Development and Standardization of Attitude Scale of Farmers Towards Use of Mineral Mixture in Cattle

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ABSTRACT

The study was conducted to develop and standardize the reliable and valid scale, to measure attitude of farmers towards use of mineral mixture. Appropriate statistical methods 'Scale product method' was used, which combines Thurston and Likert techniques. Twenty four statements were selected for judgment; a panel of 50 judges was requested to assign the score for each statement on five point continuum. Based on the scale (median) and Q values, twelve statements were finally selected to constitute attitude of farmers towards use of mineral mixture.

Keywords: *Attitude, Use of mineral mixture, Scale product method*

INTRODUCTION

Animal husbandry is the management and care of farm animals by human for profit, in which genetic qualities and behaviour, considered to be advantageous to human, are further developed. The term can refer to the practice of selectively breeding and raising livestock to promote desirable traits in animals for utility, sport, pleasure or research. Animal husbandry has been practiced for thousands of years since the first domestication of animals. Mineral Mixture is a mixture of various major mineral & trace elements viz. calcium, phosphorous, iron, zinc, magnesium etc. Remarkable difference in mineral contents of soil in hilly terrain, tribal belt and coastal area is noted. Mineral content in soil has its effect on fodder and lastly on health of milch animals and milk production. In order to maintain animal in good health, we have supplemented mineral deficiencies by adding mineral mixture in cattle feed. It is advantageous because it's helpful in improving reproductive performance & conception, Enhances hoof health, increases calving rates and calf vigor, Improves milk production & milk fat %, maintain and maximize the milk yields, Choline for optimum health and production potential, better fat metabolism and liver function, reduces stress in animals, improves health and performance, improves immunity, disease resistance and reduces failure. To understand the feeling of the farmers towards such important component, there was no any well developed scale to study positive or negative disposition towards its utility. Considering this, the present study was planned to construct the scale to measure the attitude of farmers towards use of mineral mixture in cattle.

METHODOLOGY

In the present study, attitude is operationalized as positive or negative feeling of farmers towards the use of mineral mixture in cattle. Among the techniques available 'Scale product method' which combines the Thurstone's technique (1928) of equal appearing interval scale for selection of items and Likert's technique (1932) of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown (1949) was used.

Statement Collection

The items of attitude scale are called as statements. In initial stage, 24 statements reflecting feelings of the farmers towards the use of mineral mixture in cattle were collected from relevant literature and discussion with experts of extension discipline. The collected statements were edited according to the criteria laid down by Edward (1957) and then 24 statements were selected as they were found to be unambiguous.

Statement Analysis

In order to judge the degree of 'Unfavorableness' to 'Favorableness' of each statement on the five point equal appearing interval continuum, a panel of judges was selected. Fifty slips of the selected statements were handed over to the experts connected with extension educational work. The judges were requested to judge each statement in terms of their most agreement or most disagreement with the statements with the five equal appearing interval continuums. Out of these experts, all the experts returned the statements after duly recording their judgments and were considered for the analysis.

Determination of scale values

$$S = L + \frac{0.50 - \sum Pb}{Pw} \times i$$

Based on judgment, the median value of the distribution and the S value for the statement concerned were calculated with the help of

The inter-quartile range (Q = Q3 - Q1) for each statement was also worked out. Only those statements were selected whose median values were greater than Q value. When a few statements had the same scale values, the statements having lowest Q Values were selected. Thurstone and Chave (*Edwards, 1957*) described another criteria in addition to Q as a basis for rejecting statement in scales constructed by the method of the equal appearing interval. Accordingly when a few items had the same scale values, the item having lowest Q Values were selected. The final selected statement showing attitude are given in Table 1.

Administration of the scale (Scoring technique)

For application of the scale, the researcher can collect information against each 12 statements in five point continuum viz. 'Strongly agree', 'Agree', 'Undecided', 'Disagree' and 'Strongly disagree' with weighted score of 5,4,3,2 and 1 for positive and reverse to negative statements.

Reliability of the scale

To know the consistency of the scale, reliability was worked out. The split-half technique was used to measure the reliability of the scale. Selected 12 attitudinal statements were divided into two equal halves with 6 (Six) odd and 6 (Six) even numbered statements. Each of the two sets was treated as separate scales having obtained two score, for each of the 20 respondents. Co-efficient of reliability between the two sets of score was calculated by Rulon's formula (Guilford 1954), which was 0.80.

Table 1: Final selected statements to measure attitude of the farmers towards the Use of mineral mixture

Sr. No	Statements	Scale Value	Q value
1	I trust adopting mineral mixture for milch animals. (+)	1.30	1.05
2	I believe that there is more propaganda about the use of mineral mixture as animal feed than truth. (-)	3.00	0.99
3	I think that mineral mixture helps to feed crucial minerals to milch animals. (+)	1.42	1.28
4	I believe that use of mineral mixture helps boosting milk yield in animals. (+)	1.50	1.18
5	I think use of mineral mixture helps in making animal bones stronger. (+)	1.60	1.36
6	I would like to advise my children to use mineral mixture for milch animals. (+)	1.70	1.34
7	Use of mineral mixture ensures higher fertility rate in milch animals. (+)	2.06	0.78
8	Use of mineral mixture reduces animal stress. (+)	2.30	1.39
9	I think that progressive livestock owner is one who uses mineral mixture for animal feed. (+)	2.38	0.18
10	I believe that health of milch animals can be improved faster using mineral mixture. (+)	2.70	0.50
11	I believe that vigour of milch animal can be increased using mineral mixture. (+)	3.50	2.84
12	I think using mineral mixture for milch animals is feasible only to rich farmers. (+)	3.79	1.96

Validity of the scale

The validity of content of scale was examined by discussing with specialists of the extension and statistics. Specialists examined and realized appropriateness of the

each statement to measure the feeling of farmers towards the use of mineral mixture in cattle.

Administration of the scale (Scoring technique)

For application of the scale, the researcher can collect information against each 12 statements in five point continuum viz. 'Strongly agree', 'Agree', 'Undecided', 'Disagree' and 'Strongly disagree' with weighted score of 5,4,3,2 and 1 for positive and reverse to negative statements.

CONCLUSION

From the various methods available for constructing the attitude scale, scale product method' which combines the Thurstone's technique of equal appearing interval scale, for selection of items and Likert's technique of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown was used to measure the attitude of farmers towards use of mineral mixture.

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