9.50	22.31
Gram	2010-11	HC-1	HAU, Hisar	5	2.0	12.52	10.32	21.31

The above table shows that during the last five years HD-2894, DBW-17, HD-2967, DPW-621-50 & HD-2932 varieties of wheat were popularized through FLDs. Under FLDs total 29 farmers were selected from different villages and total area of 15.8 ha. were covered, The average yield of FLD plots was 45.54 qtl/ha and that of local check was 39.52 qtl/ha and an increase in yield of 18.18 % was noticed over local check plot.

In case of Rice, HKR-127, PR-121 & Pusa Basmati-1509 were popularized through FLDs during the last five years. Total 34 farmers are selected & an area of 13.6 ha was covered under Rice FLDs. An average yield of 47.61 qtl/ha. was noticed under FLD plots & 43.39 qtl/ha was observed under local check plot. 10.02% increase in yield was noticed over local check plot.

Similarly, in case of summer moong SML-668 variety was popularized through FLDs and an increase in yield of 25.30 % was observed over local check plot. In case of Mustard, Lentil & Gram, new recommended varieties like RLC-1, HM-1 & HC-1 respectively was familiarized.

III. Popularization & Extension of new recommended varieties through other extension activities:- New recommended varieties were also popularized through Kisan Ghosthi, One day Trainings, Field Days, Farm Advisory Services, Farmer's Meetings, Mobile Message Services, Extension Bulletins, Seed Production at KVK, Technology Week Celebration etc.

Outcome: Due to various interventions of KVK Ambala, new recommended varieties are popularized at a fast pace. Farmers try to get the new recommended varieties by any means & from anywhere. It is generally observed that among all the new technologies released / launched / devised / innovated, the most fascinating thing for the farmers is the new variety of crops. Most of the farmers first of all will enquire about new varieties then they ask about new machineries, new method of sowing, fertilizer dose etc. Primary target of the farmers is to get new variety of any crop. Secondary & Tertiary targets are other crop production technologies.

Farmers go to any institutes, university or any other source for getting the new recommended varieties.

Impact: Due to popularization of new recommended varieties, there was increase in yield of crop which ranged from 10.02% to 25.30% in different crops. But sometimes it also resulted in loss to farmers because in the name of new varieties, some private companies also sold duplicate & spurious seeds. Farmers purchased the seeds from bogus private companies or unauthorized sources. The sown seeds could not germinate and even if germinated, seeds did not produce any grains and thus leading to economic loss to the farmers. So, there is word of caution for the farmers. Always try to purchase new varieties of crops from the reliable sources. In spite of there its & buts, there is tremendous impact of new recommended varieties of crops.

Due to dissemination & popularization of new variety of major crops like rice & wheat in Ambala district by the KVK, demand for new improved seed is increasing day-by-day. KVK Ambala produces certified & foundation seeds of rice & wheat every year by procuring foundation & breeder seeds from the SAUs or ICAR institutes. Still unable to fulfil due to limited seed infrastructure. This demand shows the very high adoption rate of new improved seeds by the farmers. During the rice & wheat seasons, many farmers have to return back empty handed. Disappointed farmers fall prey to private seed producers, who sell duplicate seeds to the farmers.

Photographs



II. Empowerment of rural women through Back-yard Poultry: A Success Story of Smt. Kamlesh

Introduction:

Traditional poultry farming plays a major role in rural economy of the country. Rural poultry production is being recognized as important component of socio-economic improvement of weaker section of society, specially landless labour, small and marginal farm women. Rural poultry generate self-employment and provides supplementary income with protein rich food at relatively low cost.

KVK Intervention: KVK, Tepla, Ambala conducted OFTs, FLDs, FAS , trainings and Exposure visit to popularize the new breeds suitable for Back-yard Poultry farming and replace the desi breed in adopted villages.

Back Ground and Problem: Smt. Kamlesh belonging to SC community in Sambhalkha village approached to KVK, Tepla for training on BYP in 2011-12. After training programme, she received 10 Chabro breed through KVK under FLD programme. However, poor farm woman have maintained local strain with traditional management having low productivity and low level of income.

Output: As per information collected by Smt.Kamlesh, Chabro breed is performing better than desi birds. She increased her flock size through natural brooding and maintaining 80-90 layers. Smt. Kamlesh sales around 800-900 eggs per month and generating income around Rs. 6000-8000 per month from these birds. Adult cocks sale around Rs. 400-600 each depending upon seasons.



Performance of Chabro Breed

S. No.	Particulars/Trails	Estimates
1	Weight of day-old chicks	40-45 g
2	Weight at 7 weeks of age	1.5 kg.
3	Age at sexual maturity	30-32 weeks
4	Egg production (Annual)	145-150 eggs.
5	Egg weight	50-52 g
6	Dressing percentage	75%

Outcome: Smt. Kamlesh, who was the verge of boredom her life is very active now. Her family gives her all support and they are also very enthusiastic about her small business. She is rearing this breed in Semi-intensive system of management. She sales around 250-300 fertile eggs at very high cost around Rs.15-20 each for natural hatching purpose in and around the near villages.

Impact: Due to adoption of Back-yard Poultry, there is a tremendous change in the life of Smt. Kamlesh. She says that marketing has never been a problem for her. All the eggs and cocks are sold through neighboring shops and people of near villages. Due to higher egg production and growth performance of this breed other farm women are also replacing desi birds with this breed and they are coming to KVK for technical knowledge and training. Farmers are also purchasing this breed from Central Poultry Development Organization (NR), Chandigarh. Therefore, Back-yard Poultry enhanced protein consumption in daily diets of the families.

III. Case Study (Sh.Harvinder Singh)

		SH. HARVINDER SINGH (A Farmer practicing diversified farming & RCT)																														
		Village Sapeda, Distt. Ambala (Haryana) Mob. No. 09729342774																														
Profile		Description of the Farmer																														
Age	: 41 years	Sh. Harvinder Singh is doing farming for the last 20 years. Earlier he used to do conventional farming. Since the KVK interventions in 2000-01, he started improvement in his farming. He has, now diversified his farming and adopted inter-cropping with sugarcane. He has also adopted RCT practices like Laser land levelling, DSR, Happy Seeder for wheat sowing, Zero-Seed Drill, M. B. Ploughing and Improved Sugarcane growing technique (Paired Row Trench Digger) etc. He is active farmer and is leading a Kisan Club of his village. Due to his leadership qualities, he has organised many social welfare oriented activities like Sanitation & Hygiene Camp, Animal Health Camp, Swachh Bharat Abhiyan, Agricultural Awareness camps etc. He also got awards.																														
Education	: 10+2																															
Landholding	: 10 ha																															
Farming experience	: 20 years																															
Diversified Farming Sugarcane – Sunflower –Rice / Sugarcane-Spring Maize –Rice Rice-Summer Moong -Wheat & Livestock (6 Buffaloes)																																
Inter-cropping Sugarcane+ Muskmelon/Sugarcane + Onion /Vegetables																																
Modern Machinery & Agril. Implements - Submersible Tubewell ,New Holand Tractor - Trench Digger, M.B.Plough, Disc Harrow - Happy Seeder, DSR (provided by KVK)																																
Awards : State level Kisan Club Award-2014 from Hon'ble C.M. of Haryana Best Kisan Club Award-2014 from KVK, Ambala																																
																																
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