

## A Test to Measure Knowledge About Poultry Management Practices

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### ABSTRACT

*Knowledge of the farmers plays an important role in adoption of improved poultry management practices. A high technical nature of improved poultry management practices would lead to higher adoption and accumulated in the minds of the poultry farmers; knowledge both undergoes and produces changes in the thinking process. Keeping in this view a scale was developed to measure the knowledge of poultry owners about poultry management practices. A tentative list of 80 statements was drafted keeping in view the application of statement suited to the area of study. After getting jury opinion on the items of test, Item difficulty index, Discrimination index and items of validity were worked out. Finally, 21 statements were selected in the final format to measure knowledge of the poultry owners. The reliability coefficient ( $r_{tt}=0.91$ ) obtained indicated that the internal consistency of the knowledge test developed for the study was very high.*

**Keywords:** Knowledge, Poultry and Management practices

### INTRODUCTION

The present commercial poultry industry has given rise to a number of supporting industries to like feed compounding units, poultry processing equipments and machinery, pharmaceuticals and biological etc. It also plays an important role to improve economy of the poultry owners. Any enterprise to run in profit requires good knowledge about various activities to be taken up to run the enterprise and management of these activities better way.

Knowledge plays an important role for achieving desired results. Bloom et al. (1955) considered knowledge as “those behaviour and test situations which emphasizes the remembering, either by recognition or recall of ideas, material or phenomena”. Knowledge according to English and English (1961) is a body of understood information possessed by an individual or by a culture. Hence, to perform active role in any activities, information being understood play an important role. For the purpose of this study, knowledge was operationalised information and understanding of the poultry farmers regarding poultry management practices. For measuring the knowledge level, a knowledge test was constructed and standardized with help of the following techniques.

### METHODOLOGY

#### Selection of item

The content of the test was composed of the questions called items. In initial stage for developing the scale, a number of statements about poultry management practices were collected from scientists of poultry training centre, Anand Agricultural University, Anand, relevant literature both books and research papers, subject matter specialists. Keeping the following three criteria in view, the items were selected for the study.

- (i) The items should provide thinking rather than simply rote memorization.
- (ii) The items should differentiate the well-informed farmers from the poorly informed farmers and should have certain difficulty value ( Jha and Singh, 1970)
- (iii) The items included should cover all the areas of the knowledge about poultry management practices.

#### Analysis of item

The items analysis used by Jha and Singh (1970) was carried out so as to yield three kinds of information's

viz., index of item difficulty’, “index of items discrimination” and “index of items difficulty”

The collected items were numbered from the 1 to 80 and administered to the 36 respondents selected at randomly from the village of the area of the study, resembling the sample farmers selected for the final studies. Each respondents was given the score of 1 and 0 for dichotomized response of ‘correct’ or ‘incorrect’ and for ‘yes’ or ‘no’ answers, respectively. Thus, the total score secured by an individual respondents of 80 items from ‘correct’ or ‘yes’ answers was knowledge score, thus obtained by the 36 respondents were arranged separately TRTC, AAU, Devgad Baria Gujarat from highest to lowest in magnitude. These 36 respondents were divided into six equal groups, each of six and were arranged in descending order of the score obtained by them. Each group of made 6 respondents and the groups were named G1, G2, G3, G4, G5 and G6 respectively. For item analysis the middle two groups namely G3 and G4 were eliminated retaining only the four terminal groups with high score (G1 and G2) and with low score (G5 and G6), score of these groups ranged as follows:

Group	Score out of 80	Group	Score out of 80
G1	65 to 56	G4	42 to 40
G2	55 to 49	G5	39 to 34
G3	48 to 43	G6	33 to 30

#### Item difficulty index-P

The index of difficulty was worked out as the percentage of the respondents answering as item as correctly. The assumption in this item index of difficulty was that the difficulty related to the level of respondents’ knowledge about poultry management practices. When a respondents answers items, it was assured that the items was less difficult than his ability to cope with it.

The index of the item difficulty indicates the extent to which an item is difficult. An item should neither be so easy that all persons can pass it nor should it be so difficult that none can pass it.

The item with difficulty P values ranging from 10 to 90 were considered for final selection of the knowledge test battery. it was calculated by following formula:

$$P = \frac{\text{No. of respondents answered correctly}}{\text{Total number of respondents}} \times 100$$

#### Discrimination index( E1/3)

The Second criterion for item selection was the discrimination index indicated by E1/3 value for an item. The function of items discrimination index is to find out whether an item really discriminates a well-informed respondent from poorly informed respondents. In the present study, the items with E1/3 values ranging from 0.20 to 0.80 per cent were considered for the final selection in the knowledge test.

Discrimination index E1/3 was worked out by using formula(Jha and Singh, 1970)

$$E \frac{1}{3} = \frac{(S_1 + S_2) - (S_5 + S_6)}{\frac{N}{3}}$$

Where, S<sub>1</sub>, S<sub>2</sub>, S<sub>5</sub> and S<sub>6</sub> are the frequencies of correct answers in the group of G<sub>1</sub>, G<sub>2</sub>, G<sub>5</sub> and G<sub>6</sub> respectively.

N= total number of respondents in the item analysis (36)

Biserial correlation is used for the test items validation, when the criterion of validity is regarded as internal consistency i.e. the relationship of total score to a dichotomized response to any given item. keeping this in view, the Biserial correlation of each of the items was calculated, and the significance of the Biserial correlation coefficient was tested with help of formula used by Guilford (1965). The items which were found significant at 5 per cent level of significance were retained in the final format of the knowledge test battery.

$$rbis = \frac{Mp - Mq}{\delta^+} \times \frac{p}{Y}$$

Where,

Mp= Mean of x values for higher group in dichotomized variable

Mq= Mean of x values for lower group in dichotomized variable

p= Proportion of cases in higher group

q= Proportion of cases in lower group

z= ordinate of the unit normal distribution curve with surface equal to 1.0 at the point of division between segments containing p and q proportion of the cases

$$rbis = \frac{(x - x')^2}{n - 1} - SD$$

**Test of Significance of r bis**

$$\frac{\sqrt{\frac{PQ}{Y} - r^2 bis}}{\sqrt{N}}$$

The co-efficient of Biserial correlation was tested for significance by using the formula as given by Guildford (1965)

**Representative items of the test**

Though the aforesaid criteria were the main consideration for the final selection of the knowledge items, care was taken not to eliminate the important aspect, if any.

Finally, 21 items were selected, which formed the

**Final format of the Knowledge test for measuring poultry entrepreneurs’ knowledge regarding poultry management practices**

Sr. No	Questions	‘T’ value
1	How much is the average egg weight?	3.6089
2	Why debeaking is carried out in birds?	2.3483
3	how many time debeaking is done in layer birds?	2.9665
4	What is the feed consumption during 0- 8 weeks period in layers?	2.0825
5	What is the feed consumption during 0- 20 weeks period in layers?	4.5437
6	What is the feed consumption during 21-72 weeks period in layers?	6.3286
7	Which materials are normally used as litter?	2.5604
8	Can we house three layers in one cage? Yes/No	2.7286
9	Strict adherence to vaccination schedule is important precautions for the prevention of diseases in poultry birds?	2.3270
10	Consultancy and proper follow up any medication programme is important precautions for the prevention of diseases in poultry birds?	3.7826
11	Which are the symptoms of Marek’s disease?	4.4382
12	What is the age for first vaccination against Marek’s disease?	3.6401
13	Which are the symptoms of Ranikhet disease?	4.2039
14	What is the age for vaccination against Fowl pox disease?	4.5897
15	Give the name of coccidiostat used to control the coccidiosis?	4.4039
16	Give the crude protein and energy content of starter chick mash(BIS standard)	3.8209
17	Give the crude protein content of starter chick mash(BIS standard)	5.4504
18	Give the energy content of Grower mash(BIS standard)	5.8960
19	Give the crude protein content of Layer mash(BIS standard)	3.4270
20	Give the energy content of Layer mash(BIS standard)	3.5443
21	Mention sources of calcium used in poultry feed.	3.3302

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