



PROMOTION OF PRIMARY PROCESSING ACTIVITIES IN PULSES

Context : Gadag district is major pulse bowl of Karnataka, cultivating nearly 2 lakh hectares of Greengram, Bengalgram and Redgram under rainfed situation. Productivity and quality of grains depends on the amount of rainfall received and the Post Harvest Management. Most of the farmers, do not take up primary processing i.e. grading and cleaning. This results in fetching low price in the market.

Technology introduced : Spiral Separator for primary processing

Input :

- KVK organised sensitization programmes on Post Harvest Technology (136 nos.)
- Organised Front Line Demonstration in Pulses on usage of Spiral Separator (1570 ha., 2280 farmers, 95 villages)
- Organised exhibitions : 65 nos.
- News paper coverages : 35 nos.
- Published literatures : 5000 nos.



DEMONSTRATION OF SPIRAL SEPARATOR

Output :

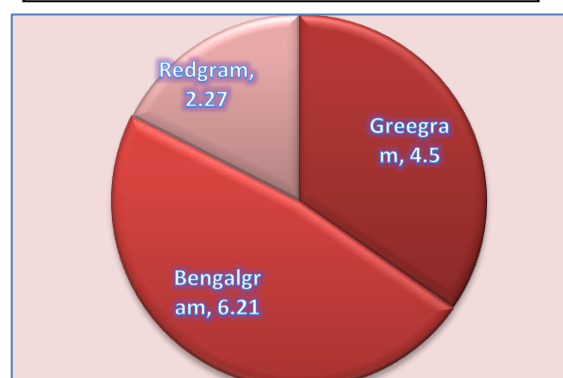
Crop	Area under FLD (ha.)	No. of farmers	Quantity of grain processed (Qtls.)	Average market price realised (Rs./Qtl)		Difference (Rs.)	Additional returns (Rs. in lakhs)
				Graded	Non-Graded		
Greengram	100	250	750	5100	4500	600	4.50
Bengalgram	142	355	1242	4600	4100	500	6.21
Redgram	70	175	455	4500	4000	500	2.27
Total	312	780	2447	-	-	-	12.98

780 farmers got additional returns of Rs.12.98 lakhs by processing 2447 qtls. of grains through Spiral Separator

Outcome :

- Horizontal spread of technology in 135 villages of the district
- Reliance Foundation adopted this technology in their villages for use of FPO Members

Additional Net Returns (Rs. In lakhs)



- Custom Hiring Centres under Department of Agriculture procured Spiral Separators and supplied to Raitha Samparka Kendras

Impact :

- FIGs / FPOs / CHCs / Progressive farmers procured Spiral Separators and met the needs of local farmers
- Reduced drudgery of women to the extent of 50 %

DETAILED STUDY OF PRIMARY PROCESSING ACTIVITIES IN PULSES

SUMMARY

Post Harvest Technology (PHT) is one of the important area where the farmers need to take initiative. PHT may be primary processing or secondary processing and it helps the farmers to fetch higher prices for their produce, reduce the labour cost as well as it reduces drudgery in Cleaning and Grading of Grains. However, many a times the produced grains are directly marketed by majority of farmers without grading and cleaning. The adoption of Post Harvest Technology especially using Spiral Separator for cleaning and grading before marketing of grains fetches more income to farm families. In addition to this, the technology has reduced the farm women's drudgery involved in conventional method of cleaning and grading of grains.

INTRODUCTION

Gadag district is drought prone and it receive less rainfall every year. The pulses such as Greengram and Bengalgram are grown in large area in Gadag district.

The productivity of these pulses depends on the rainfall and the incidence of pest and diseases during production stage. Due to these problems, farmers harvest grains mixed with small portion of broken seeds and uneven sized grains. The mixed grains are marketed by farmers without grading and it fetches lesser income. To overcome this problem, KVK conducted demonstrations of Spiral Separators to show as to how to make grading and cleaning of pulse grains in order to enable farmers to get higher price for their produce, to facilitate farmers to get graded quality seeds for

their next season sowing and to reduce women's drudgery in cleaning and grading of the grains at KVK's adopted village every year in Gadag district.

Suitability of grains : the spiral separator is more suitable to the round sized grains viz., greengram, cowpea, pigeon pea, bengalgram, sorghum.

Method of operation: it is a manually operated implement with no electricity. It is 7-8 feet height and require 2-3 labours for cleaning and grading . On an average per hour 3.5 -4 quintals of grains will be cleaned and graded.

Sustainability of availability of implement : The Spiral Separator be used anywhere in India but one see the availability of round shape grains.

In earlier days

Traditional practice : The harvested grains are cleaned and graded through manually by a large size, which is hanging. The implement is available in Karnataka, Maharastra and Tamilnadu. Two women will stand on opposite sides and till the sieve. So that, the broken and uneven sized grains will fall on the floor.

The following are the contact details of the suppliers

RESULTS OF DEMONSTRATION WITH SPIRAL SEPARATOR

Parameters	Tool name	Farmers practice
	Spiral Separator	Manual Cleaning (With Sieve)
1) Time required for Cleaning and Grading of grains/quintal • Greengram (Hours) • Bengalgram (Hours)	1 H 40 min 1 H 30 min	7 H H
2) Cost incurred for Cleaning and Grading @ Rs.150/day for two labours. • Greengram (Rs.) • Bengalgram (Rs.)	52 48	262 225
3) Labour requirement/Qtl (Man days). •Greengram •Bengalgram	0.35 0.32	1.75 1.50
4) Market price (Rs. per quintal) •Greengram •Bengalgram	(Graded grains) 4300 3600	(Non graded grains) 3950 3000

The results of the demonstration reveals that the time, cost and mandays required for cleaning and grading is very very less in spiral separator as compared to that of manual cleaning.

DRUGERY REDUCTION: COMPARATIVE ANALYSIS

SL. No	Parameters	Spiral Separator	Manual Cleaning
1	Time required for cleaning/quintal of Grains	Less time	More time
2	Labour required for cleaning/quintal of Grains	1 H, 30 mins	16 H
3	Man days required	0.16	2
4	Cost incurred for cleaning (Labour charges/ Quintal)	Very less (Rs.25)	More (Rs.300)

Further, the women in more than 80% of households in the village were relieved from the drudgery of cleaning and grading of the grains. Thus, the adoption of spiral separator technology helped in getting higher prices for farmers’ produces and selection of large sized grains for next season sowing along with reduced drudgery of farm women.

FARMERS FEEDBACK:

- It is very useful and cost effective to get higher income for the produce
- Farmers themselves experimented various grains for cleaning and grading
- farmers were able to separate the large sized seeds of Bengalgram, Greengram, Okra and Cowpea and stored these large sized seeds for sowing in the next season.
- The rejected Okra and other vegetable seeds got good price after cleaning in Spiral Separator
- The Drudgery in manual cleaning of grains is reduced as majority of farm women are using Spiral Separator.

UPSCALING EFFORTS:

- KVK facilitated Reliance Foundation, to take up demonstrations of *Spiral Separators* in *11 villages* and supply of same in all villages.
- FIGs, Farmers' Producer Organisations, SHGs and Progressive Farmers make use of Spiral Separator provided from KVK for Cleaning and Grading of grains.
- The technology was popularised through NewsPapers, Publication of Leaflets, Mobile Message Services and KVK News Letters.

CONCLUSION: The adoption of Post Harvest Technology especially using Spiral Separator for cleaning and grading before marketing of grains fetches more income to farm families. In addition to this, the technology has reduced the farm women's drudgery involved in conventional method of cleaning and grading of grains.