Indian Journal of Extension Education
Vol. 53, No. 2, 2017 (35-40)

Perception of Farmers About Quality Seed

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ABSTRACT

The study was conducted purposively in Banaskantha district of Gujarat state. Four major crops of the district viz., Potato, Bajra, Castor and Groundnut were selected to study the perception of farmers on quality seeds. These four crops are predominantly grown in Deesa and Vadgam talukas of the district therefore; these two talukas were selected purposively for the study. From each selected taluka eleven villages and from each selected village fifteen farmers were selected randomly. Thus, the final sample of the study consists of 330 farmers. Result revealed that majority of the farmers were middle aged (45.20%) and had primary to secondary level of education (71.50%), had social participation in one organization (62.75%), had small and medium size of land holding (69.70%). The availability, accessibility and affordability of quality seed in case of Pearl millet (bajra) and castor was found good but in case of potato and groundnut it was poorly perceived by the farmers. Further, about three-fourth respondents had medium level of overall perception towards quality seed and adopted quality seed produced either by the seed companies or seed aid organizations.

Key words: Seed quality, seed availability, seed accessibility, seed affordability

INTRODUCTION

Farmers always give prime importance to seed as an important input for improving productivity and profitability in crop production. They are receptive to adoption of a new technology package in which improved seed of new varieties is the central input. The quality seed enables the farmers to improve the profitability since quality seed is more rewarding than poor quality seed. Though selection of seed is very crucial to farmers but many farmers do not fully understand what is meant by quality seed or what benefits quality seed can offer to those who want to establish a crop. Farmers perceive the quality seed in different ways. Hence, an attempt was made to assess the perception of farmers towards quality seeds.

METHODOLOGY

The study was conducted purposively in Banaskantha district of Gujarat. Four major crops of the district viz., Potato, Bajra, Castor and Groundnut were selected to study the perception of farmers on quality seeds. These four crops are predominantly grown in Deesa and Vadgam talukas of the district therefore; these two talukas were selected purposively for the study. From each selected taluka eleven villages and from each selected village fifteen farmers were selected randomly. Thus, the final sample for the study consists of 330 farmers. For assessing the perception of the respondents towards quality seeds a structured schedule was developed after thorough review of literature and in consultation with scientists and experts in the field. Farmers' perception on quality seed was assessed against four major dimensions *viz.,* (i) seed quality, (ii) seed availability, (iii) seed accessibility and (iii) seed affordability. Appropriate statistical tools were used to analysis and interpret the data and to draw conclusions.

RESULTS AND DISCUSSION

In the study an attempt was made to get a clear picture of personal profile characteristics of the respondents. The result is summarized and presented in Table 1.

Table 1: Characteristics of the respondents

n=330

Characteristics	Category	Freq.	Per cent
Age	Young (Up to 35 years)	105	31.80
	Middle (36 to 50 years)	149	45.20
	Old (Above 50 years)	76	23.00

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Education	Illiterate	23	7.00
	Primary (up to VII)	104	31.50
	Secondary (VIII to X)	132	40.00
	Higher Secondary (XI to XII)	45	13.60
	College	26	7.90
Farming experience	Low (Up to 12.66 years)	60	18.20
	Medium (12.67 to 31.70 years)	198	60.00
	High (Above 31.70 years)	72	21.80
Social participation	No membership	0	00.00
	Membership in one organization	207	62.75
	Membership in more than one organizations	109	33.00
	Office bearer	14	4.25
Land holding	Marginal farmer (upto 1.0 ha)	39	11.80
	Small farmer (1.01 to 2.0 ha)	138	41.80
	Medium farmer (2.01 to 4.0 ha)	92	27.90
	Big farmer (Above 4.0 ha)	61	18.50
Cropping pattern	Groundnut-Potato-Bajara, Greengram-Potato-Bajara/ Vegetables	192	58.20
	Castor-Castor-fallow/ Bajara	134	40.60
	Cotton-Cotton-Fallow, Cotton-Wheat-Fallow	27	8.20
	Vegetables-Potato-Groundnut, Vegetables-Wheat/ Mustard - Fallow	31	9.40

The data presented in Table 1 indicates that majority of the farmers were middle to old aged (68.20%) and had primary to secondary level of education (71.50%), had social participation in one organization (62.75%), having small and medium size of land holding (69.70%) and grown mostly groundnut, potato, bajra and castor crops.

Farmers' perception on quality seed.

Farmers' perception on quality seed was assessed against four major dimensions viz. (i) seed quality, (ii) seed availability, (iii) seed accessibility and (iii) seed affordability.

Farmers' perception on seed quality

Based on review, farmers' perception on seed quality was assessed against twelve parameters. The findings about farmers' perception on seed quality are depicted in Table 2.

Table 2: Distribution of the respondents according to their perception on seed quality parameters

n=330

Seed quality parameters	Respondents (per cent)				
	Potato	Bajra	Castor	G'nut	Average
Varietal purity	30.60	95.50	75.20	57.60	64.73
Uniform germination and maturity	36.00	87.50	82.10	65.75	67.84
Seeds free from admixture	43.64	100.00	100.00	72.75	79.10
Seeds free from seed of other varieties	35.75	90.90	81.20	66.00	68.46
Seeds free from weed seeds	75.75	91.80	100.00	68.50	84.00
Less disease and insect problems	53.64	95.50	85.50	67.60	75.60
Crop respond well to the applied fertilizers	76.00	88.80	91.80	78.20	83.70
Crop fits in cropping system	63.00	100.00	81.80	79.00	80.95
Easy yield prediction	51.50	100.00	64.00	58.50	68.50
Higher production	73.00	100.00	76.00	82.10	82.75
Higher return per unit area	67.60	100.00	74.50	69.00	77.75
Higher marketability of produce	53.33	90.30	77.60	66.00	71.81
Average	54.98	95.03	82.48	69.25	75.43

The attribute 'varietal purity' was perceived by almost all (95.50 %) farmers in bajra seed, followed by 75.20 per cent respondents in castor seed. While 57.60 per cent of farmers perceived 'varietal purity' in groundnut seed. It is a concern that varietal purity for potato seed was perceived by less number of farmers (30.60 %).

'Uniform germination and maturity' attribute of quality seed was perceived by 87.50 per cent farmers in bajra seed, followed by 82.10 per cent respondents perceived in castor seed, 65.75 per cent in groundnut and 36.00 per cent in potato.

It was interesting to note that, all the farmers perceived that available bajra and castor seed were free from any admixture, followed by more than two-thirds (72.75 %) farmers in groundnut and only 43.64 per cent farmers perceived in potato.

'Quality seeds free from other varieties' seed' also was one of the important attribute of quality seed perceived by farmers. Overwhelming (90.90 %) farmers perceived that the bajra seed was free from other varieties' seed. While 81.20 per cent and 66.00 per cent farmers perceived that available castor seed and groundnut seed were free from other varieties' seed. On the contrary, only 35.75 per cent farmers perceived potato seed free from other varieties' seed.

Weed control is one of the crucial aspects in crop production. Hence, farmers perceive various sources of weed infestation. With regards to 'seeds free from weed seeds', cent percent farmers perceived that the available castor seed was free from weed seeds, followed by 91.80 per cent farmers perceived bajra seed free from weed seeds. While, nearly three-fourth farmers perceived potato seed (75.75 %) and groundnut seed (68.50 %) free from weed seeds.

Nearly all (95.50 %) farmers perceived that use of quality seed results in less disease and insect problems in bajra crop followed by 88.50 per cent farmers in castor seed. Whereas, 67.60 per cent and 53.64 per cent farmers perceived less disease and insect problems in seed of groundnut and potato, respectively.

Overwhelming farmers perceived that crop raised from quality seed of castor (91.80 %) and bajra (88.80 %) respond well to the applied fertilizers. Nearly same trend was also observed in groundnut (78.20 %) and potato (76.00 %).

All the farmers perceived that bajra crop raised from quality seed fits well in their cropping system. While, 81.80, 79.00 and 63.00 per cent farmers perceived that crop raised from quality seed of castor, groundnut and

potato, respectively fits well in their cropping system. All the farmers perceived that yield prediction was very easy if the bajra crop raised from quality seed. While in case of castor seed and groundnut seed, 62.00 per cent and 66.66 per cent farmers had same perception. Half (51.50 %) of the respondent perceived easy yield prediction in case of potato crop raised from quality seed.

Higher production per unit area was perceived by cent percent farmers in case of bajra crop grown from quality seed. While, in case of groundnut, castor and potato higher production per unit area was perceived by 82.10 per cent, 76.00 per cent and 73.00 per cent farmers, respectively.

Higher return per unit area was perceived by cent percent farmers in case of bajra crop grown from quality seed. While, in case of castor, groundnut and potato higher return per unit area was perceived by majority (74.50 per cent, 69.00 per cent and 67.60 per cent, respectively) of the farmers.

High marketability of produce was perceived by 90.30 per cent farmers in case of bajra, followed by 77.60 percent farmers in castor, 66.00 per cent in groundnut and 55.33 per cent in potato.

Looking to the mean percent of all the twelve parameters, the overall perception of the respondents' is ranging between 54.98 and 96.03 per cent. It was lower in case of potato (54.98 %) and moderate in case of groundnut (69.25 %) and highest in case of bajra (96.03 %) and castor (82.48 %). Hence, it can be concluded that farmers perceived that the seed of bajra and castor were of better quality than those of groundnut and potato crops.

Farmers' perception on availability of quality seed

This parameter was measured in two dimensions *viz.* perception about availability of quality seed and perception about credible source of quality seed. There was two components for measuring the perception of farmers' about availability of quality seed and four components for measuring the perception of farmers' about the credible source of quality seed.

Farmers' perception on availability of quality seed

Table 3: Distribution of the respondents according to their perception on quality seed availability

n=330

Seed availability parameters	Respondents (per cent)				
	Potato	Bajra	Castor	Groundnut	Average
Availability in good quality	38.20	89.40	77.90	54.00	64.87
Availability in sufficient quantity	29.70	87.25	64.25	49.00	57.55

In case of potato seed, 38.20 per cent farmers perceived that potato seed was available in good quality while, 29.70 per cent farmers perceived that potato seed was available in sufficient quantity. In terms of bajra seed, a large majority of farmers perceived that good quality seed of bajra was available (89.40%) as well as was also available in sufficient quantity (87.25%). In case of castor seed, availability of good quality seed was perceived by 77.90 per cent farmers while, 64.25 per cent farmers perceived that castor seed was available in sufficient quantity. With regards to groundnut seed, 54.00 per cent farmers perceived that groundnut seed was available in good quality while, 49.00 per cent farmers perceived that the seed was available in sufficient quantity. In term of overall availability of quality seed, 64.87 per cent farmers perceived that quality seeds were available in good quality while, 57.55 per cent farmers perceived that it was available in sufficient quantity.

From the foregoing discussion, it can be concluded that quality and quantity of available seeds of potato and groundnut were perceived as satisfactory by less numbers of farmers that need to be address.

Farmers' perception on credible sources of quality seed

Table 4: Distribution of the respondents according to their perception on credible sources of quality seed

n=330

Perceived quality sources of seed	Respondents (per cent)				
	Potato	Bajra	Castor	Groundnut	Average
Farm-saved seed	14.50	20.90	0.00	18.75	13.54
Seed producing farmers	0.00	25.50	29.00	10.00	16.13
Seed companies	45.20	86.67	65.75	63.05	65.16
seed aid organizations	0.00	100.00	83.33	74.25	64.40

With regards to potato seed, 45.20 per cent farmers perceived seed companies as credible source of quality seed, followed by only 14.50 per cent farmers who perceived farm-saved seed as credible source. In contrary, not a single farmer had perceived the seed producing farmers and seed aid organizations as credible sources because of their poor presence in production or distribution of potato seed in study area.

In case of bajra seed, all the farmers perceived seed aid organizations as credible source of quality seed, followed by 86.67 per cent farmers who perceived seed companies as credible source. While, only 25.50 per cent and 20.90 per cent farmers perceived seed producing farmers and farm-saved seed as credible sources, respectively.

With regards to castor seed, a large majority (83.33%) of farmers perceived seed aid organizations as credible source of quality seed, followed by 65.75 per cent farmers who perceived seed companies as credible source. While, only 29.00 per cent farmers perceived seed producing farmers as credible source of quality seed. None was found perceiving farm-saved seed as credible source. In case of groundnut seed, majority (74.25%) farmers perceived seed aid organizations as credible source of quality seed, followed by 63.05 per cent farmers who perceived seed companies as credible source. While, only 18.75 per cent and 10.00 per cent farmers perceived farm-saved seed and seed producing farmers as credible sources of quality seed, respectively.

With regards to overall perception, two-third (65.16%) of the farmers perceived seed companies as credible source of quality seed, followed by 64.40 per cent farmers who perceived seed aid organizations as credible source. While, only 16.13 per cent and 13.54 per cent farmers perceived that seed producing farmers and farm-saved seed as credible source of quality seed, respectively.

Farmers Perception on accessibility of quality seed

Farmers perception about availability of quality seed was assessed in respect of two dimensions, local accessibility and timely accessible. The result is presented in Table 5.

Table 5: Distribution of the respondents according to their perception on quality seed accessibility

n=330

Perceived accessibility parameters	Respondents (per cent)				
	Potato	Bajra	Castor	Groundnut	Average
Locally accessible	32.40	83.33	67.50	44.90	57.03
Timely accessible	29.00	81.50	60.00	37.00	51.87

In case of accessibility of potato seed, about one-third (32.40%) farmers perceived that they had local access to quality seed while, 29.00 per cent perceived that they had timely access to quality seed of potato. In case of accessibility of bajra seed, a great majority of farmers perceived that bajra seed was locally (83.33%) as well as timely accessible (81.50%).

With regards to accessibility of castor seed, two-thirds (67.50%) farmers perceived that they had local access to quality castor seed while, three-fifths (60.00%) farmers perceived that they had timely access to quality castor seed.

In case of accessibility of groundnut seed, about half of the farmers perceived that they had local access to quality seed while, only 37.00 per cent farmers perceived that they had timely access.

In term of overall accessibility of quality seed, 57.03 per cent farmers perceived that they had local access to various quality seed while, 51.87 per cent farmers perceived that they had timely access to quality seeds of selected crops.

So it can be concluded that farmers had more access to quality seeds of bajra and castor while, poor accessibility to quality seeds of potato and groundnut.

Farmers perception on affordability of quality seed

There were two parameters to assess the affordability of quality seed. The response of the respondents is presented in the following Table.

Table 6: Distribution of the respondents according to their perception on quality seed affordability

n=330

Seed affordability parameters	Respondents (per cent)				
	Potato	Bajra	Castor	Groundnut	Average
Purchasing power	44.60	91.50	86.67	48.80	67.89
Reasonable Prices of seed	56.67	74.60	60.30	52.75	61.08

With regards to affordability of potato seed, 44.60% farmers perceived that they had enough purchasing power while, more than half (56.67%) of the farmers perceived that the prevailing price of potato seed was reasonable.

In case of affordability of bajra seed, most of the farmers (91.50%) perceived that they had purchasing power while, nearly three-fourths (74.60%) of the farmers perceived that the prevailing price of bajra seed was reasonable.

With regards to affordability of castor seed, 86.67 per cent farmers perceived that they had enough purchasing power while, three-fifths (60.30%) perceived that the prevailing price of castor seed was reasonable.

In case of affordability of groundnut seed, 48.80 per cent farmers perceived that they had enough purchasing power while, 52.75 per cent perceived that the prevailing price of groundnut seed was reasonable.

In term of overall affordability of quality seed, 67.89 per cent farmers perceived that they had enough purchasing power and 61.08 per cent perceived that the prevailing prices of quality seeds were reasonable.

Table 7: Distribution of the respondents according to their level of overall perception

n=330

Perception	Frequency	Percentage
Low (Up to 41.95)	62	18.80
Medium (41.95 to 55.69)	219	66.40
High (above 66.21)	49	14.80
Total	**330**	**100.00**

Mean: 54.08 SD: 12.13

A perusal of data regarding overall perception on quality seed reveal that majority (66.40%) farmers had medium level of overall perception on quality seed, followed by 18.80 per cent and 14.80 per cent farmers who had low level and high level of overall perception on quality seed, respectively.

Sources of quality seeds used by the farmers

Table 8: Distribution of the respondents according to sources of quality seed used

n=330

Sources of quality seeds	Respondents (per cent)				
	Potato	Bajra	Castor	Groundnut	Average
Farm-saved seed	25.45	0.00	0.00	25.20	12.66
Seed producing farmers	26.35	5.75	27.60	21.20	20.23
Seed companies	58.20	75.20	55.50	37.00	56.48
Seed aid organizations	0.00	35.50	46.00	26.35	26.96

With regards to potato seed, 58.20 per cent farmers reported that they purchased potato seed from the seed companies, followed by 26.35 per cent and 25.45 per cent farmers who obtained seed from seed producing farmers and farm-saved seed, respectively.

In case of bajra seed, 75.20 per cent farmers reported that they used the seed produced by the seed companies, followed by 35.50 per cent and 5.75 per cent farmers who used seed obtained from seed aid organizations and seed producing farmers, respectively. Not a single farmer was found using farm-saved bajra seed.

With regards to castor seed, 55.50 per cent farmers stated that they used the seed produced by the seed companies, followed by 46.00 per cent and 27.60 per cent farmers who used seed obtained from seed aid organizations and seed producing farmers, respectively. Not a single farmer was found using farm-saved castor seed.

In case of groundnut seed, 37.00 per cent farmers reported that they used the seed produced by the seed companies, followed by 26.35, 25.20 and 21.20 per cent of farmers who used seed obtained from seed aid organizations, farm-saved seed and from seed producing farmers, respectively.

With regards to overall seed used, 56.48 per cent farmers used seed produced by the seed companies, followed by 26.96 per cent and 20.23 per cent farmers who used seed obtained from seed aid organizations and seed producing farmers, respectively. While only 12.66 per cent farmers were found using farm-saved seed of selected crop.

CONCLUSION

From the above discussion, it can be concluded that majority of the farmers were middle aged (45.20%) and had primary to secondary education (71.50%), had social participation in one organization (62.75%), had small and medium size of land holding (69.70%). The availability, accessibility and affordability of quality seed in case of bajra and castor was found good but in case of potato and groundnut it was poorly perceived by the farmers. Further, about three-fourth respondents had medium level of overall perception towards quality seed and adopted quality seed produced either by the seed companies or seed aid organizations. There may be a scope if farmers organize themselves to produce seed and the concept of seed village should be popularized to get quality seed at local level.

Paper received on : March 10, 2017
Accepted on : March 21, 2017

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