Research Article

Indian Journal of Extension Education
Vol. 62, No. 4 (October–December), 2026, (193-198)

ISSN 0537-1996 (Print)
ISSN 2454-552X (Online)

Information Processing Behaviour of Sugarcane Growers in Lucknow Division of Uttar Pradesh

Anurag Dixit[1]*, N. R. Meena[2], R. K. Doharey[3], Yash Pateriya[1], Yogesh Kumar[1], Arvind Kumar[1] and Kumar Sonu[1]

[1]Ph.D. Scholar, [2]Assistant Professor, [3]Professor & Head, Department of Extension Education, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya-224229, Uttar Pradesh, India
*Corresponding author email id: anudixit9451@gmail.com

HIGHLIGHTS

- Judgment based on economic feasibility was the most preferred information evaluation method (MPS = 88.02).
- Economic motivation (r = 0.661) and extension contact (r = 0.580) were the strongest correlates of information processing behaviour.

ARTICLE INFO

Keywords: Agricultural communication, Correlation analysis, Economic motivation, Extension contact, Z-test.

https://doi.org/10.48165/IJEE.2026.62428

Citation: Dixit, A., Meena, N. R., Doharey, R. K., Pateriya, Y., Kumar, Y., Kumar, A., & Sonu, K. (2026). Information Processing Behaviour of Sugarcane Growers in Lucknow Division of Uttar Pradesh. *Indian Journal of Extension Education*, *62*(4), 193-198. https://doi.org/10.48165/IJEE.2026.62428

Reviewed by: Dr. Kinjulck C Singh (kinsingh19@gmail.com); Dr. Chitrasena Padhy (chitra.padhy@gmail.com); Dr. Ajay Kumar Prusty (prusty.ajay@gmail.com); Dr. Ashokkumar (ashokakku2021@gmail.com)

ABSTRACT

Effective processing of agricultural information by farmers is a critical determinant of technology adoption and improved farm decision-making, yet this behaviour remains inadequately documented among sugarcane growers. The present study was conducted during 2025 to assess the information processing behaviour (IPB) of sugarcane growers and its relationship with selected socio-economic and psychological characteristics in the Lucknow division of Uttar Pradesh. Primary data were collected from 320 respondents selected from Lakhimpur Kheri and Lucknow districts through a structured interview schedule, and IPB was measured using a three-point continuum scale across three dimensions: information evaluation, storage, and transfer. The economic feasibility ranked first overall (MPS = 88.02), while memorizing the information emerged as the top storage method (MPS = 100.00). Sharing information with those who actively seek ranked first among transfer methods. The Z-test revealed a statistically significant difference in IPB between the two districts ($Z = 15.39$, $p < 0.01$), with Lakhimpur Kheri farmers recording higher scores than those in Lucknow. Correlation analysis showed that economic motivation ($r = 0.661$) and extension contact ($r = 0.580$) had the highest positive and significant association with IPB. The study underscores the need to strengthen extension contact and participatory communication approaches.

INTRODUCTION

Sugarcane (*Saccharum officinarum* L.) is one of the most important commercial crops in the world and plays a significant role in the agricultural economy of many developing countries. The crop is cultivated in more than 90 countries across approximately 26.5 million hectares, producing nearly two billion tonnes annually (FAOSTAT, 2024). Sugarcane is primarily grown for sugar production and also serves as a major raw material for several by-products such as jaggery, ethanol, molasses, and bioenergy, thereby contributing to agro-industrial development and rural livelihoods. India is the world's second-largest sugarcane producer, and the crop holds a prominent position in the country's agricultural sector. Sugarcane is cultivated in both tropical and subtropical regions of India, covering about 5.74 million hectares with a production exceeding 453 million tons during the 2023–24 season (Government of India, 2024). Among major sugarcane-producing states, Uttar Pradesh ranks first in both area and production, cultivating sugarcane

Received 26-05-2026; Accepted 18-09-2026

on nearly 23.17 lakh hectares with an estimated production of around 188 million tonnes (Government of India, 2024). The sugar industry plays a crucial role in the rural economy of the state and is supported by more than 120 operational sugar mills during the 2024–25 crushing season (Government of India, 2024).

Despite its economic importance, sugarcane cultivation in many regions continues to face several challenges such as low productivity, limited adoption of improved technologies, and inadequate access to timely and reliable agricultural information. In modern agriculture, information has emerged as an essential input, comparable in importance to land, water, seeds, and fertilizers. The success of agricultural innovations largely depends on the extent to which farmers are able to access, interpret, and utilize relevant information effectively (Babu et al., 2012; Niranjan et al., 2023). At present, farmers increasingly draw on a mix of interpersonal, mass media, and digital sources for agricultural information, yet institutional extension services continue to reach only a limited proportion of the farming population, underscoring the continuing importance of understanding how farmers themselves process the information they receive (Mondal et al., 2024; Godara et al., 2024). Information processing behaviour involves several stages including information evaluation, information storage, and information transfer. Through these processes, farmers assess the credibility and usefulness of agricultural information, retain it for future use, and disseminate it within their social networks (Panda et al., 2019; Prasad et al., 2022). Understanding these behavioural patterns is essential for developing effective extension strategies and improving the dissemination of scientific agricultural knowledge at the grassroots level (Ravikumar et al., 2015; Acharya et al., 2023).

Although several studies have examined farmers' information-seeking behaviour and technology adoption, relatively limited research has focused on the information processing behaviour of farmers, particularly in the context of sugarcane cultivation. Reddy and Reddy (2008) and Kadam and Gaikwad (2014) examined communication and information-seeking behaviour among sugarcane farmers. Mondal et al. (2024) on the communication behaviour of fish farmers in West Bengal has extended this line of enquiry to other farming systems; however, comprehensive studies encompassing all three dimensions of information processing evaluation, storage, and transfer remain scarce, particularly for sugarcane.

METHODOLOGY

The present study was conducted during 2025 in the Lucknow division of Uttar Pradesh, one of the 18 administrative divisions of the state. The division was purposively selected due to its distinction as the highest sugarcane-producing division in Uttar Pradesh (Government of India, 2024). It comprises six districts, of which Lakhimpur Kheri and Lucknow were purposively chosen to represent districts with the maximum and minimum sugarcane production, respectively (Lakhimpur Kheri recording the largest area under sugarcane in the division and Lucknow the smallest, as per Cane Commissioner, Uttar Pradesh records; Government of India, 2024), to capture variation in information environment and extension exposure. From each selected district, four blocks were chosen through simple random sampling. Subsequently, four villages were randomly selected from each block, resulting in a total of 32 villages. From each village, 10 respondents were randomly selected, yielding a total sample of 320 respondents (160 from each district). Primary data were collected through a pre-structured and pre-tested interview schedule administered via personal interviews. The interview schedule incorporated questions related to sugarcane production technology and information behaviour. Information processing behaviour was assessed across three key dimensions: information evaluation, information storage, and information transfer. Each item was measured using a three-point continuum scale (Always = 3, Sometimes = 2, Never = 1). The total score obtained by each respondent was calculated by summing responses across all items. Based on cumulative scores, respondents were categorised into low (below Mean – SD), medium (Mean ± SD), and high (above Mean + SD) levels of information processing behaviour using the mean ± standard deviation method. To quantify the overall extent of each method, the Mean Percent Score (MPS) was calculated as: MPS = (Obtained score / Maximum possible score) × 100.

To detect significant differences between the mean information processing behaviour scores of the two districts, the Z-test (standard normal deviate test) was applied, which is appropriate for large independent samples ($n > 30$). The formula used was: $Z = (\bar{X}_1 - \bar{X}_2) / \sqrt{(\sigma_1^2/n_1 + \sqrt{}_2^2/n_2)}$, where $\bar{X}_1$ and $\bar{X}_2$ are the means, σ_1 and σ_2 are the standard deviations, and n_1 and n_2 are the sample sizes of the two groups respectively. Pearson product-moment correlation coefficient (r) was used to examine the direction and magnitude of association between selected socio-economic and psychological characteristics and information processing behaviour. All statistical inferences were tested at least at the five per cent level of significance, and results significant at the more stringent one per cent level are additionally reported where applicable. Data were processed and analysed using SPSS version 25.0.

RESULTS

Extent of methods used for information evaluation, storage, and transfer

Table 1 presents the Mean Percent Scores (MPS) and ranks of the methods adopted by sugarcane growers across the three dimensions of information processing behaviour. Among evaluation methods, judgment based on economic feasibility ranked first overall (MPS = 88.02) and in Lucknow (MPS = 90.21), while it ranked third in Lakhimpur Kheri (MPS = 85.83). Discussion with family members, friends, fellow farmers, and neighbours ranked second overall (MPS = 85.52), and weighing the merits of an innovation in light of past experience ranked third (MPS = 77.81). Discussion with cane supervisors ranked first in Lakhimpur Kheri (MPS = 90.21) but fell to seventh in Lucknow (MPS = 47.50), reflecting district-level variation in access to and trust of extension personnel. Formal channels such as agricultural department officials and university experts ranked last (MPS = 36.98), indicating low reliance on institutional sources. Among storage methods, memorizing the information ranked first with a perfect MPS of 100.00 in both districts – indicating that every respondent reported "always" relying on memory to retain information, a plausible outcome given

Table 1. Extent of methods used in information processing behaviour

S. No.	Method	Lakhimpur Kheri MPS	Rank	Lucknow MPS	Rank	Total MPS	Rank
A. Information evaluation methods							
1.	Discussion with officials of State Agriculture Department or Agricultural University	37.29	IX	36.67	IX	36.98	IX
2.	Discussion with cane supervisors or officers of the sugar mill	90.21	I	47.50	VII	68.85	IV
3.	Acceptance of received information with modifications	65.00	V	60.21	V	62.60	VI
4.	Judgment based on economic feasibility	85.83	III	90.21	I	88.02	I
5.	Acceptance of received information as such	55.63	VIII	40.21	VIII	47.92	VIII
6.	Discussion with family members, friends, fellow farmers, and neighbours	87.71	II	83.33	II	85.52	II
7.	Judgment in light of climatic conditions	60.21	VII	55.00	VI	57.60	VII
8.	Judgment based on technical feasibility	64.58	VI	63.33	IV	63.96	V
9.	Weighing merits of an innovation in light of past experience	75.63	IV	80.00	III	77.81	III
B. Information storage methods							
1.	Conveying to family members and asking them to remember	98.13	II	91.67	II	94.90	II
2.	By maintaining classified notebooks or diary	41.67	IV	45.42	IV	43.54	IV
3.	Preservation in the form of printed literature	36.04	V	35.00	VI	35.52	V
4.	By maintaining subject matter file	33.75	VI	36.46	V	35.10	VI
5.	Memorizing the information	100.00	I	100.00	I	100.00	I
6.	Gathering information from social system	95.21	III	61.67	III	78.44	III
C. Information transfer methods							
1.	Sharing information with those who actively seek	100.00	I	100.00	I	100.00	I
2.	To friends, fellow farmers, progressive farmers, and neighbours	93.75	II	80.00	III	86.88	III
3.	To relatives	66.04	IV	51.67	IV	58.85	IV
4.	Providing information to those to whom land has been leased out	91.25	III	83.33	II	87.29	II
5.	Speaking in local meetings	48.54	V	40.00	V	44.27	V
6.	By conducting demonstrations to show practical aspects	33.33	VII	33.33	VII	33.33	VII
7.	Telling others what was learnt during training or meetings	34.17	VI	34.58	VI	34.38	VI

MPS = Mean Percent Score

that recall is a low-cost, universally practised behaviour requiring no literacy or material resources, unlike documentation-based methods – followed by conveying information to family members and asking them to remember (MPS = 94.90) and gathering information from the social system (MPS = 78.44). Formal documentation practices, such as maintaining notebooks, preserving printed literature, and maintaining subject matter files were least preferred, suggesting limited adoption of systematic record-keeping. Among transfer methods, sharing information with those who actively seek ranked first in both districts (MPS = 100.00), reflecting a predominantly reactive approach to information dissemination. Providing information to those to whom land has been leased out ranked second overall (MPS = 87.29), while sharing with friends, fellow farmers, and neighbours ranked third (MPS = 86.88). Less preferred transfer methods included speaking in local meetings (MPS = 44.27), sharing knowledge gained from training (MPS = 34.38), and conducting demonstrations (MPS = 33.33).

Comparison of information processing behaviour between the two districts

To examine the difference in information processing behaviour between sugarcane growers of Lakhimpur Kheri and Lucknow districts, the Z-test was applied. The null hypothesis (H•) stated that there is no significant difference in information processing behaviour between the two districts; the alternative hypothesis (H_1) stated that a significant difference exists. The results are presented in Table 2. The calculated Z-value (15.39) was considerably higher than the tabulated value of 1.96 at the five per cent level of significance. The null hypothesis was therefore rejected, confirming that a statistically significant difference in information processing behaviour exists between sugarcane growers of Lakhimpur Kheri and Lucknow districts, with Lakhimpur Kheri farmers recording a higher mean score (44.82) than those in Lucknow (40.49).

Table 2. Comparison of information processing behaviour between Lakhimpur Kheri and Lucknow

District	Mean	SD	Z-value
Lakhimpur Kheri	44.82	2.44	15.39**
Lucknow	40.49	2.59	

** Significant at the 1 per cent level ($p < 0.01$)

Relationship between selected characteristics and information processing behaviour

Table 3 presents the correlation coefficients between selected independent variables and information processing behaviour of sugarcane growers. All eight variables exhibited a positive relationship with information processing behaviour, though the magnitude and level of significance varied. Economic motivation ($r = 0.661$, $p < 0.01$) showed the highest positive and highly significant correlation, followed by extension contact ($r = 0.580$, $p < 0.01$), risk orientation ($r = 0.469$, $p < 0.01$), education ($r = 0.410$, $p <$

Table 3. Correlation between selected characteristics and information processing behaviour (n = 320)

Variables	Correlation coefficient (r)
Age	0.115*
Education	0.410**
Landholding	0.366**
Extension contact	0.580**
Scientific orientation	0.405**
Economic motivation	0.661**
Cosmopolitan outlook	0.121*
Risk orientation	0.469**

* $p < 0.05$; ** $p < 0.01$

0.01), scientific orientation ($r = 0.405$, $p < 0.01$), and landholding ($r = 0.366$, $p < 0.01$). Age ($r = 0.115$, $p < 0.05$) and cosmopolitan outlook ($r = 0.121$, $p < 0.05$) were positively but weakly and significantly associated at the five per cent level, indicating comparatively lesser influence on information processing behaviour.

DISCUSSION

The predominance of medium-level information-processing behaviour among sugarcane growers in the Lucknow division is consistent with findings from related studies. Similarly, the majority of dairy farmers reported to exhibit a medium level of information processing behaviour, attributed to moderate educational attainment, limited landholding size, and partial exposure to extension services (Prasad et al., 2022). The present findings corroborate this pattern and extend it to the specific context of commercial sugarcane cultivation in Uttar Pradesh. It has further been noted that the structural and functional characteristics of farmers' information environments including access to credible sources and interpersonal networks shape their overall information processing capacity, which aligns with the moderate levels observed in both districts of the present study (Acharya et al., 2023).

The dominance of economic feasibility as the primary evaluation criterion reflects rational decision-making behaviour among farmers in a commercial crop context. This finding is consistent with the observation that farmers' evaluation of agricultural information is predominantly guided by economic returns, particularly in regions where input costs are high and market uncertainty is significant (Singh & Meena, 2013). The strong preference for peer-based and experiential evaluation methods discussion with family members and fellow farmers and weighing innovations against past experience over formal institutional channels aligns with the finding that mass media and local extension functionaries are more trusted than formal institutional sources (Nain et al., 2015; Duhan & Singh, 2017). This preference reflects the influence of social capital and cognitive anchoring in agricultural information evaluation, where accessible and familiar channels are inherently more persuasive.

The universal preference for memorization as the primary storage method and the reactive sharing approach are consistent with the finding that memorization remains the dominant information retention strategy among smallholder farmers, despite the risk of information loss (Friedman et al., 2024). Interpersonal face-to-face communication has similarly been reported to dominate agricultural information transfer in regions with limited access to formal extension services and digital technologies (Assefa et al., 2021; Singh et al., 2023). The low scores for demonstration-based transfer and training-related sharing indicate that knowledge generated through formal training events does not effectively re-enter informal information networks a critical gap for extension planners.

The significant difference in information processing behaviour between Lakhimpur Kheri and Lucknow ($Z = 15.39$) can be attributed to the considerably greater density of sugarcane cultivation, more active cane supervisory networks, and deeper penetration of sugar mill extension services in Lakhimpur Kheri. Among the correlation results, the strongest associations between economic motivation and extension contact reflect that both intrinsic drive and structured external support are indispensable for effective information processing. The role of risk orientation and scientific orientation is consistent with the observation that psychologically progressive farmers with higher risk tolerance and empirical thinking tend to seek, evaluate, and internalize agricultural information more actively (Verma et al., 2019). The low correlations between age and cosmopolitan outlook suggest that these traits have marginal influence and that more proximate motivational and structural factors determine information-processing capacity.

Taken together, these patterns suggest that sugarcane growers process information through a predominantly experience-based and socially embedded pathway rather than a formally documented one. Farmers appear to prioritise economic feasibility because sugarcane is a high-investment, market-linked crop in which the immediate financial consequence of an information-based decision (for example, adopting a new variety or input) is more tangible and easier to verify through peer experience than technical explanations offered by extension personnel. Reliance on memorisation over written records is consistent with the largely oral tradition of information exchange in rural social networks and with the practical constraints of literacy, time, and record-keeping habits among smallholders; it also means that valuable information is vulnerable to loss or distortion once the immediate holder forgets it or is unavailable, which extension programmes need to address by encouraging simple, low-literacy recording aids. The reactive pattern of transfer, whereby farmers mainly share information when actively approached rather than proactively disseminating it, indicates an information system that functions well for maintaining existing social ties but is unlikely, on its own, to accelerate the spread of new practices to less-connected farmers; this points to a specific role for extension agencies in stimulating more proactive peer sharing, for instance through farmer facilitators or lead-farmer models. For extension planning, these findings imply that economic-benefit framing, backed by verifiable field-level demonstrations and cost-return data, is likely to be more persuasive to sugarcane growers than purely technical messaging. Low-literacy, easily recalled formats such as short audio or video advisories, illustrated leaflets, and repeated field-level reinforcement can help offset the limitations of memorisation-based storage. Structured farmer group interactions, participatory demonstrations, and the deliberate involvement of trusted peers and cane supervisors as intermediaries can convert the presently reactive sharing pattern

into a more proactive and wider-reaching information flow. The markedly higher information processing scores recorded in Lakhimpur Kheri, the division's leading sugarcane-producing district, relative to Lucknow, where sugarcane occupies a comparatively smaller share of the cropping pattern, further suggest that the specific advantage enjoyed by high-production districts lies in the density of crop-linked institutional touchpoints, cane supervisors, sugar mill field staff, and larger farmer-to-farmer networks, that provide more frequent and reinforcing exposure to sugarcane-specific information; replicating equivalent institutional touchpoints in lower-production districts could help narrow this gap.

CONCLUSION

Sugarcane growers in the Lucknow division of Uttar Pradesh predominantly exhibit a medium level of information processing behaviour, with economic reasoning, peer interaction, and unaided recall-based retention serving as the dominant modes of evaluation, storage, and transfer, respectively. Lakhimpur Kheri farmers process agricultural information significantly more effectively than their Lucknow counterparts, reflecting superior access to crop-specific extension support. Economic motivation and extension contact are the most influential determinants of information processing behaviour, underscoring the need for income-linked advisory services and more intensive extension engagement. Extension agencies must prioritise participatory demonstration methods, structured farmer group interactions, and digital advisory tools to convert the existing moderate processing capacity into high-quality, action-oriented information behaviour among sugarcane growers.

DECLARATIONS

Ethical approval and consent to participate: The study involved no invasive procedure on human participants as such the committee of Department of Department of Extension Education, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya, Uttar Pradesh, India waived the ethical approval. Informed consent was obtained from all respondents before data collection. The respondents were informed about the purpose of the study, and their participation was voluntary.

Availability of supporting data: Supporting data are available upon request.

Competing interests: No competing interests were declared.

Author contributions: Conceptualization of research (AD, NRM, RKD); Designing of the experiments (AD, NRM, RKD); Contribution of experimental materials (AD, NRM, RKD, AK); Execution of field survey and data collection (AD, AK, YP, YK); Analysis of data and interpretation (AD); Preparation of manuscript (AD, KS).

Publisher's note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organisations, or those of the publisher, the editors, and the reviewers. Any product/ process or technology that may be evaluated in this article, or a claim that its manufacturer may make, is not guaranteed or endorsed by the publisher. The Indian Journal of Extension Education remains neutral with regard to jurisdictional claims.

REFERENCES

Acharya, S., Acharya, S. K., Mandal, T. K., Mohanty, B. K., & Haque, M. (2023). Information receiving behavior of farmers: The structural and functional analysis. *Indian Journal of Extension Education, 59*(3), 58–62. https://doi.org/10.48165/IJEE.2023.59311

Assefa, H., Kibwika, P., Kyazze, F., & Getinet, M. (2021). Agricultural information sharing for climatic risk adaptation by smallholder livestock farmers in Eastern Amhara Region, Ethiopia. *International Journal of Agricultural Extension, 9*(2). https://doi.org/10.33687/009.02.3532

Babu, S. C., Glendenning, C. J., Okyere, K. A., & Govindarajan, S. K. (2012). Farmers' information needs and search behaviours: Case study in Tamil Nadu, India (Discussion Paper No. 1007). *International Food Policy Research Institute.*

Duhan, A., & Singh, S. (2017). Sources of agricultural information accessed by farmers in Haryana, India. *International Journal of Current Microbiology and Applied Sciences, 6*(12), 1559–1565. https://doi.org/10.20546/ijcmas.2017.612.175

Food and Agriculture Organization of the United Nations. (2024). FAOSTAT: Crops and livestock products. https://www.fao.org/faostat/en/#data

Friedman, N., Tan, Z., Haskins, M., Ju, W., Bailey, D., & Longchamps, L. (2024). Understanding farmers' data collection practices on small-to-medium farms for the design of future farm management information systems. *Proceedings of the ACM on Human-Computer Interaction, 8*, 1–28. https://doi.org/10.1145/3637416

Godara, S., Bana, R. S., Marwaha, S., Parsad, R., Nain, M. S., Sahu, S., Mehta, A., Singh, D., & Kumar, R. (2024). Uncovering farmers' information need through kisan call centre data analytics of Haryana state. *Indian Journal of Extension Education, 60*(4), 59-66. https://doi.org/10.48165/IJEE.2024.60411.

Government of India. (2024). *Annual report 2023–24*. Ministry of Agriculture and Farmers Welfare, Government of India. https://agricoop.nic.in/en/document-category/annual-report

Kadam, R. P., & Gaikwad, V. R. (2014). Information seeking behaviour of sugarcane growers. *Agriculture Update, 9*(3), 376–378.

Mondal, A., Dana, S. S., Ray Sarkar, M., Kumari, N., & Karjee, R. (2024). Communication behavior of fish farmers with regard to scientific fish farming: A study from Purba Medinipur District of West Bengal. *Indian Journal of Extension Education, 60*(2), 11–16. https://doi.org/10.48165/IJEE.2024.60202

Nain, M. S., Singh, R., Mishra, J. R., & Sharma, J. P. (2015). Utilization and linkage with agricultural information sources: a study of Palwal district of Haryana state. *Journal of Community Mobilization and Sustainable Development, 10*(2), 152-156.

Niranjan, S., Singh, D. R., Kumar, N. R., Jha, G. K., Venkatesh, P., Nain, M. S., & Krishnakumare, B. (2023). Do information networks enhance adoption of sustainable agricultural practices? Evidence from northern dry zone of Karnataka, India, *Indian Journal of Extension Education, 59*(1), 86-91. http://doi.org/10.48165/IJEE.2023.59118

Panda, S., Modak, S., Devi, Y. L., Das, L., Pal, P. K., & Nain, M. S. (2019). Access and usage of Information and Communication Technology (ICT) to accelerate farmers' income. *Journal of Community Mobilization and Sustainable Development, 14*(1), 200-205.

Prasad, N., Dalal, R., & Singh, S. (2022). Information processing behaviour of dairy farmers in adoption of animal husbandry

practices. *Indian Journal of Extension Education, 45*(3 & 4), 74–80. https://epubs.icar.org.in/index.php/IJEE/article/view/122879

Ravikumar, K., Nain, M. S., Singh, R., Chahal, V. P., & Bana, R. S. (2015). Analysis of farmers' communication network and factors of knowledge regarding agro metrological parameters. *Indian Journal of Agricultural Sciences, 85*(12), 1592-96. https://doi.org/10.56093/ijas.v85i12.54314

Reddy, G. R., & Reddy Venkata Rami, G. (2008). A study on the communication behaviour of sugarcane farmers. *Andhra Agricultural Journal, 55*(2), 187–190.

Reddy, P. P., & Reddy, T. K. (2015). Farmers' information processing behaviour and its influence on technology adoption. *Agricultural Extension Review, 27*(4), 5–10.

Singh, A. K., & Meena, M. S. (2013). Farmers' information perception and processing behaviour. *Indian Research Journal of Extension Education, 13*(1), 15–20.

Singh, D., & Rathore, M. (2002). Role of local communication networks in information sharing by farmers. *Indian Journal of Agricultural Economics, 57*(3), 494–500.

Singh, A., Singh, R., Nain, M. S., Mishra, J.R., Kumar, P., Sharma, D. K. & Paul, R. K. (2023). Linkage network structures of farmers: Analysing FPOs of M.P. and Bihar in India, *Indian Journal of Extension Education*, *59*(3), 14-20. http://doi.org/10.48165/IJEE.2023.59303

Verma, R. K., Wason, M., Singh, P., Sarkar, S., & Bhowmik, A. (2019). Information need, perceived credibility of information sources among rural women. *Indian Journal of Extension Education, 55*(2), 42–46. https://api.semanticscholar.org/CorpusID:219247704