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Research Article

MARKET POTENTIAL AND FARMER PURCHASING BEHAVIOUR OF NARKIS PRODUCT FOR PADDY CROP IN SELECTED VILLAGES OF ANAND DISTRICT

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Abstract: The Study was conducted for Adama India Private Limited and has covered six villages of Anand district through purposive sampling method. Both primary and secondary data were used to achieve stipulated objectives of the study. Primary data were collected through the help of structured schedule. Henry Garret ranking method, cross tabulation method, tabular and graphical analysis was used to achieve the objectives of the study. It was found in study that mainly farmers bought the input from cash and credit both. The 42% respondents had land holding between 2 to 4 hectors. Dealers play an important role for buying an input by farmers. In the study area cent percent farmers were using herbicides. Problem of weed in Paddy found out nursery as well as in main field. The major weeds which are found out in paddy filed are grasses, sedges and broad leaves weeds. Narkis is a selective, Systemic and post emergence herbicide in nursery and main field. The annual Market potential of the Narkis is Rs. 7.66 crore.

Keywords: *Market Potential, Farmer purchasing behavior, Farmer satisfaction level, Paddy*

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Introduction

India is 7th largest country by total area with 2.4% share of world's land. India has 2nd Largest Agriculture area with 11% share of the total arable land of world and 2nd Highest Population in the world with 17.6% share of world population. India has highest number of people living in Rural areas with 25.6% share of world's rural population of total population. 58% people are directly dependent on agriculture. India has emerged as 5th largest in Domestic Crop Protection Market after Brazil, USA, China and Japan. Per hectare productivity is very low in India, it is 3 MT per hectare which is lower than world average of 4 MT per hectare due to lack of scientific methods of agriculture. Crop losses in Indian Agriculture amount to USD 50 Billion, i.e.,12.46% of Total Agricultural output – USD 401.3 Billion. In India the highest crop losses was due to weeds (37% share) and there was very low usage of herbicides (20% share) [1,2].

Narkis Product

Narkis is a selective, systemic pre-post-emergent herbicide on Rice both in nurseries and main field. It has broad spectrum activity on grasses, sedges and broad-leaved weeds. It has a superior micro emulsion formulation Technology consisting with Bispyribac Sodium 10% SC technical. It should be applied at 2 to 4 leaf stages of weeds with adequate moisture in the soil. It requires only 1- 2 hrs. of Rain free period for complete absorption in to the leaf system.

Objectives of the study

To know the Farmer Purchasing Behavior of Narkis product
To know the Farmer Satisfaction level towards Narkis product
To know the Market Potential of Narkis product for paddy crop in Anand district

Research Methodology

The study was carried out during 1st June to 15th July 2017 in Anand. Anand is a district of Gujarat state. The nature of the study was descriptive study and non-probability sampling method was applied.

Under the applied sampling method, the purposive sampling was done to select a sample of 120 farmers; 20 farmers from each suggested village (6 villages) by the organization. For obtaining correct information in line of the objective structured schedule was prepared with the help of available related literature and research report. Primary survey was carried out using schedules. Secondary data were collected from literature, private and government publications and websites. Descriptive statistics was used to achieve the stipulated objectives of the study. Henry Garret ranking method, Cross tabulation method, tabular and graphical analysis were used to achieve the objectives of the study.

Result and discussion

The research revealed that in the study area different demographic factors like, age of farmers and literacy level of the farmers influence the purchasing pattern and decision-making process. According to survey there were 44% farmers between 36-50 years, 21% farmers were 52-65 years and 3% farmers more than 66 years age. The middle age farmer's i.e. 36-50 years are mainly predominant in the region. The young farmers with age group of 20-35 years were 32%.

Qualification	No. of Respondent	Percentage
Below SSC	14	12
SSC	56	46
HSC	31	26
Under Graduate	17	14
Post graduate	2	2

More than 40 % of the farmers in study area having level of education is above H.S.C. The study showed that in study area majority of farmers were semi medium (2-4 hectare), followed by small farmer (1-2 hectare). Most of the farmers were purchasing the input by cash and credit.

Land holding

The below figure revealed that the surveyed respondent divided into five groups. Among them 42% farmers are semi-medium who have land holding capacity of 2

to 4 ha. In other respondents 21% respondent are small farmers, 16% marginal farmers, 15 % are medium farmers and 6% are large farmers.

SN	Size of Land Holding	No. Of Respondent	Percentage
1	Large Farmer (10 & above ha)	7	6
2	Medium Farmer (4 to 10 ha)	18	15
3	Semi-Medium Farmer (2 to 4 ha)	51	42
4	Small Farmer (1 to 2 ha)	25	21
5	Marginal Farmer (0 to 1 ha)	19	16

Cropping Pattern: The study was conducted in selected villages of Anand district.

Village Name	Cropping Pattern		
Season	*Rabi*	*Zaid* (Summer)	*Kharif*
Deva(Vanta)	Wheat/Tomato	Bajara	Paddy
Bhadkad	Tobacco/Chilly/Tomato	Bajara	Paddy
Isnav	Wheat/Chilly/Tomato	Bajara	Paddy/Bajara
Runaj	Wheat	Bajara	Paddy
Alindra	Tobacco/Chilly/Tomato	Bajara	Paddy
Maliyataj	Tobacco/Chilly/tomato	Bajara	Paddy/Bajara

Crops are grown in all three seasons due to availability of irrigation through canal and sufficient rain fall occurred during the season. Farmer were growing paddy and Bajara during Kharif, wheat, Tomato, Chilly & Tobacco were cultivated during Rabi and in summer farmer preferred to grow Bajara.

Relationship of input purchasing behavior and land holding

Size of Land Holding(ha)	Cash	Credit	Cash/Credit
Large (10 & above)	2	1	4
Medium (4 to 10)	6	2	9
Semi Medium (2 to 4)	3	3	45
Small Farmer (1 to 2)	2	7	17
Marginal (0 to 1)	0	16	3

The study revealed that the purchasing behavior was depend on the cash availability with the farmers. Farmer's were more likely to have both option cash and credit for purchasing the input. Though for marginal farmers were mostly like to buy with both ways. The major crops grown by the farmers in the Rabi were tobacco, wheat, chicory and tomato; summer was bajara and Kharif were paddy and bajara.

SN	Source of information	No. of Respondent	Percentage
1	Dealer	63	52
2	Demo	19	16
3	Meeting	13	11
4	Printing Media	10	8
5	Electronic Media	12	10
6	Krushi Mela	3	3

In the study area cent percent farmers were using the herbicides in their field. All had knowledge of herbicides. They got information for different source like dealers, demonstration, meeting, printing media, electronic media and krushi mela. Among them the main sources of information for herbicides were dealers 52% followed by product demonstration which was given by a company was 16%.

Other Influencer

SN	Influencer	No. of Respondent	Percentage
1	Progressive Farmer	21	17
2	Dealer /Retailer	60	50
3	Relatives	9	7
4	Neighbour	30	26
Total		120	100

The other influencer who were affect the buying behavior of the farmers were dealers/Retailers 50%, progressive farmers 26%, neighbours 26% and relatives 7%.

Companies name	No. of Respondent	Percentage
PI industry Pvt Ltd	44	37
Adama Ind Pvt Ltd	35	29
Gharda Chemicals Pvt Ltd	14	12
Insecticides India Limited	27	22

The market area of the study area was majorly captured by PI industry Pvt Ltd. as it had a patent for the paddy herbicides technical. In the study it was found that 37% farmers were use PI Industries brand Nomini gold followed by Adama India's Narkis. The other competitors were Garda chemicals Ltd. and Insecticides India Limited which were used by 12% and 27% farmers respectively. In the study area the awareness of Adama was 22% were the awareness of the Narkis were 39%. So, it is clearly evident that the awareness of company (Adama) is less as compare to the product (Narkis). Farmers were purchasing the product by their name not by their company name. Among the respondents who know about Narkis, 29% had used Narkis in their Paddy field.

Users of Narkis

SN	Respond	No of Respondents	Percentage
1	User of Narkis	35	29
2	Non user of Narkis	85	71
Total		120	100

The respondents who know about the product but not use it has given the reasons for not purchasing the Narkis were, 39% high price followed by 38% referenced of influenced people and 23% availability of product .

Particulars	Average Score (n=35)	Rank
Quality	69.42	1
Packaging size	60.14	2
Price	57.71	3
After sell service	37.57	4
Application Type	28.85	5

Farmers were asked to give the rank the factor which was satisfied by Narkis. It was found that quality was the main factor which was satisfied by the farmer followed by the packaging size. For application of the herbicide in the nursery field required small size packing and Narkis was available in 10 ml, 20 ml, 50 ml, 100 ml and so on. So, packaging size is the major satisfied factor. The application type which is applying it with water by using pump was the least satisfied measure.

Market Potential of Adama and it's Competitors

Product	Dose (ml/acre)	Area (000 acre)	Price/ dose	Potential Market (Rs. in crores) *
Nomino Gold	100	102.64	800	9.03
Narkis	100	102.64	680	7.66
Takila	100	102.64	700	7.89
Green Label	100	102.64	650	7.33

(Total market Potential = Market Potential of NARKIS in Main field + 10% of Market Potential of Narkis in Main field(Market Potential in Nursery))*

Total area under paddy crop in Anand district was 102.64 (000) acre (District Panchayat Office). An Average quantity require per acre of Narkis product is 100 ml and it can be also use for nursery thus, the market potential for Narkis is Rs. 7.66 crores in Anand district in paddy crop.

Conclusion

The major crops grown in the study area were tobacco, wheat, bajara, tomato and paddy. In the study area all the farmers have knowledge of herbicides and all were using it in different crops. The company's product Narkis has a decent annual market potential worth Rs. 7.66 crores for paddy crop which gives a clear indication of better business opportunities for the product. It is necessary to create brand image on farmers mind. Farmers are mostly preferred PI industry's product as it was a pioneer in that area from last 4-5 years. Farmers got the information of the products from dealers, demonstration, meeting and different media like electronic media, printing media etc. Dealers play an important part for purchasing any input. So, company should have built trustworthy relation with dealers. The satisfaction level of the farmers was depending on the different factors i.e. quality, price, packaging size, availability of the product.

Limitation of study

The response of the survey was totally based on memory of the respondent so there are possibilities of biasness. There was a small amount of the bias on the part of researchers also may exists. The study and the research only based on a respondent of the Anand district area

Suggestions

It was found that most of the farmers in the study area get influenced by dealer's suggestions. So, the company should build a trust worthy relations with dealers. According to survey, company should more focus on the conducting field demonstration with the starting of paddy season. They also concentrate on the Farmers meetings on regular basis. According to survey found that most of farmers are unaware about the company.

They should firstly concentrate on advertisement of product and explain the farmers about the advantages of the company products.

Application of research: This research is helpful to know the market potential of particular product, and its competitor and their market share. Organization can identify the purchasing behavior of the product according to the market research they can build the strategy to increase market share.

Research Category: Agribusiness Management

Abbreviations: ml/ acre – milli litre per acre; % - percentage

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Study area / Sample Collection: Anand District

Cultivar / Variety / Breed name: Paddy Crop

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Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.
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