Short Research Article

An Analysis of the Agrochemicals Industry in SPSR Nellore District of Andhra Pradesh

ABSTRACT

The study entitled "An Analysis of Agrochemicals Industry in SPSR Nellore District of Andhra Pradesh" was taken up with basic objectives to study the competitors and the reason for the success of the top companies in the market. The study was conducted in the SPSR Nellore district of Andhra Pradesh. The stipulated objectives of the study were achieved by using both primary and secondary data. The primary survey was done with the help of a semi-structured Schedule. The sampling consisted of 210 farmers and 70 dealers who are from the major towns in the district. The major crop is Paddy as major parts of the district receive the rainfall with both southwest and northeast monsoon. Farmers are showing interest in pesticides which are giving more results than the price and availability. The major market of the district is occupied by Bayer Crop Science Ltd, Adama Ltd, Dhanuka Agritech Limited, FMC, and Corteva Agrisciences. The Total market size was nearly INR 250 crores. The reason for the success of Bayer crop Science Ltd and Adama Ltd is a strong distributor relationship. The reason for the success of Dhanuka Agritech Limited is due to the presence of more sales staff and their monitoring of sales by visiting shops at regular intervals.

Keywords: Agrochemicals, Paddy, Pesticides, Southwest monsoon, Northwest monsoon

1. INTRODUCTION

The global agrochemical market size was estimated at US$.38 billion in 2021. The market is projected to grow from US$227.78 billion in 2022 to US$286.08 billion in 2030, increasing at a CAGR of 2.89% during the forecast period 2022-2030. By product, the Fertilizer segment dominates global sales. Until 2021, cereals and grains dominated the market share. Geographically, Asia-Pacific accounted for 30% of 2021 sales. India, China, and Japan are important regional players. China is the world's leading exporter and producer of pesticides (FAO). India is the 4th largest agricultural chemical producer (FAO) in the world. The Indian agrochemical market will reach a value of around USD 212 billion in 2021. India uses 0.6 kg of pesticides per hectare per person, compared to 13.1 kg per hectare in China. The total consumption of chemical pesticides in Andhra Pradesh in 2021 will be 1759 tons.

The objectives of the study are:

- To study the socio-economic profile of farmers
- To analyse the cropping pattern adopted by farmers
- To study the profile of dealers of agrochemicals
- To study the competitors' analysis

2. MATERIAL AND METHODS

2.1 Research Methodology

i. Type of Research: Descriptive research
ii. Sampling unit: Farmer and Dealer
iii. Sample size: 210 farmers and 70 dealers
iv. Sampling method: non-probability sampling
v. Sampling technique: Purposive sampling
vi. Research Instrument: Semi-structured Schedule
vii. Area of the survey: Major Mandals of SPSR Nellore District of Andhra Pradesh

2.2 Analytical Tools

The competitor's analysis was examined using tabular analysis, percentage analysis, and the Garrett Ranking Technique.

Henry Garrett ranking Technique was given by Henry Edward Garrett in 1969.

Formula is as per given below:

$$\textbf{Percent position} = \frac{100\,(Rij - 0.5)}{Nj}$$

Here,

Rij is called as rank given for the ith variable by jth respondents

Nj is called as number of variables ranked by jth respondents

3. RESULTS AND DISCUSSION

3.1 Socio-Economic Profile of Farmer Respondents

In the survey, it was found that there are 6.7% of respondents aged <20 years, 33.33% of respondents are between 21-40 years, 48.6% of respondents are between 41-60 years and 11.4% of respondents are above 60. Out of 210 respondents majority i.e., 83.3% belong to males, and 16.7% belong to females. Males are the decision-makers in farming activities. It was observed that 25.2% of respondents belong to a joint family,63.8% of respondents belong to the nuclear family, and 23% of respondents belong to an extended family type. 8.6% of respondents have a family size of 2 members, 62.4% of respondents have a family size of 3-5 members, and 29% of respondents belong to an extended family type. 25.71% of respondents were illiterate,50.95% were up to the SSC, 18.57% of respondents were both up to intermediate, and 4.76 % are graduate level education and above. Income is the most important factor for the sustainability of the family and to take farming activities without any debts. In the survey, it was observed that 60.5% of the respondents have a family income of 1-5 lakhs,16.7% of respondents have 5-10 lakhs,13.8% of respondents have 13.8% and only 9 % of the respondents have a family income of more than 10 lakhs. The total land holding capacity of the farmers is a crucial factor on which the consumption of agriculture inputs and the risk-taking ability will depend. It was found that there is a huge percentage of Small and Marginal farmers i.e. 80% have land up to 2 ha., followed by medium farmers with 10.00% having land between 2-4 ha., 6.20% of semi-medium farmers and the remaining 3.80 % of farmers are large farmers. 95.71% of respondents are using chemical pesticides and 4.29% of respondents are following natural and organic farming. By analysing common factors for the purchase of pesticides, it was observed that the majority of respondents are giving preference pesticides that are giving the best results, followed by pesticides that are having good quality.

Table 1: Preference for purchase of pesticides

Factors	Average Score*	Rank
Best Results	73.4	1
Quality	68.5	2
Low Price	53.4	3
Packing Size	51.9	4
Availability	48.7	5

**Henry Garrett Score*

3.2 Analyse the Cropping Pattern Adopted by Farmers

Table 2: Cropping Patterns followed by farmer respondents

S.no	Kharif crop	frequency	percentage	Rabi Crop	frequency	percentage
1	Paddy	128	60.95%	Paddy	160	76.19%
2	Groundnut	29	13.80%	Cotton	18	8.57%
3	Cotton	22	10.47%	Black gram	11	5.23%
4	Red gram	11	5.23%	Tobacco	7	3.33%
5	Others	20	9.52%	Others	14	6.66%

It has been seen that Paddy is grown more in the district when compared to all other crops because of availability of water is more in the majority parts of the district during the Kharif and rabi seasons. The availability of water is more in the rabi season when compared to Kharif season due to the northwest monsoon. Groundnut and cotton are prevalent in the Kharif season. The total share of horticultural crops is negligible. No crops are grown in the summer season if water is available then farmers will go for paddy in some areas of the district.

3.3 Study the Competitor's Analysis

Table 3: Turnovers of top 10 agrochemical companies

S.No	Company	Total turnover (2020-2021)	Total Turnover (2021-22)	% Growth or decrease
1	Bayer Crop Science Limited	27 crores	28 crores	3.7% growth
2	Adama Limited	26 crores	27 crores	3.8% growth
3	Dhanuka Agritech Limited	27 crores	26.3 crores	2.5% decline
4	Corteva Agrisciences	23 crores	25crores	8.7% growth
5	FMC	21 crores	20 crores	4.76% decline
6	Syngenta	16 crores	17 crores	6.25% growth
7	Nichinova India Limited	11 crores	13 crores	18% growth

8	Tata Rallis India Limited	11 crores	12 crores	9% growth
9	United Phosphorous Limited	8.5 crores	9.5 crores	11.7% growth
10	Gharda Chemicals Limited	8 crores	9 crores	12.5% growth

These are the top 10 pesticide-selling companies in the SPSR Nellore district in the financial year 2021-22. Bayer Crop Sciences Limited, Adama limited, and Dhanuka Agritech limited are the top in the market. Turnovers of Dhanuaka Agritech Limited and FMC decreased relatively when compared to the previous years. Maximum growth has occurred for Nichinova India Limited i.e.,18% growth.

Table 4: Reasons for the success of Bayer crop science Limited

Factors	Garrett score	Rank
Strong distributor relationship	68	1
Good crop protection product portfolio	62.92	2
Using more promotional tools	51.68	3
More sales staff	37.52	4
Preferential dealership	31.85	5

Table 5: Reasons for the success of Adama Limited

Factors	Garrett score	Rank
Strong distributor relationship	68.42	1
Using more promotional tools	63.71	2
Good crop protection product portfolio	41.42	3
More sales staff	39.64	4
Preferential dealership	33.57	5

Table 6: Reasons for the success of Dhanuka Agritech Limited

Factors	Garrett score	Rank
More sale staff	69.07	1
Preferential dealership	63.28	2
Using more promotional tools	42.85	3
Good crop protection product portfolio	39.64	4
Strong distributor relationship	33.57	5

Strong distributor relationships and a good crop protection product portfolio are the major reasons for the success of Bayer crop sciences limited in the Nellore district market. Strong distributor relationships and using more promotional tools are the major reasons for the success of Adama limited. Having more sales staff and preferential dealerships are the major reasons for the success of Dhanuka Agritech limited.

4. CONCLUSION

The majority of farmer respondents are middle-aged, with no education or with up to SSC, so more awareness programs are required to create the chances to adopt new technologies in agriculture. The family size was found to be 3 to 5 per household. The majority of respondents are marginal and small farmers with annual incomes ranging between 1 to 5 lakhs. The farmers are giving preference to pesticides that are of good quality and give the best results. The main crop grown in the district was found to be Paddy in both Kharif and Rabi seasons. Paddy is grown more in the Rabi season when compared to Kharif, as the majority of the district receives the rainfall through the Northeast monsoon. The majority of dealers are dealing with more than 20 companies of Pesticides and Fertilizers, so there is a fair chance to expand the business further. The dealers are selling the pesticides on both a credit and cash basis. The majority of them are both wholesalers and retailers with an annual turnover of more than 1 crore. Bayer Crop Science Limited was top in the Nellore district with an annual turnover of 28 crores in 2021-22. The companies are lagging behind in promotional activities, so more promotional activities are required to reach the products up to the farm level.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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