The Pharma Innovation

Kapil Gautam
Research Scholar, Department of Agricultural Economics, [Naini Agricultural Institute], Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh, India

Nitin Barker
Assistant Professor, Department of Agricultural Economics, Naini Agricultural Institute, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh, India

Akash Baboo
Research Scholar, Department of Agricultural Economics, [Naini Agricultural Institute], Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh, India

Analyse the consumer preference and buying behaviour based on quality, availability and packaging of various cattle feed products

Kapil Gautam, Nitin Barker and Akash Baboo

Abstract
The feed industry in India has been around for over 50 years and mostly comprises of segments for cattle feed and poultry feed. India's cattle feed business is gradually becoming an organised sector, and feed producers are utilising more cutting-edge, sophisticated techniques that aim to include best global practises. Given India's low ranking among world nations in terms of livestock population and the high anticipated growth rate of roughly 4%, the sector for cow feed has significant room for expansion. Products made from compounded cattle feed (CCF), especially those that are branded, are quickly gaining popularity in India, even in rural areas. According to feedback from farmers, earlier research studies by the authors of this article have shown that the branded cattle feed industry has good growth prospects. They have also shown that the feed consumption pattern and the relative high share of branded feeds, the feed consumption pattern based on product types (such as pellet and mash), the composition of the cattle feed market and the relatives of the major brands, the key factors influencing the purchasing decisions, etc.

Keywords: Cattle feed, livestock, brands, etc.

Introduction
The Indian cattle feed industry is fuelled by the country's growing government funding. The animal feed industry was given new prospects after the Indian economy was liberalized in the early 1990s. Because of the domestic consumption of animal-based goods, the rising livestock population, and the reliance on imports, the industry appears to have significant growth potential. India's animal feed industry is reportedly one of the world's fastest-growing. The rising demand for animal protein and dairy products in India has resulted in an increase in livestock, increasing the demand for animal feed. India's animal feed sector is currently dominated by the poultry, aquaculture, and dairy industries.

Cattle feed products are grown with respect and blended with a variety of nutritional ingredients that are essential for animal health. Pasture grasses, hay and silage crops, cereal grains, and other food crop by-products such as pineapple bran, brewers' grains, and sugar beet pulp are some of the most popular feeds. Animal feed is used in a variety of industries, including cattle, poultry, and aquaculture. The cattle feed is produced in more than 130 countries globally and is one of the most important components of the animal rearing as it adds considerable cost to the production system. The type of feed production varies across various regions and largely depends on the animal population and their economic importance in the region.

India is one of the largest and fastest growing cattle feed markets in the world with poultry, aqua and dairy industries occupying the major share in overall feed demand. Cattle feed manufacturing on a commercial and scientific basis started around 1965 in India with the setting up of medium-sized feed plants in northern and western India to cater to the needs of dairy cattle sector. In India, at present, cattle accounts for 7.5 million tonnes, poultry industry consumes around 13 MT of the feed with soy meal and corn being the prime consumables.

Via its 4,000 Dehaat centers, which are operated using a franchise model, DeHaat has forged connections with almost 7 lakh smallholder farmers in Bihar, Jharkhand, West Bengal, Orissa, Uttar Pradesh, Rajasthan, and Madhya Pradesh. Farmers who are connected to DeHaat have access to agricultural input goods including seeds, fertilizer, and pesticides, as well as a customized crop advise on pest and disease management that is powered by artificial intelligence (AI) and given via a mobile app and call centers.

Corresponding Author:
Nitin Barker
Assistant Professor, Department of Agricultural Economics, Naini Agricultural Institute, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, Uttar Pradesh, India

Materials and Methods
Selection of District
Bareilly is one of the districts of Uttar Pradesh state of India and one of the leading districts in organic food. Uttar Pradesh comprises of 76 districts out of which Bareilly district is spread over an area 4,120 square kilometers out of which the rural area covers 3841.9 square kilometers and rest is covered by urban area including town. Bareilly district consist of 6 Tehsils, 15 Blocks, 1007 Gram Panchayats.

Bareilly district was purposely selected for the study. Bareilly was selected because there are large number of cattle and maximum farmers are depending on livestock of their livelihood. The Bareilly district belongs to the state Uttar Pradesh in northern India. It is divided in six administrative division or tehsils: Aonla, Baheri, Bareilly city, Faridpur, Mirganj, and Nawabganj.

Selection of Block
There are 15 blocks in Bareilly district, out of which 1 block name Nawabganj block was purposively selected for the study based on maximum number of cattle and more user of cattle feed products of DeHaat Group.

Selection of Village
A complete list of all villages was obtained from the block development office. Thereafter this, village were arranged in ascending order based on area of cultivation. Out of total villages 5% villages were selected randomly for the present study.

Selection of Respondent
From the selected village list of all the people doing animal husbandry was obtained from the village development office in each selected village. 10% farmers were randomly selected from each village and then farmers were classified in to three groups. The selected farmers will be classified into five sizes of groups based on animal holding size.

Selection of Market Functionaries
The market functionaries were considered for data collection regarding and other marketing charges in different marketing channel list of all market functionaries was prepared with the help of primary and secondary marker offices then out of total number of market functionaries like whole sellers' retailers' middle man, commission agent etc. market functionaries were selected randomly for present study.

Tool used for Analysis
Marketing Cost
The total cost incurred on marketing by various intermediaries involved in the sale and purchase of the commodity till it reaches the ultimate consumer was computed as follow.

$$C = CF + Cm_1 + Cm_2 + Cm_3 + Cmn$$

Where,
C = Total cost of marketing
Cf = cost borne by the producer farmer from the produce leaves the farm till the sales of the sale produce, and
Cmn = Cost incurred by the ith middlemen in the process of buying and selling

Marketing margin
Absolute margin = $PRi – (Ppi + Cmi)$

$$\text{Per cent margin} = \frac{PRi - (Ppi + Cmi)}{PRi} \times 100$$

Where,
PRi = Total value of receipts
Ppi = Total purchase value of good (purchase price) and
Cmi = Cost incurred in marketing

Price Spread
The price spread is worked out by computing the difference between the market price and the net price received by the producers. This difference represents the gross marketing margin.

$$GMM = Pc – Pfb$$

Where,
GMM = Gross Marketing Margin
Pc = Price Paid by consumer
Pfb = Price received by producer

Standard deviation
Standard deviation is the most widely used measure of dispersion of a series and is commonly denoted by the symbol of sigma. Standard deviation is defined as the square root of the average of squares of deviations, when such deviations for the values of individual items in a series are obtained from the arithmetic average. It is worked out as under.

$$\text{Standard deviation } \sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(Xi-\mu)^2}$$

Result and Discussion

Table 1: Aspects led to the choice of Dehaat (Khurak) Cattle Feeds

Perception factors	Very good (%)	Good (%)	Unsure (%)	Bad (%)	Very Bad (%)	Total Respondents	Total Percentage (%)
Availability	17	14	31	23	15	120	100
Personal experience	13	24	27	18	18	120	100
Price	22	26	23	19	10	120	100
Packaging	22	16	29	14	19	120	100
Nutrient values	26	11	24	21	18	120	100
Quality	30	18	19	20	13	120	100

Table 1 shows aspects that led to the choice of thinking about Khurak cattle feed in which 31% were unsure about Availability, 27% were unsure about personal experience, 26% responded for good price, 29% were unsure about the packaging quality, 26% responded for very good nutritional values and 30% responded for good quality.
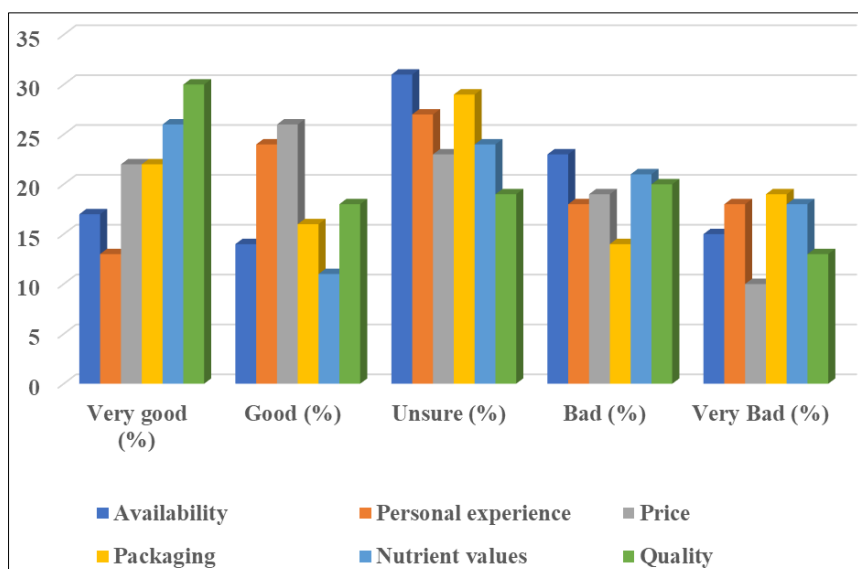
Fig 1: Aspects Led to the Choice of Dehaat (Khurak) Cattle Feeds.

Fig. 1 shows aspects that led to the choice of thinking about Khurak cattle feed in which 31% were unsure about Availability, 27% were unsure about personal experience, 26% responded for good price, 29% were unsure about the packaging quality, 26% responded for very good nutritional values and 30% responded for good quality.

Conclusion
The aspects that led to the preference of DeHaat cattle feed over its other competitors was because of personal experience of the respondents, the quality of the feed and the price of the feed. The respondents found the feed cost effective and quality was good compared to other company's feed. Study shows aspects that led to the choice of thinking about Khurak cattle feed in which 31% were unsure about Availability, 27% were unsure about personal experience, 26% responded for good price, 29% were unsure about the packaging quality, 26% responded for very good nutritional values and 30% responded for good quality.

Acknowledgements

Reference
1. Zucker H. The Utilization of Wastes in Domestic Animal Rearing, Animal Research and Development. 1978;7:1311.
2. Inglett GE, Inglett GE (ed.). Symposium: Processing Agricultural and Municipal Wastes, The AVI Publishing Co, Westport, Connecticut; c1973. p. 1-5,
3. Protein-Calorie Advisory Group of the United Nations System (PAG) Guideline No. 6, Preclinical Testing of Novel Sources of Protein, PAG Bulletin. 1974;4(3):17.
4. PAG Guideline No. 15, Nutritional and Safety Aspects of Novel Protein Sources for Animal Feeding, United Nations, New York.
5. Food and Drug Administration, U.S. Department of Health, Education and Welfare Federal Register. 1 977;42(248):61662.
6. Flegal CJ, Zindel HC. Dehydrated Poultry Waste as a Feedstuff in Poultry Rations, International Symposium on Livestock Wastes. A.S.A.E. Publication. 1971;271:305.
7. Mui NT, Inger L, Peter U, Binh DV. The Foliage of Flemingia (Flemingia Macrophylla) or Jackfruit (*Artocarpus heterophyllus*) as a substitute for a rice bransoya bean concentrate in the diet of lactating animals, Doctoral thesis, Part III. 2001. p. 1-10.
8. Duyen NT, Bien LT, Mui NT, Binh DV, Preston TR. Foliage of *Trichantera gigantea*, Jack Fruit (*Artocarpus heterophyllus*), Banana (Musa sp.) and Acacia mangium as protein sources for lactating animals fed a basal diet of rice straw and sugar cane tops, Livestock Research for Rural Development. 1996;8(3).
9. Le TH, Nguyen QS, Dinh VB, Le TB, Preston TR. Replacing concentrates with molasses blocks and protein-rich trees leaves for reproduction and growth of rabbits, Livestock Research for Rural Development. 1997;8(3).
10. Nguyen THN, Hon NV. Supplementing rice by-products with foliage of *Trichantera gigantea* in diets of growing and lactating pigs and fattening ducks, Livestock Research for Rural Development. 1999;11(3).