

**ANALYSIS OF ANIMAL HUSBANDRY
INFORMATION IN THE FARM FEATURE
PAGES OF LEADING MALAYALAM DAILIES**

**By
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THESIS

**Submitted in partial fulfilment of the
requirement for the degree**

Master of Veterinary Science

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**Department of Extension
COLLEGE OF VETERINARY AND ANIMAL SCIENCES**

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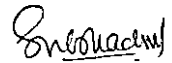
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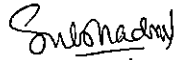


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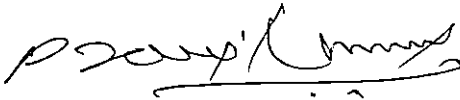
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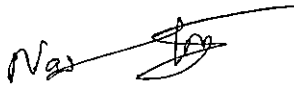
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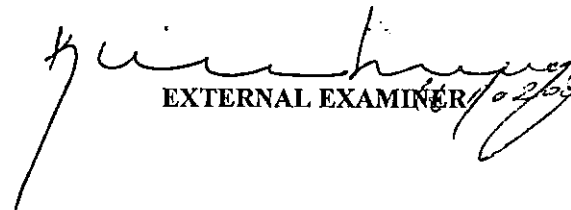
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INTRODUCTION

INTRODUCTION

Ever since the beginning of planned development in the country, the role of the media in the process of development has been recognized. Information is an important resource input in the process of gradual and orderly change in the tradition bound rural areas. With the launching of the decentralised planning followed by vigorous efforts to empower women and the renewed enthusiasm to spread the light of literacy, the mass media is now in an advantageous position to meet the challenges of rural uplift. In the new millenium we cannot afford to leave our villagers behind resulting in imbalanced growth. This emphasises the need for evolving a new and effective development communication strategy for rural India.

It needs special mention here that India's programme of reforms and economic liberalization opens significant market led opportunities for livestock sector. Sustained economic growth and rising domestic income are driving rapid growth in livestock product demand. This has fostered the rapid expansion of livestock output in recent years. India has now emerged as the largest milk producer in the world with 74 million tonnes per annum. Between 1985 and 1992 value of livestock output grew by six per cent a year in real terms, from Rs.196 billion to Rs.302 billion. Major share of this growth is attributed to dairy and poultry sectors. Country's livestock population continues to grow steadily, especially among goats and poultry. Of the total households in rural areas, about 73 per cent own livestock. Income from livestock sector accounts for 15-40 per cent of total farm household incomes. Small and marginal farmers account for three fourth of this household raising 56 per cent of Bovine population

Further, as far as Kerala is concerned due to the impact of cross breeding programme on cattle development milk production has increased from 2.2 lakh tonnes during 1963-64 to around 26.4 lakh tonnes in 1998-1999. The per cent of crossbred females has reached 68 in the state, the highest in the country. Dairy and poultry sectors are gradually attaining the status of sustainability in the state. They provide lucrative, subsidiary and self employment ventures to many unemployed youths.

Moreover, more than 75 per cent of total egg production in the state is from back yard sector since commercial layer farming is not at all feasible due to high feed cost. Recently the state exhibits marked growth in the broiler sector.

Therefore, the media strategies for rural development will have to be essentially geared to the ethos and relevance of the people for whom development plans are intended to benefit. It should highlight the dissemination of user friendly technologies. The media strategies for rural development essentially include the rural press, local radio stations, rural programmes on television and reinforcement through extension agencies, so as to facilitate and reinforce the adoption process through interpersonal and face to face communication process.

A welcome development in the last two decades has been the evolution of special farm pages in the major newspapers including those in Malayalam. Today the press plays an effective role in the dissemination of information on the farm front. This two and a half decade old innovation in the area of agricultural development and communication, viz, farm journalism has been producing a tremendous impact on the farming community. It has led to the emergence of a new group of talented writers namely farm journalists. This unique venture, Farm journalism has created a golden chapter in the history of development journalism..

Several innovative concepts have to be put into practice for reaching millions of farm holdings so as to provide information and confidence to adopt modern technologies. Farmers used to accept them by successfully blending their rich traditional knowledge. In this sector contribution of Malayalam dailies by introducing 'Weekly Farm Feature Pages' were the right step towards successful dissemination of latest information.

Kerala occupying just 1.18 per cent of the total geographic area of the country accommodates over 110 crops and the entire livestock population spread over 60 lakh small holdings. It is a cradle of marvellous models of multistoried cropping patterns, mixed farming practices and different combination of integrated and

intensive farming systems. This motivates every one who owns a piece of land to get interested in farming, which range from crop cultivation to raising of livestock, pets and growing of ornamental plants.

Leading Malayalam dailies like Malayala Manorama, Mathrubhoomi, Deepika, Desabhimani, etc, used to publish articles of interest to the farmers from their very inception. The commencement of the weekly farm feature in Malayalam dailies was a development which caught the attention of the media and development circles quickly producing a unique impact in the public in general and those concerned with farming in particular. Mathrubhoomi initiated this novel trend to give shape to weekly farm feature page 'Karshikarangam' in August 1975.

Farm feature pages cover agriculture, animal husbandry, fisheries and allied areas. Nevertheless, publishers need to provide accurate and acceptable information regularly through farm feature pages. Very little research work has been done in the animal husbandry sector to assess the coverage, readability, accuracy and relevancy of articles. This study was undertaken to understand such details so that the quality of farm feature pages could be improved based on the study results.

Major objectives of the study were

- (1) To assess the coverage of animal husbandry information published in selected Malayalam dailies.
- (2) To assess the readability of selected articles on animal husbandry.

REVIEW OF LITERATURE

2. REVIEW OF LITERATURE

2.1 Media coverage

Research studies on coverage of animal husbandry news were comparatively less.

Fett (1972) in his study on content analysis of agricultural news in Brazilian newspapers observed that nearly all the newspapers studied regularly published considerable agricultural news.

Shahpuri (1972) conducted a study to analyse the content of the farm coverage by Punjab press. The study revealed that in the two dailies, 'The Tribune' and 'Ajit', and two periodicals, 'Preet hari' and 'Changi Kheti' carried news items less than 20 per cent of total space for agricultural news. While Newan Zamana, another daily provided 50 per cent of its space to agricultural news.

Kayal (1975) studied the contents of Bengali farm magazine, 'Krishi Pragati' which contained articles pertaining to crop production, vegetable production, fruit cultivation and other agricultural news. It was found that space and coverage provided to articles related to crop production, vegetable production and fruit cultivation progressively increased with advance of time. On the other hand there was decline in coverage of news related to animal husbandry, dairy, poultry and fisheries sectors.

They also concluded that in both English and Hindi newspapers similar space was provided for publishing the five categories of material with agricultural content. viz., News items, feature articles, editorials, letters to the editor and advertisements.

Gajapathi *et al.* (1977) analysed two regional dailies of Tamil Nadu, viz., Dinamani and Malaimurasu and suggested that though press was not subjected to Government control 10 per cent of articles should be related to agricultural news.

Singh and Kumar (1977) analysed the space provided to agricultural information by two leading news papers of Bihar, namely the Indian Nation and Aryavarta. They found that 2.53 per cent of the total space was provided to agricultural information.

Prasad (1978) made a comparative study of the content and coverage of farm information in 'Hindustan Times' and 'Indian Express' and found that maximum coverage was given to agricultural economics in both newspapers and concluded that they showed similarity in publishing different agricultural news.

Kuthalia (1979) found that developmental news comprised 4.34 per cent news about rural and tribal areas. Features and articles constituted 12.26 per cent of all items appearing in four newspapers. Out of total items included in the study agriculture and animal husbandry occupied 1.32 per cent of news items.

Jayaram (1980) in his study on the evaluation of 'Krishivignana' a quarterly farm journal in Kannada highlighted that questions and answers had proved useful and served the purposes for which they are intended. He also observed that relatively more coverage was given to crop production and animal husbandry sectors.

Sidhu (1980) found that the space provided for agricultural and dairy news out of total space was 1.19 per cent in case of the Tribune, 0.5 per cent in case of the 'Hindustan Times', 'Dainik Tribune' and 'Hindustan'. It was noted that agricultural marketing, technology, crop production, animal breeding and management got maximum space.

Gill (1981) found that in 'Changikheti' farm magazine more than 41 per cent of the illustrations were related to crops and plant husbandry.

Thakur (1981) reported that the contents of the farm journal, 'Adhunik Kisan' were analysed from the point of view of the number and proportion of the total pages covered. Care of animals occupied 7.5 per cent space.

Nandi and Mallick (1982) in their study on content analysis of an agriculture based rural fortnightly of West Bengal 'Subuj Sona' revealed that agriculture and animal husbandry articles occupied 79.58 per cent and 20.42 per cent space respectively. Among features related to production animal husbandry and dairying occupied 7.03 per cent space. Poultry articles occupied 1.6 per cent space. Among features, dairy and poultry management sector occupied 10.65 per cent and 0.6 per cent space respectively.

Rajendran (1982) found that majority of respondents utilized the information about the latest recommendations from newspaper.

Sharma (1983) found out that questions and answers were highly useful and occasionally read by readers.

Shyam (1983) in a study of content and coverage of agricultural information, revealed that maximum articles appeared in third page. Moreover, he observed that maximum emphasis was given to dairy science during the study period.

Singh (1983) while making a comparative study of content and coverage of agricultural information by the two leading Hindi newspapers remarked that agricultural extension articles related to programme planning got more importance in both the newspapers. Moreover, under agricultural economics, top priority was given to agriculture marketing. Dairy science also got more coverage in both newspapers.

Nanjappa and Ganapathy (1987) while studying the content analysis of agricultural information in selected Kannada Dailies, observed that space provided to political news and sports items were more compared to agricultural information.

Saha (1988) in his study on contents and readers characteristics of Indian Farmer's Digest, found that out of subject matter areas, the articles on agriculture got largest coverage followed by agricultural engineering, animal science and home science.

Trikha (1990) while studying the trends in the content of farm weekly before, during and after green revolution reported that out of three content categories, number wise in three years the news contents occupied maximum followed by advertisements and illustrations.

Nataraju and Perumal (1996) in their study on critical factors determining effectiveness of farm journals observed that illustrations were considered as the most important factor in determining the farm magazines effectiveness.

Singh and Kumar (1997) in their comparative study on space provided to agricultural information in leading newspapers of Bihar, viz., Indian Nation and Aryavarta observed that among different modes of presentation feature articles and news articles occupied 14.3 per cent and 51.34 per cent space respectively. Inadequate allocation of space for publication of feature articles was noted in two dailies. Moreover, from farmer's suggestions they found that dailies should publish all the information on agriculture in a particular page and should provide more success story category of agriculture information.

Sherief and Vasanthkumar (1997) in their study on sustainable agricultural practices disseminated through farm magazines in Kerala, viz., Kerala Karshakan and Kalpadhenu observed that agricultural news were given larger coverage followed by animal husbandry. They concluded that it may be due to typical 'Homestead farming' practice in Kerala where farmers integrate crops with livestock..

Balachandranath (1998) in his study on agricultural information communication through farm page of newspapers observed that maximum number of articles published were on crop production followed by animal husbandry and dairying. Articles related to organic farming, agricultural engineering, poultry and pig rearing were also published.

Meenambigai and Ravichandran (1999) in their study on performance of farm women towards the components of farm programmes and publications observed that most preferred modes of presentation were success stories and news items.

2.2 Frequency of occurrence and Timeliness

Morris (1966) while explaining the pre-requisites for text efficiency pointed out that timely reach of messages influence readers.

Kamath (1969) stressed the need to overcome the message constraints for easy acceptance of message while writing for farm families. He indicated that, lack of timeliness and relevance as some of the message constraints.

Veerabadrachiah and Sethu Rao (1970) in their study on extent of mass media utility in rural community found that more than half the respondent farmers read farm information regularly.

Oliver (1971) stated that timeliness, coverage of subject matter, practicability, readability and accuracy of agricultural news articles were found to be highly satisfying the farmers.

Fett (1972) in his study in content analysis of agricultural news in Brazilian newspapers observed that nearly all newspapers studied regularly published considerable Agricultural news.

Oliver *et al.* (1974) observed that timeliness in agricultural news articles were 93.5 per cent.

Gajapathi *et al.* (1977) analysed the frequency of agricultural news published in two Tamil dailies viz., 'Dinamani' and 'Malaimurasu' and found the Dinamani published agricultural news almost every day. Malaimurasu published on an average 25 agricultural news articles in a month.

Khandekar *et al.* (1980) used various criteria such as content, timeliness, etc., to assess the effectiveness of farm publication.

Nanjappa (1982) stated that majority of the farmers were having opinion that agricultural information published were accurate, timely and practical.

Rajendran (1982) found that majority of latest recommendations on need based items were timely.

Jondhara *et al.* (1989) in their study on content analysis in Shetkari and Shetibati magazines revealed that there was adequate subject matter coverage and information published was timely, practical and accurate.

Shamitha (1991) in her study on utilization of farm magazine, Rubber and analysis of its message constraints revealed that untimely reach to the reader as the major constraint at transmission level and irrelevance to attributes of innovation as the major constraint at decoding level in transferring the message.

Meenambigai and Ravichandran (1999) in their study on preference of farm women towards the components of farm programmes and publication revealed that majority of them preferred to publish farm publication as one page farm information with the periodicity of once in a week. 8.33 per cent had more preference towards animal husbandry articles.

2.3 Readability

Various researchers have studied readability in different ways.

Regarding readability of message and reading efficiency, Klare (1963) observed a positive relationship between the two.

Paul (1970) based on studies conducted in USA, UK and Canada concluded that as a group, extension publications are difficult for the average reader.

Veerabadraiah and Sethu Rao (1970) reported that 57 per cent farmers were reading farm information regularly.

Oliver *et al.* (1974) in their study on suitability of agricultural news articles published in newspaper Dinamani daily observed that 92 per cent farmers rated readability of articles as easy to read.

Nanjappa and Ganapathy (1986) in their study on newspaper reading habit of farmers of Bangalore district observed that majority of newspaper reading farmers were of young age (42.4 per cent) with low education level (56.1 per cent).

Karippai and Sethu Rao (1988) in their study on analysis of reading comprehension of agricultural articles in dailies by farmers of Kerala state observed that considerable variation among respondents in their reading comprehension of agricultural articles. They noted that experience story had maximum reading comprehension followed by informative feature.

Reddy and Reddy (1993) in their study on readability of agricultural leaflets revealed that 47 per cent readers want more illustrations which make subject matter more realistic.

Nataraju (1995) in their study on reading behaviour of the farmers of North Karnataka observed that reading behaviour of farmers can be improved by considering the less usage of technical words, easy availability of reading materials locally and coverage of appropriate and latest information.

Nataraju and Perumal (1996) in their study on effectiveness of farm magazines as related to characteristics of readers reported that readership of farm magazine is greatly influenced by the perception of readers about the magazine. They found that higher the age and education, more will be the exposure to mass media.

2.4 Relevancy

Tinker and McCullough (1962) had noted that a proficient reader would easily obtain what he is seeking from the printed material and it would be relevant to him in some or other context.

Regarding relevancy of articles published in journals, Guerrero (1968) was of the opinion that information given to farmers must have situational relevance in order to contribute towards agricultural development.

Kamath (1969) indicated that lack of timeliness and relevancy were some of the message constraints.

Fett (1972) in his study on content analysis of agricultural news reported that situational relevance of information attracts large proportion of audience.

Oliver *et al.* (1974) in their study on suitability of agricultural news articles published in 'Dinamani' daily reported that 94.6 per cent farmers surveyed indicated that coverage of subject matter was quite sufficient to their needs. 62.2 per cent of farmers rated agriculture articles as practicable where as 34.87 per cent rated as partly practicable

Duffy and Kabance (1982) opined that readers must be able to locate relevant information matching with their requirement and knowledge level.

Balachandran (1983) while analysing the effectiveness of farm journals in disseminating agricultural information to farmers of Kerala observed that information on crop production, animal husbandry and dairying were relevant and practicable to majority of subscribers. He found out that 24 per cent articles on animal husbandry and dairying were most relevant where as 58 per cent were relevant.

Perkinson *et al.* (1985) considered relevancy of the message as an important pre-requisite for a story to get news value. It is more important in the case of development reporting.

2.5 Accuracy

Various researchers had studied accuracy of scientific messages contained in the articles.

Oliver *et al.* (1974) in their study on suitability of agricultural news articles published in 'Dinamani' daily observed that accuracy rate of news articles was 67.4 per cent and 32.6 per cent articles were of exaggerated category. Moreover they suggested that news articles should carry accurate information.

Duffy and Kabance (1982) described accuracy of articles. They opined that readers must be able to locate relevant information. This must be accurate and described in detail, matching the requirement and knowledge level of readers.

Nanjappa (1982) pointed out that majority of the farmers were having opinion that the agricultural information published was accurate, timely and periodical.

Reddy and Reddy (1993) in their study on readability of Agricultural leaflets revealed that a message presented clearly, accurately in an attractive manner stands a better chance of getting through the learner.

METHODOLOGY

3. METHODOLOGY

The study has been a content analysis of animal husbandry information in the farm feature pages of four selected Malayalam dailies viz., Malayala Manorama, Mathrubhoomi, Desabhimani and Deepika for the period January to December 1999. Half to one page of farm feature published in these dailies on weekly basis were subjected to content analysis.

The major domains studied were

1. The space provided to different categories of animal husbandry news and different modes of presentation.
2. The frequency of occurrence pertaining to different categories of news and their modes of presentation.
3. Readability, timelines/seasonality, relevancy and accuracy of animal husbandry information.

This chapter is presented under the following sub headings:

- 3.1 Variables and their measurement
- 3.2 Theoretical orientation
- 3.3 Sampling procedure
- 3.4 Statistical analysis

3.1 Variables and their measurement

Table 1. Variables and their measurement

Parameters/variables studied	Measurement techniques
I. Space provided to different categories of animal husbandry news	Average column length is measured in centimetre
1. Media coverage based on species	
i) Large animal	
a) Cow	
b) Buffalo	
c) Others	
ii) Small animals and poultry	
a) Goat	
b) Pig	
c) Rabbits	
d) Poultry (Broiler, Hen, Duck, Quail)	
iii) Pet animals and birds	
a) Dogs	
b) Cats	
c) Lovebirds	
2. Integrated farming	
3. Media coverage based on management aspects	
i) Purchase and sales	
ii) Feeds and feeding	
iii) Housing	
iv) Breeds and breeding	
v) Veterinary care	
vi) General	
vii) Economics	
4. Media coverage based on advance in technology	
5. Media coverage based on different modes of presentation and corresponding column length of	
i) News articles	
ii) Success stories	
iii) Feature stories	
iv) Question answer column	
v) Illustration	
II. Frequency of occurrence of categories of news and modes of presentation	Formula developed
III. Timeliness/seasonality of news	Structured schedule
IV. Readability of selected news articles on animal husbandry	Fog Index
V. Relevancy	Relevancy rating
VI. Accuracy	Accuracy rating

3.2 Theoretical orientation

3.2.1 Content analysis

Berelson (1952) defined content analysis as a research technique for the objective, systematic and quantitative description of the manifest content of communication.

In the words of Kerlinger (1983), "The content analysis is a method for studying and analysing communications in a systematic, objective and quantitative manner to measure variables". Content analysis is thus a method of observation and measurement through which quantitative data can be studied in a scientific manner.

Content analysis is a method of analysis with which an attempt is made to convert symbolic behaviour into scientific data.

The units of analysis are words, themes, character, items, space and time measures. Content analysis has very often been used in behavioural sciences. It's application in media analysis/research has been immense. It helps in classification and organisation of unorganised data and gives them scientific shape.

3.2.2 News

"News is defined as any event, idea or opinion that is timely, which interests or affects a large number of people in a community and capable of understood by them". In the words of Ahuja (1984), "It is anything what the newspaper prints, radio broadcasts and television telecasts".

3.2.3 Animal husbandry news

It is an account of events or facts or opinions regarding animal husbandry, which interests people.

3.2.4 Space

Space is defined as the column length allotted to each category of animal husbandry news which is measured in centimetre.

The content of the newspaper pertaining to animal husbandry was divided into five major categories keeping in view of the coverage based on species, integrated farming, management, advance in technology and modes of presentation.

Some of these categories were further elaborated as under

3.2.4.1 Media coverage based on species

Animal husbandry news covering large animals, small animals and poultry, pet animals and birds.

3.2.4.2 Media coverage based on management aspects

Animal husbandry news has been grouped into seven categories based on management aspects.

- i) Purchase and sales
- ii) Feeds and feeding
- iii) Housing
- iv) Breeds and breeding
- v) Veterinary care
- vi) General
- vii) Economics

3.2.4.3 Media coverage based on modes of presentation of animal husbandry news

Modes of presentation are the different forms in which news appear. Animal husbandry news were grouped into five categories on the basis of modes of presentation. Coverage is measured as column length in centimetre.

- i) News articles
- ii) Success stories
- iii) Feature stories
- iv) Question answer column
- v) Illustration

i) News articles

It has only factual contents. It is mostly written in the inverted pyramid pattern having the lead, lead facts, more details, additional details, minor facts, etc. It can be of either with summary lead or feature lead. It is understood mostly in the first paragraph itself. It tells what is happening and has to be recent.

ii) Feature stories

The purpose of feature stories is to instruct, interpret, entertain or add depth and colour to the news. It is much descriptive in nature and follows a narrative style which holds the interest of readers from beginning to end. It may explain the background, growth of event, etc.

iii) Success stories

It is a feature written on the basis of successful outcome of personal experience, experience of any one, event or programme. It is widely used as it is a convincing method of presenting new or recommended practices. Success stories report how success was achieved in one or more fields.

iv) Question answer column

It is a feedback column in which answers to the reader's questions are presented. Based on the question answer column the editor can assess the feed back of the readers. With the help of experts more dailies are regularly answering readers questions through this columns.

v) Illustrations

These are relevant pictures supporting the subject matter printed along with articles. If an idea is to be conveyed effectively, forcefully and meaningfully so as to enable a reader to act when time warrant, pictures make an indelible imprint in the mind. This is more important in farm pages.

3.2.5 Frequency of occurrence of categories of news and modes of presentation

The frequency of occurrence of news whether it is based on species or modes of presentation varies from newspaper to newspaper.

To understand the general trend of the frequency of occurrence of any one mode of presentation the following formula was applied after plotting the occurrence of news article on a weekly basis (Appendix-II).

$$F = \frac{52 \times 7 \text{ in days}}{x}$$

where F = Frequency of occurrence of any one mode of presentation

x = number of weeks a particular mode of presentation appeared in one or the other newspaper in a year.

52 represented the number of weeks in a year.

7 represented number of days in a week.

Eg:- It was seen that news articles appeared in one or the other newspaper in 37 weeks and therefore the general trend of the frequency of occurrence of news articles were calculated as

$$\frac{52}{37} \times 7 = 9$$

i.e., news articles at least appeared in every 9 days in one or the other news paper.

3.2.6 Timeliness/seasonality of news

Seasonality of the articles was assessed through this study. To find the seasonality of animal husbandry articles published in four dailies, dairy and poultry related articles were selected. They were judged as seasonal/not seasonal in a structured schedule by expert's opinion. Those articles that were relevant either season wise or relevant throughout the year were considered as seasonal. Not seasonal articles are those published out of season. The results were expressed in percentage.

3.2.7 Readability of selected news articles on animal husbandry

Readability is the reading easiness and human interest level.

Readability of dairy articles was calculated by applying Gunning's Fog Index (GFI) method.

The index of readability is a technical parameter to study the complex phenomenon of impact of coverage. The scale is between 8-11 units for the average reader for science articles. While calculating readability of farm articles it should be compared with Fourth standard Malayalam text books. According to UNESCO(1982) standards, fourth standard school boy is regarded for a typical individual to attain and maintain functional literacy. Readability rating of less than eight makes it readable for children and farmers and higher than 11 makes it suitable for specialist. For finding readability, the paragraphs having words between 80-100 were considered and the number of sentences in the paragraph were counted. The ratio of the number of words to the number of sentences gives a particular number x . Number of difficult words i.e., those with more than three syllables in the paragraph be denoted as y ; the number represented by $[(x+y) \times 0.4]$ was taken to be the Fog's rating for the paragraph.

- i) Number of sentences in the selected paragraph
- ii) Number of words in the selected paragraph
- iii) Ratio of words to sentences
- iv) Number of difficult words

3.2.8 Relevancy

It has been operationally defined as the extent to which the articles published in the newspapers were pertinent to the farmers needs.

Dairy related articles were chosen for finding the relevancy since they appeared more frequently in all farm feature pages. Moreover dairy sector is developing into a major subsidiary occupation.

Through relevancy rating by farmers the relevancy of 30 articles on dairying was found out. A sample of 30 dairy farmers rated the relevancy of all the thirty articles. Each farmer had to rate all the 30 articles. Rating was done as relevant, somewhat relevant or not relevant. (Appendix-VI). Based on the responses percentages were calculated to find out the relevancy of articles.

3.2.9 Accuracy

Accuracy is defined as the correctness of the message.

Accuracy was studied using Accuracy rating method. To find the accuracy of scientific information, dairy articles were selected. Important scientific messages contained in 30 dairy articles taken for relevancy study was used for this purpose. 181 scientific messages were constituted on a three point continuum, viz., accurate, somewhat accurate and not accurate. They were rated by 30 experts. Equal scores were given to all three domains and grouped as accurate, somewhat accurate and not accurate. The final result was expressed in percentage.

Moreover, 181 messages were grouped under breeding, feeding, management, disease control and general categories and accuracy were also rated. Finally for each category, accuracy, somewhat accuracy and not accuracy were calculated in percentage.

3.3 Sampling procedure

Wherever appropriate, samples were drawn and it varied depending upon the nature of the variable since the study was a content analysis of animal husbandry information in the leading Malayalam dailies.

3.3.1 Selection of dailies

Four dailies, viz., Malayala Manorama, Mathrubhoomi, Desabhimani and Deepika were selected purposively considering the following factors.

1. These dailies had maximum circulation.
2. These dailies have been publishing farm feature pages regularly for more than 10 years.

3.3.2 Space provided and frequency of occurrence

To study these parameters all articles appeared in the year of study were purposively selected (Appendix-I, II & III).

3.3.3 Timeliness and seasonality

To study seasonality only dairy and poultry related articles were chosen. All such articles appeared in the year of study were purposively selected and subjected to analysis (Appendix-IV). Seasonality of articles was judged by panel of two experts in the field of dairying and poultry production who were purposively selected.

3.3.4 Readability

To study this parameter all dairy articles appeared in the year of study were purposively selected (Appendix-V).

3.3.5 Relevancy

To study this parameter, 30 articles pertaining to dairying were selected through systematic sampling procedure from out of 63 articles pertaining to dairying (Appendix-VI).

Relevancy was rated by 30 progressive dairy farmers who were attending a training course in one of the state owned training institutes in Trichur district. Sample farmers represented 14 districts of the state. The sampling procedure, therefore was accidental sampling.

3.3.6 Accuracy

A total of 181 scientific messages contained in the 30 dairy related articles selected for studying relevancy were subjected to accuracy rating (Appendix-VII). Accuracy was rated by 30 purposively selected subject matter specialists.

3.4 Statistical analysis

Frequency counting, calculating simple percentages, deriving arithmetic mean, working out Fog index and a simple formula for finding out frequency of occurrence of news articles were the analysis procedures followed.

RESULTS

4. RESULTS

The results of this study are presented under the following sections.

- 4.1 Space provided to different categories of animal husbandry news and modes of presentation
 - 4.1.1 Total coverage of animal husbandry articles
 - 4.1.2 Media coverage based on species
 - 4.1.3 Media coverage on integrated farming
 - 4.1.4 Media coverage based on management aspects
 - 4.1.5 Media coverage on advance in technology
 - 4.1.6 Media coverage based on modes of presentation
- 4.2 Frequency of occurrence of news
- 4.3 Timeliness/seasonality of news
- 4.4 Readability
- 4.5 Relevancy
- 4.6 Accuracy

4.1 Space provided to different categories of animal husbandry news and modes of presentation

4.1.1 Total coverage

Data in Table 2 revealed that Malayalam dailies provided on an average 22.64 per cent space for publishing animal husbandry information.

Table 2. Average space provided by four dailies for animal husbandry news

Daily	% coverage
Malayala Manorama	18.89
Mathrubhoomi	21.38
Desabhimani	19.83
Deepika	30.46
Average	22.64

4.1.2 Media coverage based on species

4.1.2.1 Large animal

Data in Table 3 revealed that more space was occupied by articles on large animals in all the four dailies studied. They occupy an average column length of 1199cm. Large animals got a coverage of 50.44 per cent (Fig. 1).

Table 3. Coverage - category wise

Species	Coverage in %
Large animal	50.44
Small animals	17.00
Poultry	24.44
Pet animals and birds	7.00

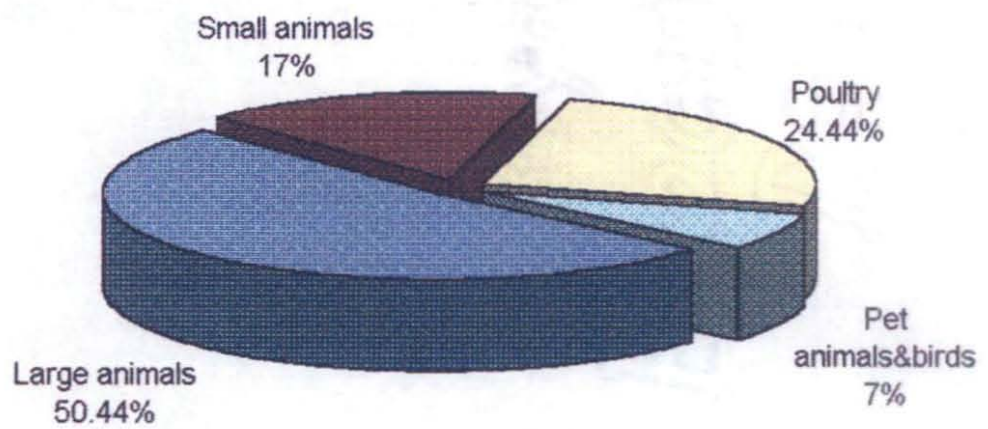
Data in Table 4 indicated that among large animals, articles on cows were allotted more space i.e., 73.81 per cent, others 18.76 per cent and buffalo 7.95 per cent (Fig. 2).

Table 4. Coverage - species wise

Species	Average column length in cm	Coverage in %
Cow	885	73.81
Buffalo	89	7.95
Others	225	18.76
Total	1199	50.44

Table 5 indicated that the four dailies provided a total space of 9352 cm for covering different categories of animal husbandry news based on species (Fig. 3).

Fig.1. SPACE PROVIDED TO DIFFERENT CATEGORIES OF NEWS



**Fig. 2. MEDIA COVERAGE BASED ON SPECIES-
LARGE ANIMAL**

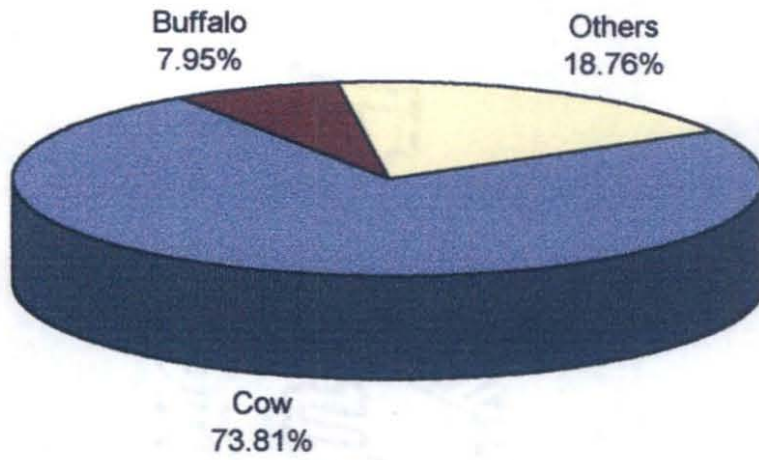


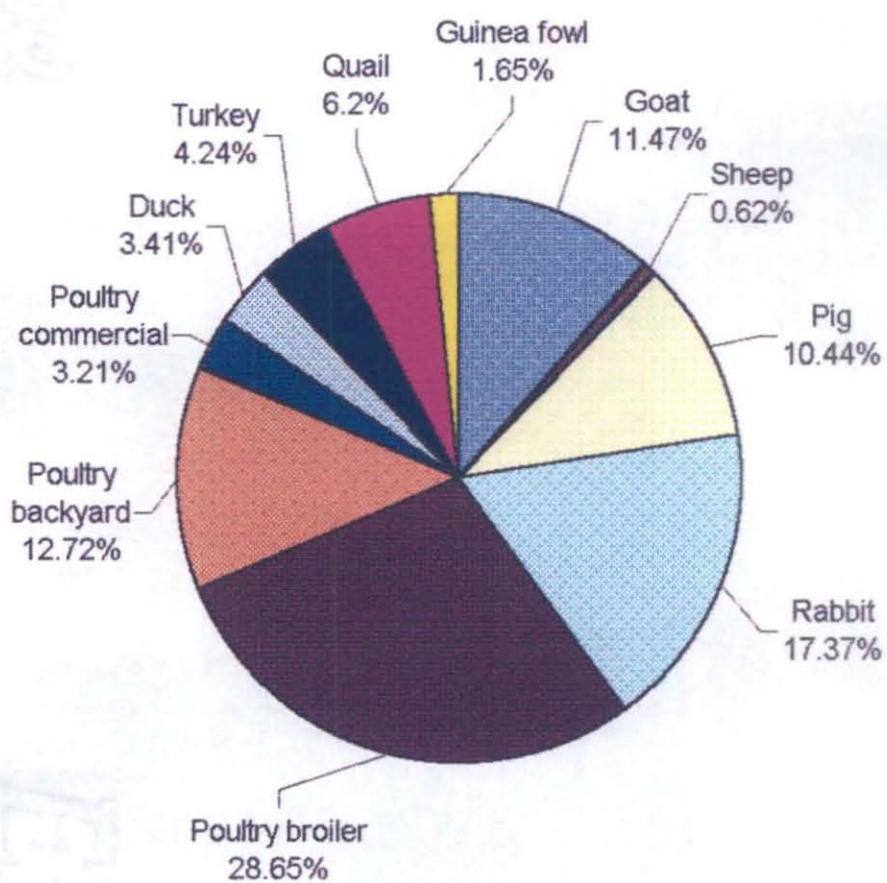
Table 5. Average column length of different categories of news

Species	Average column length in centimetre per daily
Large animals	
Cow	885
Buffalo	89
Others	225
Small animals and poultry	
Goat	111
Sheep	6
Pig	101
Rabbit	168
Poultry – Broiler	277
Poultry – Layer – backyard	123
Poultry – layer – commercial	31
Duck	33
Turkey	41
Quail	60
G. Fowl	16
Pet animals and birds	
Dog	124
Cat	10
Love birds	25
Pet animals and birds	7

4.1.2.2 Small animals and poultry

Data in Table 6 indicated that of the total space provided, average column length allotted for small animals and poultry was 967 cm, i.e., 40.68 per cent of the species wise coverage was given to small animals and poultry. Among small animals and poultry category, articles on goats, pigs and poultry occupied 11.47, 10.44 and 60

**Fig. 3. MEDIA COVERAGE BASED ON SPECIES-
SMALL ANIMALS AND POULTRY**



per cent space respectively. Among poultry related articles broilers occupied 47.68 per cent space and 26.5 per cent space was provided for layers.

Table 6. Coverage – Small animals and poultry

Species	Average column length in cm	Coverage in %
Goat	111	11.47
Sheep	6	0.62
Pig	101	10.44
Rabbit	168	17.37
Poultry – Broiler	277	28.65
Layer – Backyard	123	12.72
Layer – Commercial	31	3.21
Duck	33	3.41
Turkey	41	4.24
Quail	60	6.20
G. fowl	16	1.65
Total	967	40.68

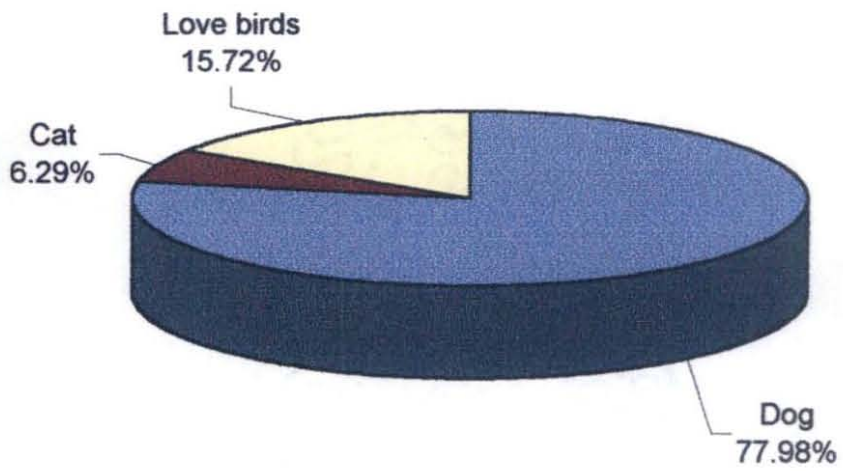
4.1.2.3 Pet animals and birds

Data in Table 7 indicated that 6.69 per cent coverage was given to pet animals and birds. Of which 77.98 and 15.72 per cent space was provided for article on dogs and lovebirds respectively (Fig. 4).

Table 7. Coverage for pet animals and birds

Species	Average column length in cm	Coverage in %
Dogs	124	77.98
Cats	10	6.29
Love birds	25	15.72
Total coverage	159	6.69

Fig.4. MEDIA COVERAGE BASED ON SPECIES-PET ANIMALS AND BIRDS



4.1.3 Media coverage on integrated farming

Article on integrated farming occupied a column length of 52 cm being 2.18 per cent of the total coverage.

4.1.4 Media coverage based on management aspects

Data in Table 8 indicated that 41 per cent coverage was provided for articles on general management. Articles related to veterinary care occupied 21 per cent space. Housing was given least importance in all dailies. Articles on feeds and feeding, economics, breeds and breeding and purchase and sales appeared frequently in all dailies (Fig. 5).

Table 8. Coverage based on management aspects

Categories	Average column length in cms	Coverage in %
Purchase and sales	117	6
Feeds and feeding	284	13
Housing	38	2
Breeds and breeding	124	6
Veterinary care	452	21
General	871	41
Economics	236	11

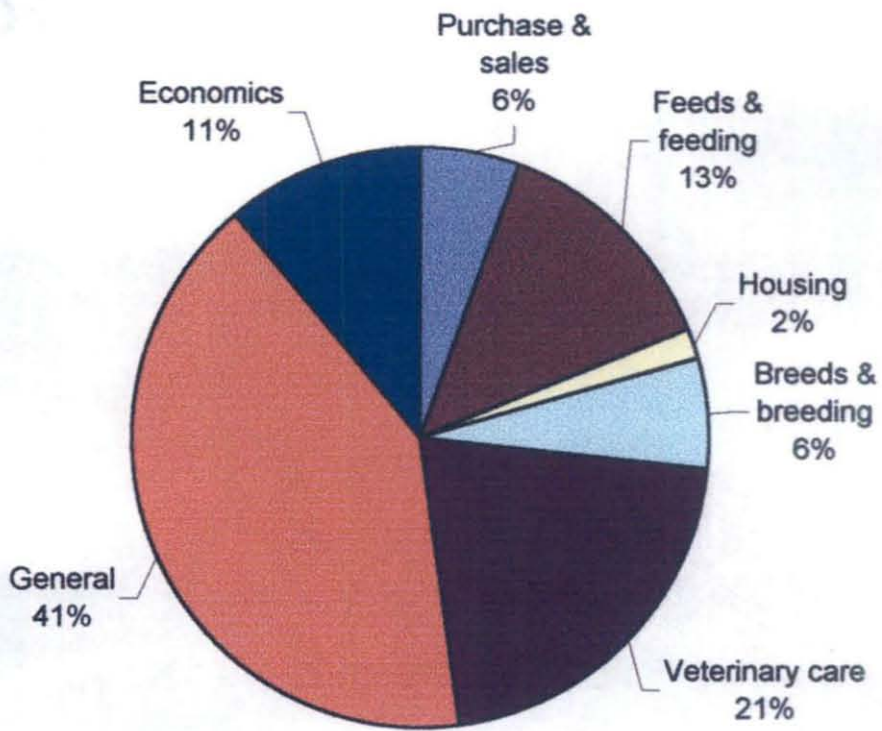
4.1.5 Media coverage based on advance in technology

Data in Table 9 indicated that articles on advance in technology occupied an average column length of 358 cm.

Table 9. Coverage to advance in technology

Category	Column length in cm
Advance in technology	358

Fig. 5. MEDIA COVERAGE BASED ON MANAGEMENT



4.1.6 Media coverage based on different modes of presentation

It was seen that all the five modes of presentation, viz., news articles, success stories, feature stories, question answers and illustration occur frequently in all dailies. Data in Table 10 illustrated that news articles occupied 36 per cent of the farm feature pages of all the four dailies studied. Feature stories, illustrations and question answers occupied 21, 17 and 14 per cent space respectively. Success stories were provided with comparatively less space (Fig. 6).

Table 10. Column length of different modes of presentation

Different modes of presentation	Column length	
	in cm	in percentage
News articles	986	36
Success stories	313	12
Feature stories	572	21
Question answers	365	14
Illustrations	452	17

4.2 Frequency of occurrence of categories of news and modes of presentation

Data entered in Table 11 illustrated that news articles were occurring most frequently in farm feature pages of all dailies studied. A minimum of one news article was published in one or other four dailies at every nine days interval. Illustrations and question answers occur at 10 and 13 days interval respectively. Feature stories and success stories appeared at an interval of 19 and 24 days (Fig. 7).

Table 11. Frequency of occurrence of animal husbandry news - Based on different modes of presentation

Modes of presentation	Frequency in days
News articles	9
Illustrations	10
Question answers	13
Feature stories	19
Success stories	24

Fig.6. MEDIA COVERAGE BASED ON DIFFERENT MODES OF PRESENTATION

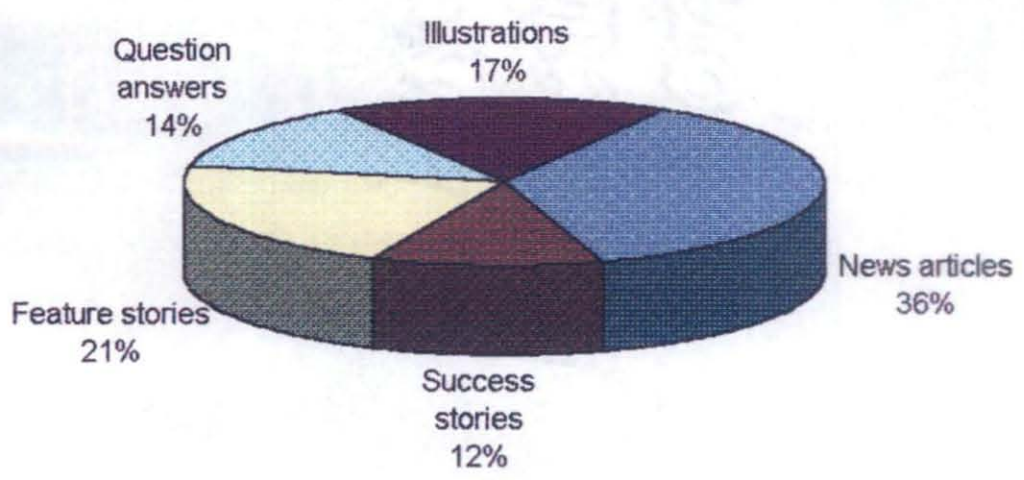
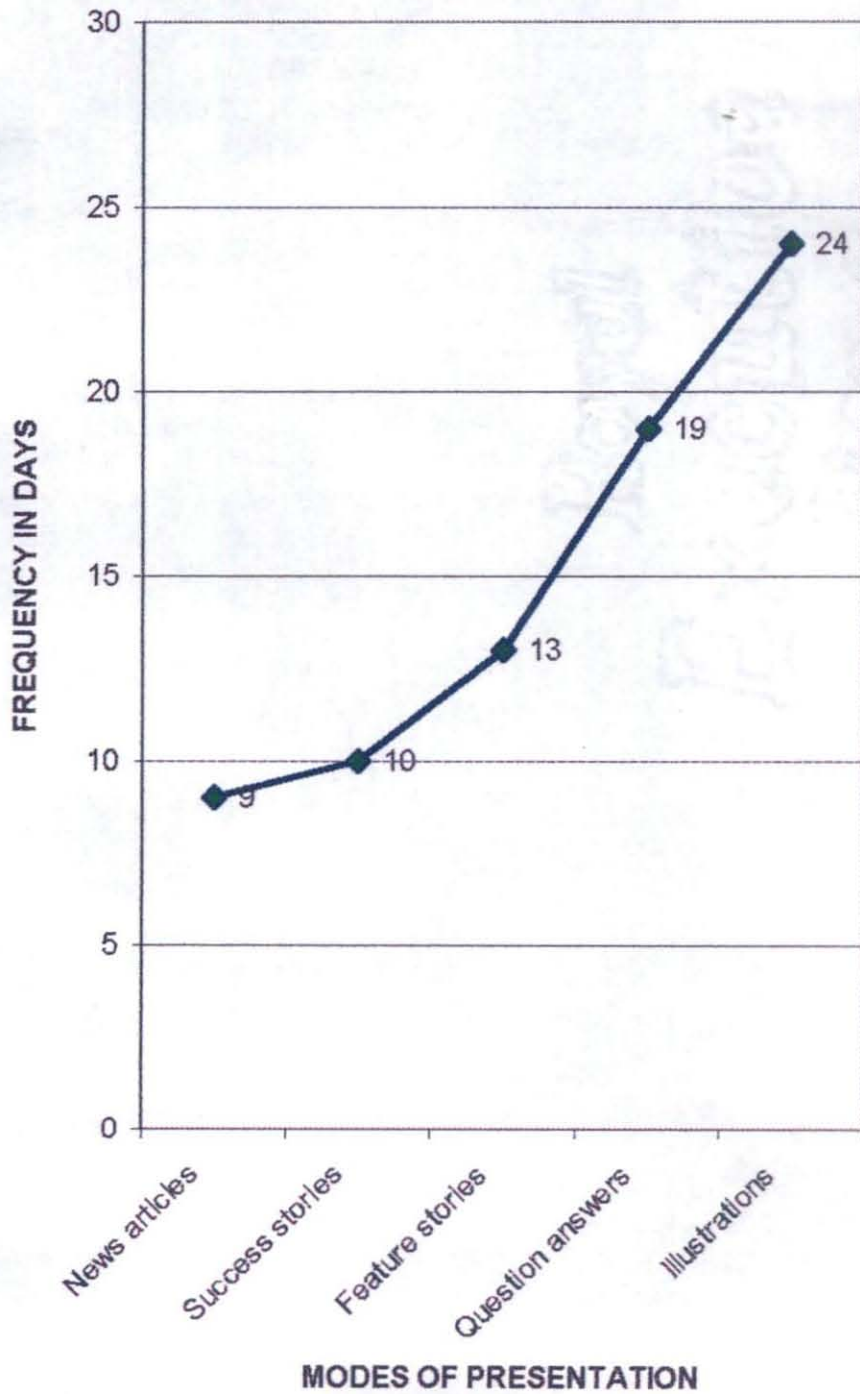


Fig. 7. FREQUENCY OF OCCURENCE OF DIFFERENT MODES OF PRESENTATION



Among different categories of news based on species Table 12 indicated that articles on cows were published in one or other four dailies studied at an interval of every eight days. Under poultry section, broiler and layer articles were published at an interval of third and fourth week respectively. Goat, rabbit, pig and quail related articles appeared within an interval of 31-42 days. Article on buffalo and cat appeared at an interval of 112 and 336 days respectively (Fig. 8).

Table 12. Frequency of occurrence - Based on different categories of news

Species	Frequency in days
Cow	8
Poultry – Broiler	21
Layer	28
Goat	31
Rabbit	34
Pig	37
J. Quail	42
Love birds	56
Dog	56
Duck	84
Buffalo	112
Cat	336

4.3 Timeliness/Seasonality of news

Table 13 indicated that 52.38 per cent of the dairy articles were seasonal and 47.62 per cent were not seasonal. Whereas 13.3 per cent of poultry articles were seasonal and 86.7 per cent were not seasonal (Fig. 9).

Table 13. Seasonality of articles

Categories	Seasonal %	Not seasonal %
Dairy	52.38	47.62
Poultry	13.30	86.70

Fig. 8. FREQUENCY OF OCCURENCE OF DIFFERENT CATEGORIES OF NEWS

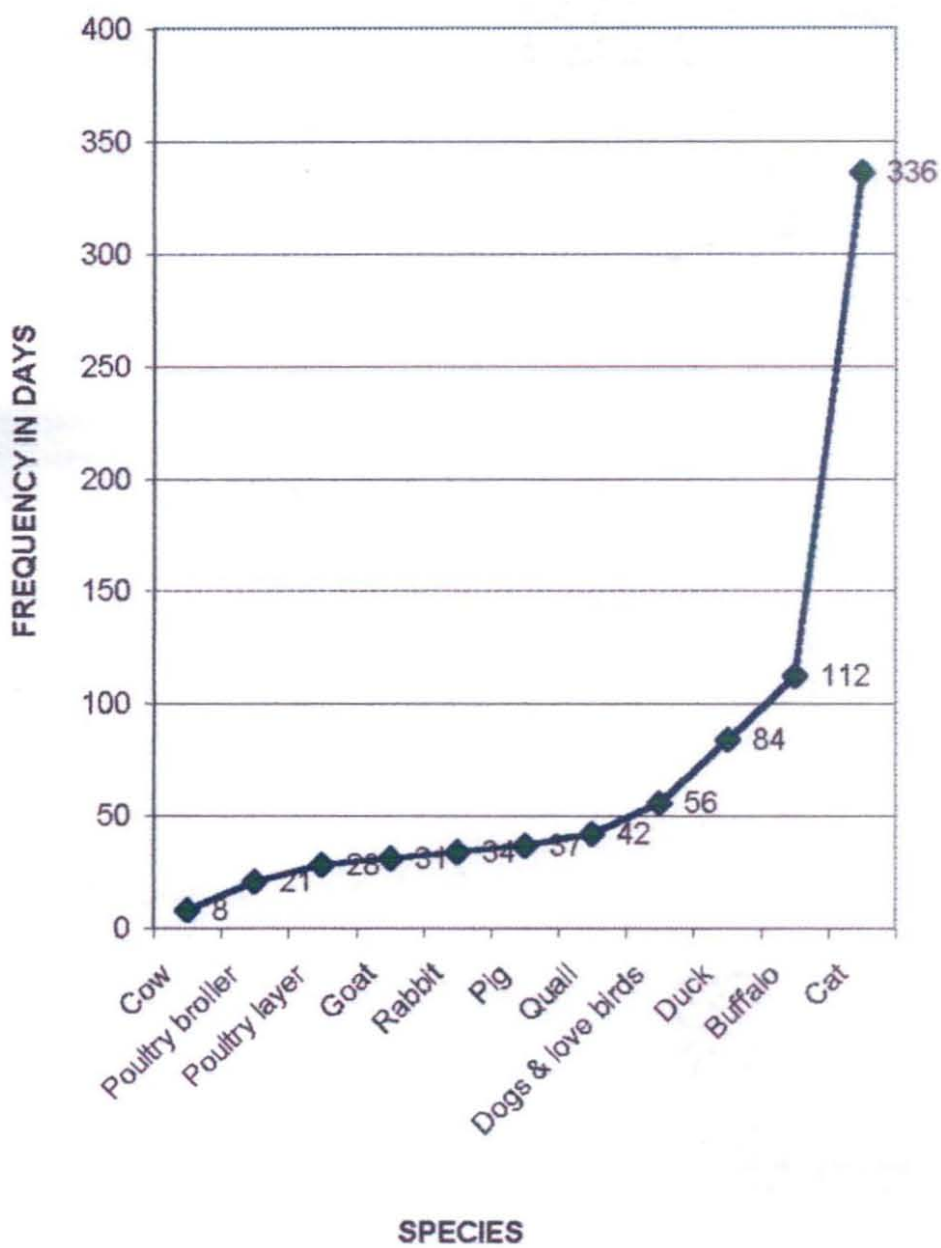
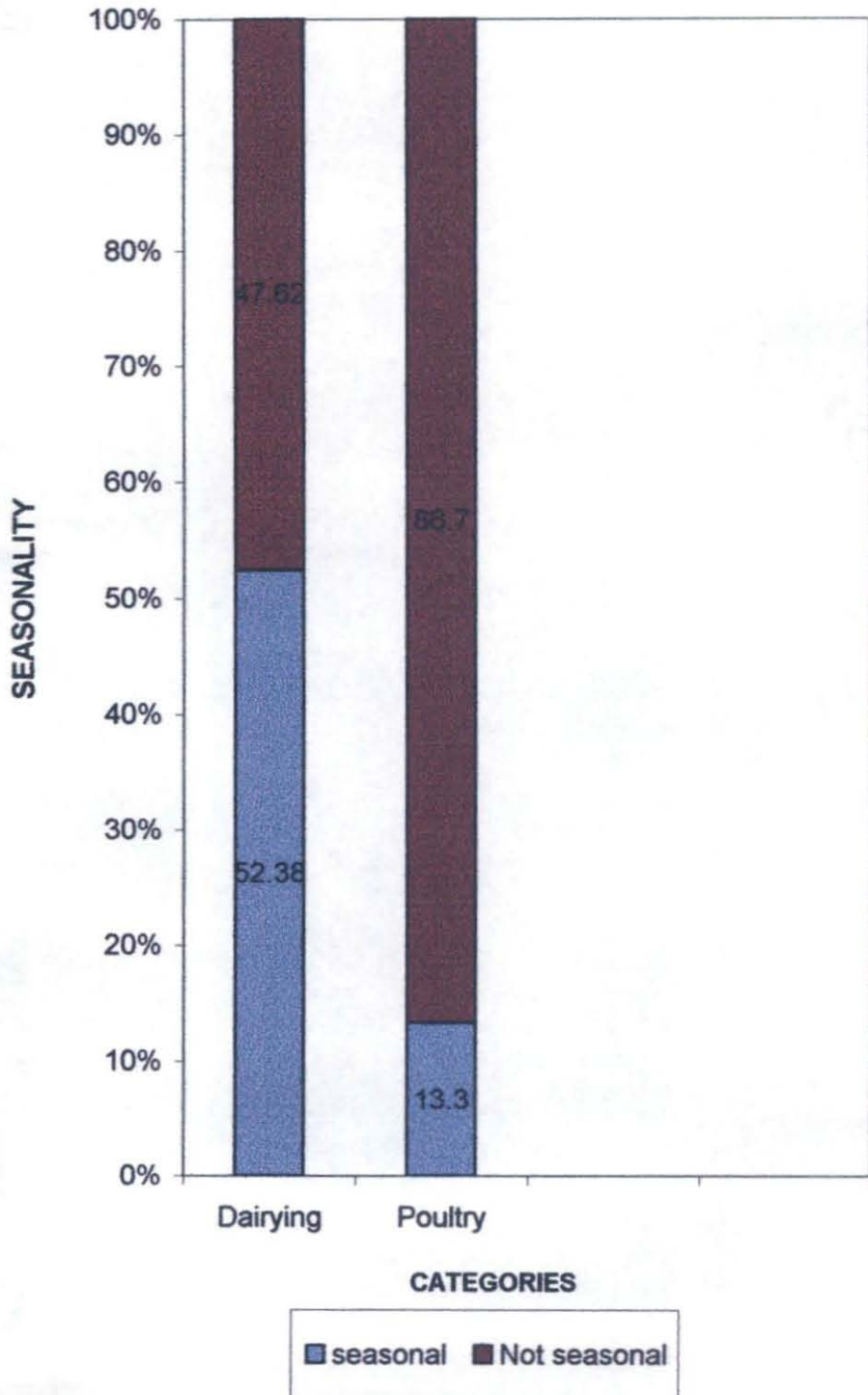


Fig. 9. SEASONALITY OF ARTICLES



4.4 Readability

Readability studies based on Fog index revealed that average readability of dairy articles were 5.45. All the four dailies had readability ranging from 5.04-5.67.

Table 14. Readability of the four dailies

Daily selected	Readability(Fog index)
Malayala manorama	5.04
Mathrubhoomi	5.67
Desabhimani	5.57
Deepika	5.52
Average	5.45

4.5 Relevancy

Data in Table 15 revealed that dairy articles were only 52.57 per cent relevant, 28.4 per cent somewhat relevant and 19.03 per cent not relevant (Fig. 10).

Table 15. Relevancy of dairy articles

Category	Relevant in %	Somewhat relevant in %	Not relevant in %
Dairy articles	52.57	28.4	19.03

4.6 Accuracy

Accuracy studies based on judges rating as shown in Table 16 revealed that total accuracy of scientific messages of dairy articles was 67.96 per cent. Category wise it was found that scientific messages of management articles had an accuracy of 73.4 per cent whereas general articles got a very low accuracy of 54.22 per cent (Fig.11 & 12).

Table 16. Accuracy of scientific messages of dairy articles

Category	Accurate %	Some what accurate %	Not accurate %
Management	73.41	21.75	4.85
Breeding	71.36	24.01	4.62
Diseases	69.25	24.51	6.24
Feeding	65.48	27.21	7.30
General	54.22	38.67	7.11
Total	67.96	25.97	6.08

Fig. 10. RELEVANCY OF DAIRY ARTICLES

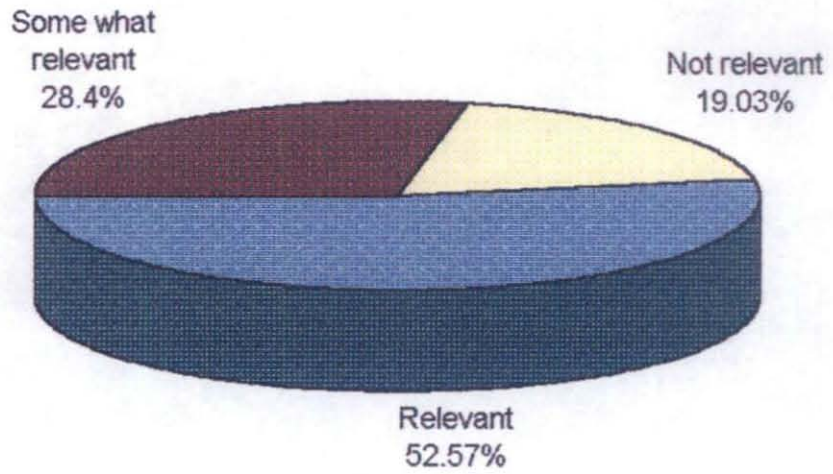
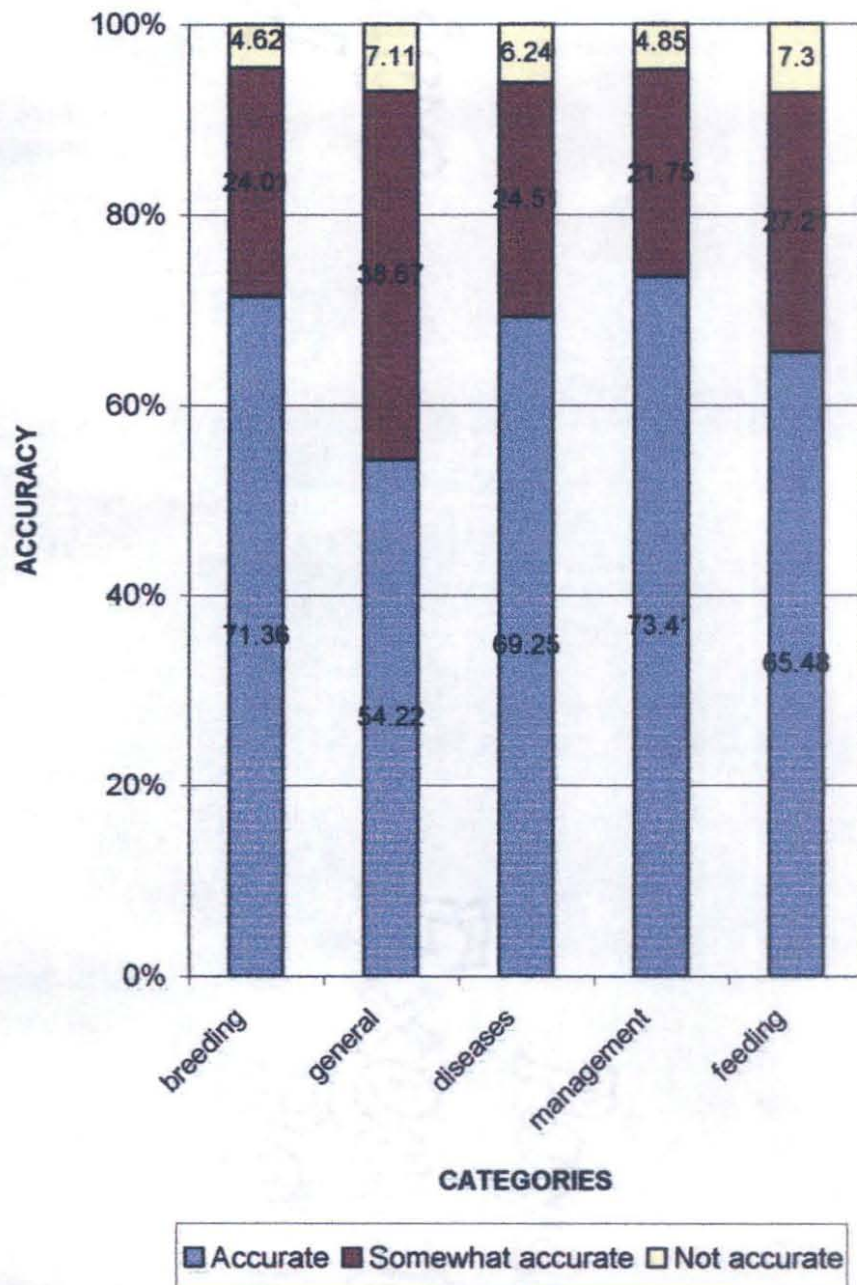
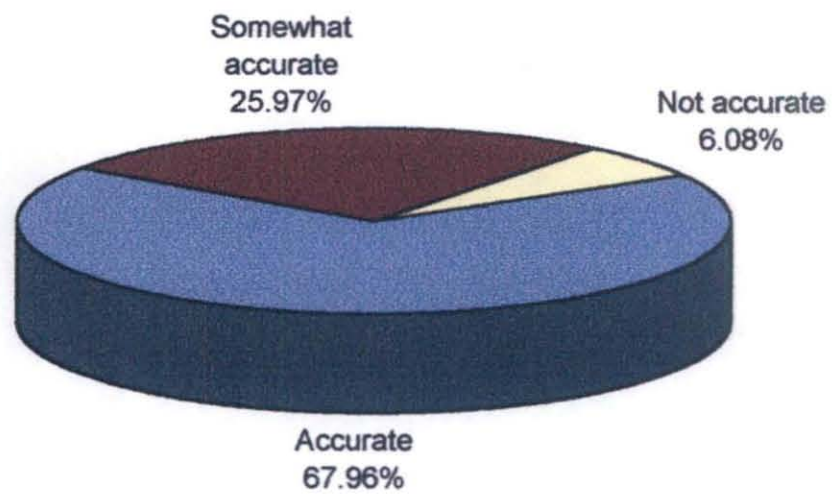


Fig.11. ACCURACY OF ANIMAL HUSBANDRY MESSAGES CATEGORY WISE .



**Fig.12. TOTAL ACCURACY ANIMAL
HUSBANDRY MESSAGES - DAIRYING**



DISCUSSION

5. DISCUSSION

Based on the objectives and observations, results are discussed under the following title.

- 5.1 Space provided to different categories of news and modes of presentation
- 5.2 Frequency of occurrence of news
- 5.3 Timeliness /seasonality
- 5.4 Readability
- 5.5 Relevancy
- 5.6 Accuracy

5.1 Space provided to different categories of news and modes of presentation

Considering the importance of animal husbandry sector in the areas of self employment and income generation print media have to revise their media policy in favour of farm sector so that more coverage to animal husbandry information could be given in newspapers. This is in view of the finding that malayalam dailies provided only less than one-fourth space in the farm page to publish animal husbandry news. There is ample scope for publishing animal husbandry feature pages separately on weekly basis. Sherief and Vasanth Kumar (1997) and Saha (1988) also reported that there was decline in coverage of animal husbandry news. Nandi and Mallick (1982) observed that animal husbandry articles occupied 20.42 per cent space. This indicates that situation has not been improved since then. There has to be more emphasis on animal husbandry information coverage since this sector contributes substantially to the state GDP.

5.1.1 Space provided to different categories of news

Large animals got maximum coverage compared to small animals and poultry. Among large animals articles related to cows occupied more space. This emphasis is justifiable since dairying is the most important animal husbandry

operation in the state. However, information on buffalo was meagre. The findings were in accordance with reports of Singh (1983) and Balachandranath (1998).

Goat farming, pig and rabbit rearing are slowly developing into a lucrative self employment and subsidiary occupation in the state. Nevertheless, information on these small animal species was much lesser, not even in one-fifth space of the farm column. Goat keeping has been picking up momentum especially among economically weaker sections and goat population of the country increased by 133% during the period 1951-1992. Definitely more information on scientific goat keeping must appear in the farm pages.

Poultry articles occupied one-fourth space under animal husbandry news. Articles on Broiler farming occupied more space compared to backyard poultry rearing. The results were in conformity with existing poultry production scenario of the state where broiler farming is very common. Since high cost of egg production makes its commercial production less profitable, more than 75 per cent of total egg production in the state is from backyard sector.

Space occupied by articles on duck, turkey and quail were comparatively too less. There is better scope for duck rearing under backyard system as a good source of meat. Information on duck, turkey and quail production have to be popularised through farm feature pages.

Articles on pet dogs occupied a space of 78 per cent under pet animals and birds. Dogs are reared not only as pets but for breeding purpose as well. With its high rate of economic returns many youths are interested in establishing kennels. So the coverage given to dog rearing is justifiable. But less coverage was given to articles on cats and love birds. Since rearing of pet cats and lovebirds acquired the status of major hobbies of children and housewives more articles on its management, feeding and disease control aspects are essential. The findings were in conformity with the observations made by Kayal (1975), Nandi and Mallick (1982), Balachandranath (1998) and Bhat and Taneja (1998).

Integrated farming got a poor coverage of 2.18 per cent in farm feature pages. It may be due to the fact that being a new concept this technology is in the initial stage in many parts of the state. Integrated farming is a new approach in which output from one system becomes input to another. It can be made more viable by effectively integrating different systems of agriculture, animal husbandry and fisheries. Duck cum fish culture, paddy-duck culture, pig cum fish rearing, pig, fish and duck rearing, paddy, fish and livestock are some of the viable integrated farming models. Further, integrated farming is a promising practice towards sustainable agriculture. In view of its ecological and economic significance, media should play a significant role in propagating the concept of integrated farming. The finding of Sherief and Vasanth Kumar (1997) was also one similar to that of the present study.

Relatively more space was allotted for publishing animal husbandry information related to advance in technology in farm feature pages of all dailies. Major objective of this page is to disseminate new technologies and therefore it can be seen as a positive signal. Moreover Rajendran (1982) found that majority of respondents utilized the information about the latest recommendations from newspaper only.

Media coverage based on management aspects revealed that more space was provided for publishing general articles on animal husbandry (41 per cent), articles on veterinary care (21 per cent), feeds and feeding (13 per cent) and economics (11 per cent) (Table 7). It is evident that for scientific farming practices feeding, management and veterinary care are most essential. Moreover for an entrepreneur economics of farming is more important. Comparatively lesser space was occupied by articles on breeds and breeding. Article on housing was provided with a space of only two per cent. Proper housing and sanitation will prevent diseases and help in maintaining hygiene. Diseases like mastitis, downer cow syndrome, bone injuries, dislocation, etc, can be prevented by constructing adequate housing systems. More over it will protect the animals from adverse climatic conditions. So more space has to be provided for publishing articles on housing. The findings were in conformity with the observations of Nandi and Mallick (1982).

Sidhu (1980) observed that more space was allotted for articles on animal breeding whereas less space was provided in the four dailies studied. Breeding has to be given more emphasis as it is one of the important elements of sustainable farming systems. Moreover kerala is the only state in the country having separate breeding policy with more than 68 per cent crossbred cattle.

5.1.2 Space provided to different modes of presentation

Of the five modes of presentation news articles are seen published more often which occupied 36 per cent of space in all dailies. This is a good trend. It is presumed that news articles will have more appeal as they give real experience of farmers and motivate the reader. Although success stories are also quite appealing and motivating yet they are not seen published as news articles and feature stories. If such items are not forthcoming for publication writers should be appropriately encouraged. 21 per cent and 17 per cent of the total space was provided for publishing feature stories and illustrations respectively. 14 per cent of total space was occupied by question answers. These are seen published in three dailies except Malayala Manorama. Allocating more space for publishing questions and answers will help in answering questions and thereby attending to the farmers who need information. Encouraging the farmers to ask more by answering to their questions and clarifying their doubts will only facilitate in establishing a sound transfer of technology system.

Providing more space for publishing illustrations will clearly communicate messages. Farm pages can be made more effective by incorporating pictures, as a picture saves 1000 words. Nevertheless, scientists and veterinarians should be given a larger share in Malayalam dailies for reporting their research findings in the form of popular articles.

Fett (1972), Gajapathi (1977), Prasad (1978) also reported that more news articles were seen in farm feature pages. Jayaram (1980) highlighted the importance of questions and answers in the farm feature pages and the observations were in agreement with the present findings. Trikha (1990) and Nataraju and Perumal (1996)

emphasised the importance of illustrations in farm feature pages. Singh and Kumar (1997) reported inadequate allocation of space for success stories.

5.2 Frequency of occurrence of news

It was observed that news articles were occurring frequently in farm feature pages of the four dailies studied. A minimum of one news article was published in one or other four dailies at every nine days interval. Illustrations and question answers occurred at 10 days and 13 days interval. Feature and success stories published at an interval of 19 and 24 days respectively. High frequency of publishing question answer session and success stories would hasten the adoption of appropriate technologies

Oliver (1971) and Prasad (1978) also reported that news articles were frequently occurring in all farm feature pages. They suggested that news articles were highly satisfying the farmers due to subject matter coverage, practicability, timeliness and readability. Gajapathi *et al.* (1977) reported that agriculture news articles were occurring every day in Tamil daily 'Dinamani'.

Frequency of occurrence of different categories of news revealed that articles on cows appeared most frequently followed by poultry. It could be due to the fact that dairy and poultry sectors are gradually developing into lucrative self employment sectors of the state. Articles pertaining to small animals appeared only at an interval of 31-42 days. But on buffaloes articles appeared at an interval of 112 days. It clearly shows the total neglect of buffalo production. More articles on buffaloes should be published at frequent intervals to further popularise this sector. Articles on small animals and pet animals especially in the areas of management and disease control need to be published very often.

5.3 Timeliness / seasonality

It was found that 52.38 per cent of dairy articles and 13.3 per cent of poultry articles were seasonal. For adopting modern animal husbandry practices articles should be more seasonal in nature. More seasonal the information greater will

be the news value. Low seasonality of poultry articles necessitate that more emphasis should be given to maintain seasonality. Kamath (1969) and Jondhara *et al.* (1989) reported that lack of timeliness as one of the message constraints.

5.4 Readability

Study revealed that average readability of dairy articles as per Fog Index method was 5.45. According to UNESCO standards fourth standard school boy is regarded for a typical individual to attain and maintain functional literacy. Readability rating of less than eight makes it readable for children and farmers. All the dairy articles studied were readily readable to the farmers. As a long term strategy for increasing efficiency, farmers knowledge about current technology and infrastructure has to be enhanced. Oliver *et al.* (1974) rated readability of farm articles as 'easy to read'.

5.5 Relevancy

Relevancy rating indicated that dairy articles were only 52.57 per cent relevant. Results of the study indicated that relevancy of dairy articles was comparatively less. While writing for farmers, experts should provide timely and relevant information at all times. If the article is more relevant more will be practicability. Media strategies for rural development will have to be essentially geared to the ethos and the relevant to the people for whom development plans are intended to benefit. Balachandran in his study conducted in 1983 observed that 58 per cent of articles on animal husbandry and dairying were relevant. Findings of the present study indicate that situation has not improved since then.

5.6 Accuracy

Accuracy rating revealed that accuracy of scientific messages of dairy articles was 67.68 per cent. Scientific messages on management articles got maximum accuracy of 73.4 per cent; whereas general articles had only 54.22 per cent accuracy. Accuracy, brevity and clarity are the fundamentals for a good presentation. Writers

should take more efforts to maintain accuracy. A message presented clearly, accurately and in an attractive manner stands a better chance of getting through the reader. Experts in the field of agriculture and animal husbandry can be appointed as editors of farm feature pages to verify the accuracy of scientific messages. Duffy and Kabance (1982) and Reddy and Reddy (1993) substantiated the need for maintaining accuracy of scientific messages.

SUMMARY

6. SUMMARY

Kerala being a state with high literacy rate in the country, farm publications and newspapers can play a key role in the transfer of appropriate technologies to livestock farmers. Newspapers can focus attention of the farmers towards farm technology and can create interest in them. In the innovation decision process they can be used at all stages, but more useful during the awareness stage. If properly utilized they can also influence farmers in the adoption stage and will reduce the technological gap.

All leading Malayalam dailies are regularly publishing half to one page farm feature pages weekly. They cover topics on agriculture, animal husbandry, fisheries and allied sectors.

Research studies to know the extent of animal husbandry information presented, the nature of contents, readability, etc, are scarce.

Major objectives of the study were:

1. To assess the coverage of animal husbandry information published in selected Malayalam dailies.
2. To assess the readability of selected articles on animal husbandry.

The study was a content analysis of animal husbandry information in the farm feature pages of four leading Malayalam dailies, viz., Malayala Manorama, Mathrubhumi, Desabhimani and Deepika for the period January to December 1999.

Study revealed that Malayalam dailies provided less than one fourth space of farm feature pages for publishing animal husbandry information. This necessitated more coverage to animal husbandry sector since its contribution to state's GDP is comparatively higher.

Among different categories of news, even though large animals got more than 50 per cent coverage, buffaloes had been largely neglected. Cows got nearly

three-fourth coverage when compared to other large animals. Poultry sector got only one-fourth coverage. Small animals and pet animals occupied 17 per cent and seven per cent space respectively. In general, space provided to different animal husbandry information was obviously less.

Integrated farming got a coverage of only two per cent. It is a promising practice towards sustainable agriculture. In view of its ecological and economic significance, media should play a significant role in propagating the concept of integrated farming. Relatively more space was allotted for publishing animal husbandry information related to advance in technology in farm feature pages of the four dailies studied.

Of the five modes of presentation news articles occupied maximum column length in all dailies studied. Feature stories, illustrations and question answers occupied 21, 17 and 14 per cent space respectively. Question answers were published in three dailies except Malayala manorama.

Frequency of occurrence of news articles, illustrations and question answers were found to be more when compared to other modes of presentation. Articles on cows appeared most frequently. But on buffaloes appeared at an interval of 112 days.

More than half the number of dairy articles and nearly one-eighth number of poultry articles published were seasonal. Low seasonality of poultry articles necessitate that more emphasis should be given to maintain seasonality.

Reading easiness of dairy articles was found to be good with an average readability as indicated by Fog index of 5.45.

More than half the number of dairy articles were found to be relevant. Even though more than two-third scientific messages of dairy articles were accurate, accuracy of general articles was just above 50 per cent. Scientific messages of management articles got maximum accuracy of 73.4 per cent.

Suggestions

- 1) Print media have to revise their media policy in favour of farm sector so that more coverage to animal husbandry information could be given in newspapers. Animal husbandry feature pages can be published separately on weekly basis.
- 2) More coverage of animal husbandry information reported in the four dailies have been in the form of news articles. Scientists and veterinarians should be given a larger share in Malayalam dailies for reporting their research findings in the form of popular articles.
- 3) A regular mechanism should be followed for verifying the accuracy of articles. Experts in the field of agricultural and animal husbandry can be appointed as editors of farm pages.
- 4) Malayalam dailies should give maximum importance to common man's level of readability.
- 5) Scientists, veterinarians, extension workers, journalists and research institutions should provide timely and relevant animal husbandry related information frequently to the newspapers.
- 6) A separate publication and extension division can be started under Directorate of animal husbandry to co-ordinate the coverage of animal husbandry information in the various media. It can be developed as animal husbandry information bureau in future.
- 7) Farm Journalism courses should be incorporated along with the curriculum of agriculture courses. Sufficient training should be imparted to field veterinarians, scientists and students to write popular articles.
- 8) Farm feature workshops for improving farm columns should be organised at least once in six months. Editors of respective dailies, Research Institutions, Farm Information Bureau, Animal Husbandry Department, Dairy Development Department, Livestock Development Board, Regional Milk Unions, etc, should take initiation for conducting the workshop.
- 9) Content analysis studies on animal husbandry information need to be repeated annually. Moreover, farm journals should be subjected to detailed content analysis studies to assess the extent of coverage, readability, relevancy, accuracy

and reading comprehension. Animal husbandry programmes of AIR and Doordarsan should also be subjected to detailed studies incorporating potential beneficiaries. There is ample scope for future research work in these areas.

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**ANALYSIS OF ANIMAL HUSBANDRY
INFORMATION IN THE FARM FEATURE
PAGES OF LEADING MALAYALAM DAILIES**

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ABSTRACT OF A THESIS
**Submitted in partial fulfilment of the
requirement for the degree**

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ABSTRACT

Study was a content analysis of animal husbandry information in farm feature pages of four Malayalam dailies, namely Malayala Manorama, Mathrubhoomi, Desabhimani and Deepika, for the period January to December 1999. Variables studied were space provided to different categories of animal husbandry news, modes of presentation, frequency of occurrence of news, seasonality, readability, relevancy and accuracy.

Research findings revealed that the studied dailies provided less than one fourth space of farm feature pages for publishing animal husbandry information. Large animal category got more than 50 per cent coverage with three-fourth space occupied by articles on cows. Poultry articles occupied one-fourth space of animal husbandry information of farm feature pages. Where as small animals and pet animals occupied 17 per cent and seven per cent space respectively.

News articles occupied maximum column length in all dailies studied. Frequency of occurrence of news articles, illustrations and question answers were found to be more when compared to other modes of presentation.

Seasonality studies revealed that more than half the number of dairy articles and one eighth of poultry articles were seasonal.

Average readability of dairy articles according to Fog index was 5.45 with more reading easiness.

More than 50 per cent of dairy articles were found to be relevant. Just above two-third of scientific messages of dairy articles were accurate, whereas accuracy of general articles were found to be nearly 50 per cent.

APPENDICES

APPENDIX – II
ANALYSIS OF ANIMAL HUSBANDRY INFORMATION IN THE FARM FEATURE PAGES OF LEADING
MALAYALAM DAILIES
FREQUENCY OF OCCURENCE BASED ON MODES OF PRESENTATION

W	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50					
A	*		*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*											
B	*								*	*	*	*		*				*					*		*															*	*		*	*											
C						*			*	*	*	*			*	*	*		*				*	*			*			*							*	*	*	*	*	*	*	*	*						*				
D					*				*	*				*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*										*
E	*	*	*	*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

* denotes frequency of occurrence of animal husbandry news based on modes of presentation
A – News articles – 9 days
B – Illustrations – 10 days
C – Question answers – 13 days
D – Feature stories – 19 days
E – Success stories – 24 days

APPENDIX-IV
KERALA AGRICULTURAL UNIVERSITY
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ANALYSIS OF ANIMAL HUSBANDRY INFORMATION IN THE FARM
FEATURE PAGES OF LEADING MALAYALAM DAILIES

SEASONALITY / TIMELINESS

DAIRY SECTOR

Sl.No.	Title of the article	Seasonal	Not seasonal
A	Malayala Manorama		
1	Foot and mouth disease		
2	Summer management of cows		
3	Mineral mixture		
4	Dry cow feeding		
5	Ephemeral fever		
6	Bye-pass fat in cattle feed		
7	Calf feed subsidy scheme		
8	Kamadhenu insurance		
9	Cow yielding 37 litres of milk- A success story		
10	Unconventional cattle feed		
11	Mixed farming		
B	Mathrubhoomi		
12	Buffalo production		
13	Babesiosis		
14	Straw processing		
15	Foot and mouth disease		
16	Haemorrhagic septicaemia		
17	Monsoon diseases of cattle		
18	Skin diseases		

19	Colostrum feeding		
20	Amphistomiasis		
21	Infertility in cattle		
22	Control of foot and mouth disease		
C	Desabhimani		
23	Summer care of cattle		
24	Haemorrhagic septicaemia		
25	Zoonotic importance of foot and mouth disease		
26	Kerala model of dairying		
27	Diversification in dairying		
28	Animal husbandry through decentralised planning		
29	Loan schemes for dairying		
D	Deepika		
30	Feeding schedule of milch cows		
31	Importance of feeding green fodder		
32	Milking machine		
33	Control of contagious diseases		
34	Profitable dairying		
35	Dehorning		
36	Foot and mouth disease		
37	Monsoon care of cattle		
38	Proper timing in dairying		
39	Cattle insurance		
40	Post partum heat in cows		

41	Hay making		
42	Silage		
43	Animal based feed stuffs		
44	Twinning in cattle		
POULTRY SECTOR			
A	Malayala Manorama		
1	Feeding schedule of broilers during summer		
2	Control of ectoparasites		
3	Pelleted poultry feed		
4	Vaccination schedule		
5	Varna, Gramapriya breeds of poultry		
6	Profitable poultry farming		
B	Mathrubhoomi		
7	Gramapriya layers		
8	Broiler farming – A success story		
9	Group farming in poultry		
10	Cage system of poultry rearing		
11	Pegion rearing		
12	Duck plague		
13	Nicobari layers		
14	Kureepuzha Turkey farm		
C	Desabhimani		
15	Backyard poultry production		
16	Commercial egg production		
17	Poultry production programme		
D	Deepika		
18	Summer stress in broilers		
19	Monsoon care of broilers		

20	Common poultry diseases		
21	Indian poultry scenario		
22	Back yard poultry keeping		
23	Athulya – A commercial layer		
24	Control of poultry diseases		
25	Construction of poultry sheds		
26	Feeding schedule for broilers		
27	Broiler feeds		
28	Management practices of broilers		
29	Central Hatchery, Chengannoor		
30	Disinfection of poultry sheds		
31	Quail – feeding		
32	Quail production		
33	Guinea Fowl		
34	Poultry marketing		

APPENDIX-V

KERALA AGRICULTURAL UNIVERSITY
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ANALYSIS OF ANIMAL HUSBANDRY INFORMATION IN THE FARM
FEATURE PAGES OF LEADING MALAYALAM DAILIES

READABILITY OF DAIRY ARTICLES

Sl.No.	Title of the article	Fog index
A	Malayala Manorama	
1	Cow yielding 37 litres of milk – A success story	4.28
2	Foot and mouth disease	5.75
3	Summer management of cows	4.32
4	Kamadhenu insurance	4.80
5	Women dairying – a success story	4.68
6	Mineral mixture	6.38
7	Medicated milk	4.67
8	Dry cow feeding	5.40
9	How to increase fat content in milk?	4.84
10	Ephemeral fever	4.84
11	Bye-pass fat in cattle feed	5.24
12	Calf feed subsidy scheme	5.20
13	Milk marketing	5.80
14	Urea molasses block	4.36
15	Dairying – A success story	4.80
16	Profitable Dairying	4.68
B.	Mathrubhoomi	
17	Buffalo production	5.64
18	Foot and mouth disease	4.44

19	Babesiosis	4.93
20	Mineral mixtures	5.60
21	Gliricidia as cattle feed	4.84
22	Hi-tech dairy farm	5.64
23	Induction of lactation	5.24
24	Straw processing	4.84
25	Ketosis	4.44
26	Control of foot and mouth disease	4.84
27	Haemorrhagic septicaemia	4.84
28	Pandharpuri buffaloes	6.00
29	Monsoon diseases of cattle	4.84
30	Colostrum feeding	5.80
31	Mechanisation in Dairying	5.60
32	Skin diseases	5.08
33	Amphistomiasis	5.72
34	Conventional dairying	6.44
35	Rumenotomy	6.44
C	Desabhimani	
36	Kerala model of dairying	4.44
37	Diversification in dairying	5.80
38	Ketosis	4.44
39	Summer care of cattle	4.44
40	Animal husbandry through decentralised planning	6.51
41	Haemorrhagic septicaemia	4.84

42	Decentralised planning – A success story	5.24
43	Profitable dairying	6.51
44	Zoonotic importance of FMD	7.31
45	Loan schemes for dairying	6.2
D	Deepika	
46	Feeding schedule of milch cows	6.04
47	Importance of feeding green fodder	6.04
48	Hay making	5.20
49	Silage making	5.64
50	Milking machine	5.20
51	Induction of lactation	3.70
52	Control of contagious diseases	4.93
53	Profitable dairying	6.40
54	Milk – Nutritive value	7.24
55	Dehorning	4.28
56	Foot and mouth disease	5.64
57	Monsoon care of cattle	5.64
58	Animal based feed stuffs	6.00
59	Kamadhenu insurance scheme	5.60
60	Proper timing in dairying	4.26
61	Twinning in cattle	6.17
62	Cattle insurance scheme	6.44
63	Post partum heat in cows	5.64

APPENDIX-VI

KERALA AGRICULTURAL UNIVERSITY

COLLEGE OF VETERINARY AND ANIMAL SCIENCES
ANALYSIS OF ANIMAL HUSBANDRY INFORMATION IN THE FARM
FEATURE PAGES OF LEADING MALAYALAM DAILIES

1. Name and address of the farmer :
2. Age :
3. Sex : Male/Female
4. Ward number :
5. Village :
6. Panchayat :
7. District :
8. Previous experience in dairying :
9. Whether you got training in dairying? :
10. Number of cows reared :

Please indicate the relevancy of the following articles on a three point continuum using a tick mark.

Sl. No.	Title	Relevant	Somewhat relevant	Not relevant
1	Foot & mouth disease	19	9	2
2	Kamadhenu insurance scheme	17	6	7
3	Unconventional cattle feed	15	8	7
4	Dry cow feeding	14	8	8
5	Ephemeral fever in cattle	14	10	6
6	Calf feed subsidy scheme	22	5	3
7	Urea molasses block for cattle	16	10	4
8	Profitable dairying	23	4	3

Sl. No.	Title	Relevant	Somewhat relevant	Not relevant
9	Importance of green fodder in dairying.	14	8	8
10	Milking machine.	14	9	7
11	Silage	17	6	7
12	Fodder cultivation	12	9	9
13	Dehorning	14	13	3
14	Monsoon care of cattle	16	9	5
15	Animal based feed stuffs	18	6	6
16	Importance of proper timing in dairying	17	8	5
17	Twinning in cattle	18	9	3
18	Postpartum heat in cattle	12	9	9
19	Ketosis in cattle	12	10	8
20	Summer management of cows	20	5	5
21	Haemorrhagic septicaemia.	11	14	5
22	Profitable dairying.	21	9	-
23	Buffalo farming.	27	1	2
24	Mineral mixture.	10	12	8
25	Hi-tech dairy farming.	10	11	9
26	Straw processing.	21	4	5
27	Pandharpuri buffaloes.	13	10	7
28	Colostrum feeding	17	5	8
29	Skin diseases of cattle	10	13	7
30	Amphistomiasis in cattle	15	10	5

APPENDIX-VII

KERALA AGRICULTURAL UNIVERSITY
COLLEGE OF VETERINARY AND ANIMAL SCIENCES

ANALYSIS OF ANIMAL HUSBANDRY INFORMATION IN THE FARM
FEATURE PAGES OF LEADING MALAYALAM DAILIES

Please indicate the accuracy of the scientific message in the following statements on a three point continuum using a tick () mark

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
I	Foot & Mouth disease	5.51	2	0.48
1	Mortality due to foot and mouth disease is higher in calves			
2	High fever and drooling of saliva are the symptoms of Foot and mouth disease.			
3	Vesicles on the mouth and tongue are primary symptoms, which later rupture leaving an angry looking ulcer.			
4	Negligence leads to erosion of tongue mucosa and evulsion of hoof.			
5	Disease transmits through air and water.			
6	Boric acid with honey can be applied on the ulcerous area of the tongue.			
7	All animals above six months of age should be vaccinated against the disease.			
8	Foot and mouth viruses reach Kerala mainly from Tamil Nadu and Karnataka			
II	Kamadhenu insurance scheme.	2.72	1.93	0.34
1	Kamadhenu insurance makes dairying more attractive.			
2	50% of high producing cattle suffer from either mastitis or infertility			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
3	Farmers are not getting reasonable price for their milk from co-operative societies			
4	Kamadhenu insurance scheme include insurance for cattle, accident and treatment claim for the farmer.			
5	Cows below seven years, with a market value of Rs.10,000 or more can be insured for 3 years.			
III Unconventional cattle feed		3.93	3	1.07
1	For optimum milk yield, roughage and concentrate should be given in correct proportion.			
2	Coir pith can be included up to 30% in cattle feed			
3	16% rubber seed cake, 10% dry tapioca, 22% GNC, 1% mineral mixture and salt can be included in the cattle feed.			
4	Hydrocyanic acid toxin is present in rubber seed, but it is not seen in rubber seed cake.			
5	Rubber seed cake contain 18.6% protein.			
6	Coco kernel contain 7.8% protein, 2.3% fat and 35.1% fibre.			
7	Tapioca waste from starch factories can be used for cattle feed, instead of maize bran.			
8	Tapioca waste contain 2% DCP and 64% TDN			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
IV Dry cow feeding		5.45	2.31	1.24
1	For profitable dairying the age of first calving should be below 30 months and inter calving interval must be 12-14 months			
2	For efficient milk production, cow need a dry period of 1½-2 months			
3	High protein diet during dry period will enhance milk production as well as protein and fat percentage in milk			
4	Dry cow protein feeding will reduce occurrence of milk fever, ketosis, grass tetany and dystocia in cows			
5	Cows must be given fodder and silage along with high protein concentrate during dry period			
6	1 kg concentrate can be replaced by 20-25 kg green fodder			
7	Cows should be given 2 kg concentrate as maintenance ration and 1 kg as pregnancy allowance			
8	Feeding of excess green fodder will cause enteritis, tympany and indigestion.			
9	Supplementation of vitamins will prevent deficiency diseases			
V Ephemeral fever in cattle.		4.62	2.38	1
1	Ephemeral fever is more seen during rainy season			
2	It is prevalent during August, September months			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
3	Disease is transmitted through fly bite			
4	Heifers are more susceptible to disease than cows			
5	Fever, inappetance, nasal discharge, dyspnea and lameness are the symptoms of ephemeral fever.			
6	Fomentation and inhalation will reduce the severity of the disease			
7	Liquid medicines should not be given to affected animals.			
8	Regular cleaning of the shed and premises will prevent the disease.			
VI Calf feed subsidy scheme (CFS)		3.79	1.79	0.41
1	Scientific feeding and management makes the first calving at 2½ years of age.			
2	Through CFS concentrates will be supplied at 50% cost.			
3	Beneficiaries of this scheme will be given training in the areas of scientific calf rearing.			
4	Cattle feed will be distributed through milk societies.			
5	Weight of the calves will be taken at an interval of every three months.			
6	The beneficiary will get 1897 kg of cattle feed if he continues for a period of 32 months.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
VII Urea molasses block		4.28	2.03	0.69
1	In Dairying, feed constitute 80% of the total production cost.			
2	Urea molasses block was introduced by N.D.R.I. to reduce feed cost			
3	It is prepared using urea, jaggery, Calcium oxide, rice bran, groundnut cake and minerals			
4	Cow will consume 500 gm urea molasses block per day			
5	One block is sufficient for a week			
6	Rumen microbes will utilize nitrogen from urea and energy from jaggery			
7	Urea molasses block is available as Nutrilick.			
VIII Profitable dairying		2.07	1.72	0.21
1	Cows are essential for sustainable agriculture			
2	Production from one acre land can be improved from 200 to 300 ton by using cow dung as manure.			
3	Gobar gas plants can be made to conserve energy			
4	Dairy development department will give Rs.7000/- as subsidy for model dairy farms			
IX Importance of green fodder in dairying.		5.1	0.86	0.03
1	High fibre content in the feed will help in proper development of rumen			
2	Para grass can be cultivated in marshy lands; while congo signal, guinea and napier grass in dry lands.			
3	Tender grass contain more nutrients.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
4	Quantity of concentrate can be reduced by giving leguminous grass since it contains more protein.			
5	Vitamin A deficiency can be corrected by giving five kg green grass per day.			
6	Chopping of Napier grass will improve its digestability			
X	Milking machine	6.52	2.03	0.52
1	Milking machine works on the principle of negative pressure similar to sucking of calf.			
2	During milking first two stripings should be discarded.			
3	The negative pressure created causes milk to flow from udder tissues to the milk can.			
4	Reduction in milk yield won't affect the working of the milking machine.			
5	Milking machine will not produce bleeding from the udder.			
6	Maximum negative pressure created around the teat is 380 mm.			
7	Due to complete milking SNF and fat content in the milk will increase.			
8	Machine milking will improve the quality and quantity of milk			
9	It will prevent the transmission of milker born diseases like Typhoid, Diphtheria, Cholera, Diarrhoea etc.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
XI	Silage	4.59	1.17	0.24
1	Pit silo is more suitable for farmers			
2	Napier, guinea, maize etc. can be used for silage making			
3	Molasses have to be sprayed over the fodder			
4	25 kg molasses is needed for ensiling one ton of grass.			
5	Fodder can be filled up to three feet depth from the ground level.			
6	After 8 weeks it will be ready for use.			
XII	Fodder cultivation	3.76	1.14	0.10
1	For a cow yielding five litres of milk production cost can be reduced using fodder.			
2	May, June and July months are most suited for fodder cultivation.			
3	For germination of seeds, up to 15 days are needed.			
4	Harvesting can be done within 60-70 days.			
5	Spraying of slurry hastens the growth of fodder.			
XIII	Dehorning	3.28	0.59	0.14
1	Dehorned animals require less standing space than other animals.			
2	Dehorning can be done at one week of age.			
3	Caustic soda and caustic potash sticks can be used for dehorning.			
4	Electric dehorning can also be used.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
XIV	Monsoon care of cattle.	4.21	1.55	0.24
1	Mastitis, diarrhoea, indigestion, tympany, respiratory diseases, fungal poisoning anthrax, Foot and mouth disease, etc; are prevalent during rainy season			
2	Anorexia, lachrimation, enteritis, discolouration of urine, reduction in milk yield, lameness, etc. are seen during monsoon.			
3	For controlling the diseases, shed and premises should be disinfected with bleaching powder or phenol.			
4	Dung pit should be away from cow shed.			
5	Drying the feed over sun light will prevent aflatoxicosis.			
6	Cows and calves should be dewormed at monthly interval.			
XV	Animal based feed stuffs	2.34	1.38	0.28
1	Bone meal can be used as a mineral supplement in all types of animal feed stuffs.			
2	Bone meal contain 30 per cent calcium and 15 per cent phosphorus.			
3	Fish meal contain 60 per cent protein, around 10 per cent fat and 25 per cent minerals.			
4	Animal feed stuffs should be included in the ration of growing stock.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
XVI	Importance of proper timing in dairying.	3.38	1.31	0.31
1	Cows should be inseminated 12 hours after the onset of heat symptoms.			
2	Feeding and watering just before insemination will not influence conception rate.			
3	Exposing the animal to sunlight before and after AI will reduce conception rate.			
4	Spraying cold water on the animal after insemination will improve conception rate.			
5	Fear and stress will reduce conception rate.			
XVII	Twinning in cattle.	2.52	1.20	0.28
1	Development of two or more ova in the ovary leads to twinning.			
2	Division of zygote will also lead to twinning.			
3	Chances of twinning in cattle is one in 96.			
4	92% of female calves born along with male calf shows infertility.			
XVIII	Post partum heat in cows	3.38	0.62	-
1	Cows will come in to oestrus within two months after parturition if scientific management practices are followed.			
2	Insufficient post partum feeding will delay heat signs.			
3	The conception rate is more during early post partum heat.			
4	Infertile animals need proper feeding and veterinary care.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
XIX	Ketosis	4.28	1.41	0.31
1	Ketosis is more seen in high producing animals.			
2	Flurosis is one of the predisposing factors of ketosis.			
3	If carbohydrate content in the feed is less than required level ketosis will occur.			
4	Symptoms can be of either digestive or nervous in nature.			
5	Glucose, sodium propionate, calcium lactate, cortisone, vitamin B ₁₂ , vitamin A, cobalt, etc. can be used to control the disease.			
6	High intake of feed containing cobalt, phosphorus and iodine, along with exercise will prevent the disease			
XX	Summer management of cows.	3.38	1.93	0.69
1	Thick skin and high atmospheric temperature during summer will increase the body temperature.			
2	Feed should be given twice daily, during morning and evening hours of the day.			
3	Feed should contain more roughage.			
4	During summer, wash the animal with cold water 2-3 times daily.			
5	Giving 100 ml of one per cent sodium bicarbonate solution during summer will improve digestion.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
XXI Haemorrhagic septicaemia		3.59	1.1	0.31
1	The clinical symptoms are observed two to four days after the entry of organisms into the body of the animal.			
2	The animals suddenly die without showing any symptoms.			
3	The muscles become oedematous and animal will be restless.			
4	Broth and alum precipitated vaccines are used to control the disease.			
5	Healthy animals should not come in contact with dung and urine of affected animals.			
XXII Profitable dairying		4.17	1.59	0.24
1	Genetic improvement alone cannot improve milk production.			
2	Per capita milk availability in kerala is 170 gm per day.			
3	Guinea grass can be cultivated in dry areas.			
4	Dairying can be made profitable if we daily provide 30 kg green grass per animal.			
5	Subabul can be given at a rate of 30% along with other green fodders or straw.			
6	Quantity of concentrates can be reduced by cultivating fodder and leguminous grass.			
XXIII Buffalo farming		9.34	2.79	0.41
1	Buffalo population in Kerala shows a diminishing trend.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
2	55-60% of total milk production in the country is from buffaloes, which constitute around 30% of livestock population.			
3	Each buffalo should be provided a standing space of 4-5 m ² in the barn.			
4	Manger and milking passage should be of 90 cm width.			
5	Standing space required for a buffalo is 1.8 m ² .			
6	Recommended height of front wall is 3 m and hind wall is 1.8 m.			
7	The space required for calf is 2.5 m ² and for heifer it is 3.5 m ² .			
8	She buffalo need 1.5kg concentrate for maintenance and one kg more per 2-2.5 kg of milk produced.			
9	Buffalo calf should be given colostrum within 30 minutes of birth.			
10	Calves should be dewormed at three weeks of age.			
11	Heifers will attain maturity at an age of 30 month on scientific rearing.			
12	Gestation period of buffalo is 310-315 days.			
13	Inter calving interval should be 15-18 months.			
XXIV	Mineral mixture	3.1	1.76	0.14
1	For daily maintenance, cows require 10 gm of calcium & phosphorus in the feed.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
2	To produce one kg milk, feed should contain two gm calcium and 1.4 gm phosphorus.			
3	Milch cow should be given 30 gm common salt daily.			
4	30-50 gm mineral mixture should be given per day.			
5	Farmers can produce good quality mineral mixtures.			
XXV	Hi-tech dairy farm	4.41	1.17	0.41
1	Thatched cattle shed will reduce heat stress.			
2	By producing concentrate mixture by the farmer, feeding cost can be reduced up to 25%.			
3	Daily 3-5 litres milk should be fed to calves up to 3 months of age.			
4	Heifers can be inseminated at an age of 1½ yrs.			
5	As dry cow therapy, long acting antibiotics can be infused into the teats after drying.			
6	Teat dipping will prevent mastitis.			
XXVI	Straw processing	2.10	0.79	0.10
1	Nutritive value of straw can be increased by adding molasses, protein and mineral mixture.			
2	Processed straw can reduce concentrate intake and it will improve the quality of milk.			
3	Dairying can be made profitable by using Processed straw.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
XXVII Pandharpuri buffaloes		1.17	1.52	0.31.
1	Pandharpuri breeds of buffaloes are seen in southern parts Maharashtra.			
2	It will let down milk as per the requirement.			
3	Pundharpuri buffaloes let down milk for 30 mts			
XXVIII Colostrum feeding		6.03	0.86	0.10
1	Milk produced for the first five days after parturition is called colostrum.			
2	Colostrum contain increased quantity of proteins, minerals and vitamins.			
3	It contains high quantity of immunoglobulin.			
4	Colostrum should be given to the calf with in 30 mts of birth.			
5	Heating will deteriorate the quality of colostrum.			
6	Excess colostrum can be used as 'soured colostrum', by keeping it in a clean vessel at room temperature.			
7	Artificial colostrum can be prepared by adding one egg in 10 ounce of luke warm water with one teaspoon sharkliver oil, half teaspoon caster oil and half a litre of luke warm milk.			
XXIX Skin diseases of cattle.		3.76	1.83	0.41
1	<i>Dermatofilus congolensis</i> is the fungi responsible for skin diseases.			
2	Skin lesions are more on the hind limbs.			
3	Increased temperature and humidity enhance the chance of infection.			

Sl. No.	Statement	Accurate (A)	Somewhat accurate (SA)	Not accurate (NA)
4	Parental antibiotics together with ointments are more effective.			
5	Regular use of external applications are more beneficial for the control of the disease.			
6	Low level of protein, vitamins and fat will enhance the chance of infection			
XXX Amphistomiasis in cattle				
1	Heifers below two years of age are more susceptible to disease			
2	Disease is caused by <i>Fasciola hepatica</i> and <i>Fasciola gigantica</i> worms			
3	Affected animals show frequent impaction and diarrhoea			
4	Worms will occlude the bile duct			
5	Diagnosis can be made through Faecal sample examination			
6	Snails are acting as the carriers of infection			
7	Snails can be controlled using copper sulphate solution. Ducks can also be reared for this purpose			