The reality of the application of Scientific Recommendation in the poultry breeding in the District of Al-Sharqat/ Salah Al-Den Governorate/ Iraq

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Abstract. The research aims to identify the application reality of scientific recommendations in the District of Al-Sharqat/ Salah Al-Den Governorate in general, and in each field and item (question) of research fields, which included (field of poultry feeding, field of health care, field of management and attention to poultry and the field of hatching). Determine the correlation between the application reality of scientific recommendations and the independent variables in the research. The research community included all the poultry breeders from the farms owners in the district of Sharqat / Saladin Governorate, who registered in the Department of Agriculture of Shrqat (80 breeders), where the sample of research included all poultry breeders (100%) of the community of total research, after excluding the stability sample of the total population where the final number of the research sample became (50 breeders). It was depended on the (questionnaire) which consisted of two main parts: The first part contains a set of data related to the independent personal, social, economic and communication variables of poultry breeding, which are expected to be related to the application level of scientific recommendations in poultry farming (age, educational level, Number of years of work in poultry breeding, number of poultry owned, the purpose of poultry breeding and sources of information adopted in poultry breeding). The second part included (54 items distributed into four fields of research) related to the subject of poultry breeding, namely: (field of poultry feeding (19 items), field of health care (13 items), field of management and attention to poultry (12 items), field of hatching (10 items ). In order to the measure of the application level of poultry breeders for the scientific recommendations, where the application level of poultry breeders to the scientific recommendations was measured through the development of four alternatives to answer on each items, which is (always apply, sometimes apply, rarely apply, not apply) (1,2,3,4) respectively, and through the answers of the respondent to all the research items (question of fields) we will obtain the final degree, which represents (the reality of scientific recommendations application in poultry breeding for each researcher in general and in each field of research fields). The results showed that the application level of poultry breeders to the scientific recommendations in the district of Al-Sharqat in general is medium and tends to high. Also found that the application level of poultry breeders to the scientific recommendations in the Salah Al-Den Governorate in the research fields (field of poultry feeding, field of health care, field of management and attention to poultry and the field of hatching) is medium. The results also showed there is significant correlation between the application reality of scientific recommendations and between the variables (age, educational level, Number of years the work in poultry breeding, sources of information adopted in poultry breeding). The authors recommends that the Directorate of Agriculture in the Salah Al-Den Governorate and the Agricultural Division in the region to develop and
support of poultry breeders of fields and strengthen information, knowledge, information and participate in training courses specialized in poultry breeding.

1. Introduction and Research Problem:

Agricultural development considered one of the main pillars in the growth and development of the economies of the world, because the agricultural sector represents an important role in the national economy, as well as their direct association with the development of the countryside and the realization of economic and social changes in large areas of those countries (Abdelkader, 2000: 21; Nuweisir and Foda, 2006: Massoudi, 2007: 48). In order to achieve agricultural development to meet the needs of the individual, it is necessary to mobilize efforts and mobilize energies and search for all the means that lead to achieving this development, and one of these means is to develop new techniques, methods and methods in different agricultural farms, both plant and animal and food to all members of society (Maamouri, 2002: 2; Naji et al., 2009: 124; Afan, 2010: 15).

The agricultural sector plays a prominent role in the economies of many developed and developing countries (Al-Ajili, 2013: 217-218). The agriculture considers the main source of food for humans, the agriculture will become more important if we know the magnitude of the dynamic imbalance between the increasing need for food on the one hand and what is available on the other hand, and highlights the seriousness of the food problem and the role that agriculture should play in this field as well as the positive role that this sector can play in the exports of Arab countries and the provision of surplus foreign currency (Jubouri, 2010: 1; Janabi, 2012).

The issue of food security is one of the issues of concern to all the world's peoples, especially in times increasing problems of food shortages or nutrition. Most countries are working hard to enhance the food security situation so that food is accessible to all and at the lowest possible cost (Arab Organization for Agricultural Development, 2006: 3). The problem of protein shortage is exacerbated with the increase in population and the low per capita animal protein necessary for body, as well as the problem of fodder and the difficulty of availability it, which made the reliance on red meat as a source to provide the needs of the population of animal protein is difficult, this led to hence the attention to find alternatives available cheaper price contributes to provide the population needs of protein , and it cannot be overlooked that the expansion in production of meat Poultry can be the fastest and most optimal solution, as poultry products of meat and eggs are among the fastest and cheapest sources for the production of this protein, especially high conversion efficiency which it has (Al-Deeb, 2004: 10; Mejlea. 2002).

Poultry breeding is considered one of the main sources of the agricultural economy because of its resources and products (poultry, fish, eggs and milk), which cannot abandon one of these substances in food by human, and there is no suitable alternative to replace them.

The importance of investing in poultry has emerged as an economic activity that can play a major role in raising the average per capita animal protein and achieving food security for the population if more efforts are made to support human resources and take care of the rural sector as an essential source of poultry breeding and it is the source that continued to supply the urban sector until the end of the 1970s and then began to fall short of meeting the needs of the rural population themselves of poultry products, possibly due to the decline and lack of knowledge and scientific practices for poultry breeders (Saleh et al., 1984: 178).

Poultry breeding is one of the most important activities practiced by the rural population and owners of poultry farms. But it was noted that they lack knowledge of modern and healthy methods and
methods in taking care of chickens in terms of feeding, shelter and health care, which are positively reflected in the high rate of productivity and increased income of rural households by marketing the product as well as improving the nutritional status of the household by consuming local products (Mansour, 1991: 8).

The management and poultry breeding is influenced by several factors, especially the knowledge and skills of the breeders. It is therefore very important that these breeders have a detailed knowledge of the scientific recommendations related to their breeding and for them to become scientifically qualified to apply them correctly, Hence the importance of agricultural extension agencies in this field (Samurai: 1984: 61).

Agricultural extension plays an important role in this field. Agricultural extension is concerned with the transfer of modern knowledge, techniques and recommendations to poultry breeders in order to improve production quality and increase its rates, where livestock projects, including poultry projects, have no effect on increasing productivity or raising the standard of living of producers if they are not contacted by the agricultural extension workers and publish all that is new in the field of poultry breeding and teach them the recommendations and modern methods to raising poultry. To educate the poultry farmers and the dissemination of modern technologies among them in order to make a technical and economic change in the systems of poultry raising projects to obtain quick returns and financial returns for these projects, as shown by the rapid yield provided by poultry breeding, whether in the production of meat or table eggs And hatching eggs (Altalb, 2017: 2; Nassif, 2005: 9; Sharif, 2013; Abadi, 2010). In Iraq, poultry breeding has played an important role since the past. In previous years, the state and its institutions increased the production of poultry meat and eggs in order to reduce the importation of these materials from abroad, it was decided in 1965 to establish the General Company for poultry in Abu Ghraib, in the same year, this company produced 34 tons of chicken meat. In 1972, the production of this company reached (2483 ). Tons of chicken meat. (Mahmoud: 1980).

The production of meat breeds in Iraq is concentrated on two main sectors (Reda Ahmad: 1986).

1 - Public sector: - This sector is represented by public poultry companies.
2 - Private sector: - This sector is represented by private domain owners and private companies.

The number of fields of meat production in Iraq reached (371) fields in 1973. The latest statistics of the Ministry of Agriculture (Department of Planning and Follow-up - Statistics Department)

The number of fields (meat breeds) in the province of Baghdad reached (1498) fields, which belong to the private sector and this number is the last survey conducted by the Ministry in 2005. (Visit to the Ministry of Agriculture: 2005, a visit to the General Company for Livestock Services : 2005).

Due to the special care given by the breeder in raising poultry, and a according to their views, it they represent the best types of investments, where there are many problems and difficulties and obstacles facing this vital sector in poultry breeding, which effect to developed, most of these problems, which is the lack of knowledge of the vast majority of poultry field breeders for knowledge and modern ideas and experiences in the proper breeding of poultry.

Therefore, it was necessary to conduct the current study to identify the reality of poultry breeding, and it has been selected district of the province of Salah al-Din province of for study because it contains many poultry field and through the selected the fields of poultry breeding, started from the of chicken feeding, and the of health care, Care and attention to chickens, hatching).
2. Research Objectives:

To identify the application reality of scientific recommendations in the District of Al-Sharqat/ Salah Al-Den Governorate in general.

➢ To identify the application reality of scientific recommendations in the poultry breeding in each field of research fields.

➢ To identify the application reality of scientific recommendations in each item (question) of research items.

➢ Determine the correlation between the application reality of scientific recommendations in poultry breeding and the independent variables in the research (age, educational level, Number of years the work in poultry breeding, number of poultry owned, the purpose of poultry breeding and sources of information adopted in poultry breeding).

3. Statistical hypotheses:

There is no significant correlation between the application reality of scientific recommendations and between the following independent variables: (age, educational level, Number of years the work in poultry breeding, number of poultry owned, the purpose of poultry breeding and sources of information adopted in poultry breeding).

4. Method of conducting research (methodology of research):

4.1. The community and research sample:

The research community included all the poultry breeders from the farms owners in the district of Sharqat / Saladin Governorate, who registered in the department of agriculture of Shrkat (80 breeders), where the sample of research included all poultry breeders (100%) of the community of total research, after excluding the stability sample of the total population where the final number of the research sample became (50 breeders).

4.2. Steps of preparation the research tool (questionnaire):

For the purpose of collecting the research data, it has been adopted the research tool (questionnaire) that related with in the fields and items (questions) of poultry breeding. The research fields and items were identified after reviewing the research, articles, books and resources which related to poultry breeding. Where the questionnaire consist of two main parts:

1. This part includes some data related to the independent personal, social, economic and communication variables for poultry breeders, which are expected to be related to their application level of scientific recommendations in poultry breeding: (age, educational level, Number of years the work in poultry breeding, number of poultry owned, the purpose of poultry breeding and sources of information adopted in poultry breeding).

2. This part consists of (54) items (question) divided into four fields of research) (representing the depended variable) and these fields and items are related to the subject of poultry breeding: (field of poultry feeding (19 items), field of health care (13 items), field of management and attention to poultry (12 items), field of hatching (10 items).
4.3. Measuring of research variables:

4.3.1. Measurement of independent variables

It was measured as follows:

1. **Age**: It was measured by the number of years for the age of poultry breeders at the time of data collection.

2. **Educational level**: It was measured by the following scale (graduate of primary school, graduate of secondary school, graduate of high school, graduate of faculty, and other), which gave them digital symbols (5,4,3,2,1), respectively.

3. **Number of years the work in poultry breeding**: It was measured by asking the respondent about the number of years spent in poultry breeding until the time of data collection.

4. **The numbers of owned poultry**: It was measured by asking the respondent about the number of poultry that he owns in the poultry field.

5. **Purpose of Poultry Breeding**: It was measured by asking the respondent about the purpose from poultry breeding in his field: Breeding for the purpose of local consumption, Breeding for the purpose of selling in the markets.

6. **Sources of information approved in poultry breeding**: This variable was measured through (10) sources of information, which adopted by poultry breeders in poultry breeding (personal experience, relatives and neighbors, agricultural television programs, agricultural radio programs, agricultural division, agricultural workers, Veterinary Manuals, Agricultural Manuals & Service Equipment). The following alternatives were identified (always, rarely, no) and numerical values were given to these alternatives (1,2,3,4), respectively. Thus the responses are range from 10 to 40 degrees.

4.3.2. Measurement of dependent variable:

The measurement of the dependent variable was included (the application reality of scientific recommendations in general and fields and items of poultry breeding). It has been measured the four fields which consist of 54 items, and four alternatives were put for each answer (always apply, sometimes apply, rarely apply, not apply). The following numerical values were used to answer the alternatives (1,2,3,4), respectively, and through the respondents' answers on the all the research items (questions), we will obtain the final degree for respondent, which represents the (the application reality of scientific recommendations for the respondent in general and in each field separately). Thus, the theoretical numerical value that can be obtained by each respondent is (54) and a minimum value (216) maximum numeric value.

4.4. Validity and Reliability

4.4.1. Validity:

In order to verify the validity of research tool (questionnaire) from the linguistic side, it was presented to specialists in the field of agricultural extension, education and psychology. The veracity of the content of the research items was also verified by presenting them to the specialists in the field of poultry breeding. After reviewing the specialists and experts in validity for fields and items of research, the percentages of expert approval were calculated on each items. The items has been exclusion which obtained less than (75%) of the approval of experts, as well as the introduction of expert suggestions on the amendment and change some paragraphs of the research.

4.4.2. Reliability:

The validity of items of scale (reality of using the scientific recommendation poultry breeding was found. It has been using the (split-half method) was used by finding Pearson correlation
coefficient between individual items and matrices items. in order to find the stability of half the scale and after that it has been used Spearman Brown coefficient of correction to find the overall validity of the scale, where the coefficient of validity was (0.85). This indicates that the paragraphs of the scale are good paragraphs and can achieve the goal of conducting the research.

4.5. collection of Data:

After completing the preparation of the research tool / questionnaire(final form), the questionnaire it has become ready to collect the data. The data was collected through the personal interview with the owners of the poultry farms after clarifying the importance of the research and that the data are used for the purposes of scientific research. The period from 1/7/2018 to 1/10/2018.

4.6. Statistical Means:

1. Frequency: It has been used to describe the characteristics of the respondents (poultry breeding) according to the categories of search variables.
2. Percentage: It has been used to describe respondents according to their distribution to categories in the research variables.
3. Range: Used to divide the search variables into categories according to the following law:
   \[ \text{Range} = \text{Highest value} - \text{Lowest value} \]
   The output (range) is divided on the number of categories = the length of the class (noting that the results are rounded to the nearest integer).
4. Mean: Used to describe numeric values for all variables in the search.
5. Simple correlation coefficient Pearson:
   It has been used to find the relationship between the dependent variable in the research (application of scientific recommendations in poultry breeding) and each of the independent variables which included the research are (age, number of years of work in poultry raising, poultry production).
6. Spearman's correlation coefficient: It was used to find the correlation between the reality of scientific recommendations application in poultry breeding and each of the variables included in the research (educational level, purpose of poultry raising, sources of information adopted in poultry breeding).
7. Spearman Brown equation: It has been used to correct the stability of the scale which used by the half-split.

5. Results and discussion

This part of this research deals with the presentation and discussion of the results according to the sequence of the research objectives:

5.1 To identify the application reality of scientific recommendations in the District of Al-Sharqat/ Salah Al-Den Governorate in general:

The results showed that the highest numerical value (actual response) was obtained by the poultry breeders on the research items (questions) in general (180) and the lowest value (91) and the mean (133) numerical value. The respondents were divided into three categories according to their application for scientific recommendations in poultry breeding. As shown in table 1.
Table (1): Distribution of poultry breeders to categories according to their application for scientific recommendations in poultry breeding in general.

| Categories application of scientific recommendations in poultry breeding in general (numeric value) | The number | Percentage |
|-------------------------------------------------|------------|------------|
| Low (91-120)                                   | 12         | 24         |
| Medium (121-150)                               | 25         | 50         |
| High (151-180)                                 | 13         | 26         |
| Total                                          | 50         | 100        |

The mean (133) numerical values

Table (1) shows that the highest proportion of poultry breeders in the poultry breeding is fall in the middle and high category, where they constituted (76%). This means that the application reality of scientific recommendations in poultry breeding is medium tends to rise, it is means, poultry breeders apply the scientific recommendations in poultry breeding successfully. As a result of the information they possess in this subject, as well as the importance of poultry breeding for them.

5.2 To identify the application reality of scientific recommendations in the poultry breeding in each field of research fields:

5.2.1 Field of poultry feeding:

The results showed that the highest numerical value (actual response) obtained by poultry breeders in the items (questions) of field for poultry feeding is (70) and the lowest value (30) and the mean (51) numerical values. The respondents were divided into three categories according to their application for scientific recommendations in poultry breeding in this field, as shown in table (2).

Table (2): Distribution of poultry breeders to categories according to their application for scientific recommendations in the field of poultry feeding.

| Categories application of scientific recommendations in the field of poultry feeding (numeric value) | The number | Percentage |
|---------------------------------------------------------------------------------------------------|------------|------------|
| Low (30-43)                                        | 11         | 22         |
| Medium (44-57)                                     | 22         | 44         |
| High (58-71)                                       | 17         | 34         |
| Total                                              | 50         | 100        |

The mean (51) numerical values

Table (2) shows that the highest proportion of poultry breeders in the field of poultry feeding is in the middle and high category, where they constituted (78%). This means that the application reality of scientific recommendations in poultry breeding in the field of poultry feeding is the medium tends to high, that is, poultry breeders apply the scientific recommendations in poultry breeding in the field of poultry feeding in good way, as a result of the information they possess in this field and for the importance this stage for them.

5.2.2.1 Field of health care:

The results showed that the highest numerical value (actual response) received by poultry breeders in the items (questions) of health care field was (49) and the lowest value (19) and the
mean (33) numerical values.

The respondents were divided into three categories according to their application for scientific recommendations in poultry breeding in this field, as shown in table (3).

**Table (3):** Distribution of poultry breeders to categories according to their application for scientific recommendations in the field of health care.

| Categories application of scientific recommendations in the field of health care (Numeric value) | The number | Percentage |
|---|---|---|
| Law (19-29) | 28 | 56 |
| Medium (30-40) | 12 | 24 |
| High (41-51) | 50 | 100 |

The mean (33) numerical values

Table (3) shows that the highest percentage of poultry breeders in the field of health care is in the middle and high categories, where they constituted (80%). This means that the reality of the application of scientific recommendations in the field of health care is the medium tends to high. It means, the poultry breeders have high information’s and apply scientific recommendations in this field in good ways, as a result of the importance of this field in particular and the need to protect poultry from diseases.

6. **Field of management and attention to poultry:**

The results showed that the highest numerical value (actual response) was obtained by the poultry breeders in the field of management and attention to poultry (37) and lowest value (15) and the mean (25) numerical values. The respondents were divided into three categories according to their application for scientific recommendations in poultry breeding in this field, as shown in table (4).

**Table (4):** Distribution of poultry breeders to categories according to their application for scientific recommendations in the field of management and attention to poultry.

| Categories application of scientific recommendations in the field of health care (Numeric value) | The number | Percentage |
|---|---|---|
| Law (15-22) | 15 | 30 |
| Medium (23-30) | 19 | 38 |
| Low (31-38) | 16 | 32 |
|       | 50 | 100 |

The mean (25) numerical values

Table (4) shows that the highest proportion of poultry breeders in the field of management and attention to poultry are in the middle and high category, where they obtained 70%. This means that the apply of scientific recommendations in breeding poultry in the field of management and attention to poultry is medium, that is, poultry breeders apply the scientific recommendations in this, as a result of information and knowledge they have in the subject of management and attention to poultry.
6.1. Field of hatching:

The results showed that the highest numerical value (actual response) was obtained by the poultry breeders on the field of hatching (36) and lowest value (13) and the mean (23) numerical values.

The respondents were divided into three categories according to their application for scientific recommendations in poultry breeding in this field, as shown in table (5).

Table (5): Distribution of poultry breeders to categories according to their application for scientific recommendations in the field of hatching.

| Categories of application of scientific recommendations in the field of hatching (Numeric value) | The number | Percentage |
|---------------------------------------------------------------|------------|------------|
| Law (13-20)                                                   | 8          | 16         |
| Medium (21-28)                                                | 28         | 56         |
| Low (29-36)                                                   | 50         | 100        |

The mean (23) numerical values

Table (5) shows that the highest percentage of poultry breeders in the field of hatching is fall the middle and high category, where they constituted (84%). This means that the practice of scientific recommendations in breeding poultry by poultry breeders in the field of hatching is medium tends to high. It is mean that the poultry breeders apply the scientific recommendations in poultry breeding in the field of hatching, as an important stage in poultry breeding.

6.2. To identify the application reality of scientific recommendations in poultry breeding in each item (question) of research items:

Table (6) shows the order of the search items (questions) according to the mean and the percentage weight for items, as in the following table:

Table (6) shows the order of the items of poultry breeding according to the mean and the percentage weight, as follows:

| No. | The items                                                                 | Mean | Percentage weight | The name of the field |
|-----|---------------------------------------------------------------------------|------|-------------------|----------------------|
| 1   | Knowing the components of the chicks food.                                | 3.20 | 75.50             | poultry feeding      |
| 2   | I take care of Know the benefits of adding corn in a poultry feed.        | 3.00 | 75                | poultry feeding      |
| 3   | Using the best ways to give the vaccine to poultry.                       | 2.90 | 72.5              | health care          |
| 4   | selected the special places for poultry during hatching period.           | 2.85 | 71.25             | hatching             |
| 5   | Knowledge the diseases that affect the chicks.                            | 2.80 | 70                | health care          |
|   | Description                                                                                     | Value 1 | Value 2 | Category             |
|---|-----------------------------------------------------------------------------------------------|---------|---------|----------------------|
| 6 | I take care to mix barley in poultry feed.                                                      | 2.70    | 67.50   | poultry feeding      |
| 7 | Attention to the provision of special conditions for the breeding of each type of chicks.     | 2.65    | 66.25   | hatching             |
| 8 | Knowledge the need of each chicken per day.                                                     | 2.60    | 65      | poultry feeding      |
| 9 | Knowledge the amount of chicken consumption for feed during incubation and growth period.     | 2.55    | 63.75   | poultry feeding      |
| 10| I know the disadvantages increasing wheat bran in feed.                                        | 2.50    | 62.50   | poultry feeding      |
| 11| I know the benefits of adding green fodder to poultry.                                         | 2.40    | 60      | poultry feeding      |
| 12| I always try to avoid phenomenon of drought for chicks.                                        | 2.10    | 52.50   | poultry feeding      |
| 13| Buy the chicks from the hatch on time.                                                         | 2.09    | 52.25   | hatching             |
| 14| Determination of the number of eggs prepared for hatching for poultry.                          | 2.05    | 51.25   | hatching             |
| 15| Knowledge the benefits of pebbles eaten by chickens.                                           | 2.03    | 50.75   | poultry feeding      |
| 16| Attention to chicken during incubation period for hatching.                                   | 2.02    | 50.50   | hatching             |
| 17| I take care to mix lime powder with poultry feed.                                              | 2.00    | 50      | poultry feeding      |
| 18| Knowledge the benefits of adding fat to the fodder.                                            | 1.95    | 48.75   | poultry feeding      |
| 19| Knowledge of insect damage poultry.                                                           | 1.93    | 48.25   | health care          |
| 20| Knowledge the date of the vaccination for chicks.                                              | 1.91    | 47.75   | health care          |
| 21| Knowledge the symptoms of chicken which sick in to bird flufluonza.                            | 1.90    | 47.50   | health care          |
| 22| Knowledge the period the Newcastle vaccine is given to poultry.                                | 1.88    | 47      | health care          |
| 23| Attention to the health conditions of the chicken during the hatching period                   | 1.85    | 46.25   | hatching             |
| 24| Give the vaccine to chickens when the disease occurs.                                         | 1.83    | 45.75   | health care          |
| 25| Committing in the date of giving the first feed on time                                        | 1.82    | 45.50   | poultry feeding      |
| 26| Knowledge of the disease causes skin rash in chickens.                                         | 1.80    | 45      | health care          |
| 27| Knowledge of common diseases between humans and poultry                                       | 1.75    | 43.75   | health care          |
| 28| Putting the chicks at a specific temperature in the first weeks                                | 1.73    | 43.25   | hatching             |
| 29| Checking the status of poultry daily.                                                          | 1.70    | 42.50   | health care          |
| 30| Pay attention to the chicken brush                                                             | 1.68    | 42      | management           |
| 31| Look for causes of fatalities poultry frequently.                                              | 1.66    | 41.50   | health care          |
|   | Knowledge                                                                 | Value | Benefit                                                                 |
|---|---------------------------------------------------------------------------|-------|------------------------------------------------------------------------|
| 32| Knowledge the benefits of opening light bulbs in a poultry breeding place.| 1.63  | management and attention to poultry                                     |
| 33| Attention to the roofs of poultry houses.                                | 1.60  | management and attention to poultry                                     |
| 34| Taking care of the chicken meat permanently.                             | 1.55  | health care                                                             |
| 35| Place fans in poultry housing.                                           | 1.53  | management and attention to poultry                                     |
| 36| Attention to the height of the fountains in the nests of poultry.        | 1.50  | management and attention to poultry                                     |
| 37| Focus on the factors that affect the natural incubation of poultry.      | 1.48  | management and attention to poultry                                     |
| 38| Know the thickness of the poultry mattress.                              | 1.45  | management and attention to poultry                                     |
| 39| Looking for support to establishmen of poultry breeding projects.        | 1.40  | management and attention to poultry                                     |
| 40| Knowledge of the causes of undernourishment in poultry.                  | 1.39  | poultry feeding                                                          |
| 41| I take care to distinguish between lighting system in chicken houses     | 1.38  | management and attention to poultry                                     |
| 42| Choose hatching eggs based on special qualities                          | 1.35  | hatching                                                                |
| 43| Control the status of poultry by people who have experience in poultry breeding | 1.30  | management and attention to poultry                                     |
| 44| Paying attention to the number of lighting hours needed by poultry to produce eggs per day. | 1.28  | management and attention to poultry                                     |
| 45| Attention to factors that determine the egg’s validity for hatching.    | 1.25  | hatching                                                                |
| 46| Knowledge the symptoms that appear on poultry in case of high temperature | 1.22  | management and attention to poultry                                     |
| 47| Preparation of poultry in the summer.                                    | 1.20  | poultry feeding                                                          |
| 48| Knowledge the dates of feeding for poultry in the summer.                | 1.15  | poultry feeding                                                          |
| 49| Knowledge of energy sources in poultry food.                             | 1.13  |                                                                        |
| 50| Make sure to specify the type of feed for small chickens                 | 1.11  | poultry feeding                                                          |
| 51| Knowledge the disadvantages of lighting in poultry houses.               | 1.10  | management and attention to poultry                                     |
| 52| Using the special pots to feed the chicken                               | 1.09  | poultry feeding                                                          |
| 53| Know the consumption of chicken from the grated mill daily.              | 1.08  | health care                                                             |
| 54| Take action to prevent the spread of diseases between the poultry.       | 1.06  |                                                                        |
The table (6) shows that the first three items, which came in the first order according to the level of application of the poultry breeders to the scientific recommendations (knowing the components of the chicks food, I take care of know the benefits of adding corn in a poultry feed, using the best ways to give the vaccine to poultry). This means that the poultry breeders apply the scientific recommendations regarding chicken food and food components, as well as quantities and times of addition of maize to poultry feed, as well as applying scientific recommendations regarding poultry, vaccination dates and pollination types according to age and type of poultry.

6.3. Determine the correlation between the application reality of scientific recommendations in poultry breeding and the independent variables

in the research(age, educational level, Number of years the work in poultry breeding, number of poultry owned, the purpose of poultry breeding and sources of information adopted in poultry breeding):

For the purpose of finding the correlation between the dependent variable (the reality of the application of scientific recommendations in poultry breeding) and the independent variables (age, educational level, number of years in work in poultry breeding, number of poultry owned, the purpose of poultry breeding and sources of information adopted in poultry breeding). Pearson's simple correlation coefficient and Spearman's correlation coefficient were used, as shown in table 7:

6.3.1. Age:
The results showed that the highest age of the poultry breeders was (63 year) and he youngest age (25 year) and the mean (45 year). Respondents were divided according to the age into three categories using the range and category length. As in table (7):

| Age of categories (year) | The number | Percentage % | The value of the simple correlation coefficient Pearson r |
|--------------------------|------------|--------------|--------------------------------------------------------|
| Law (25-37)              | 14         | 28           | 0                                                      |
| Medium(38-50)            | 20         | 40           | 7                                                      |
| High (51-63)             | 16         | 32           | 8                                                      |
| Total                    | 50         | 100          | *                                                      |

The mean (45 years)

Table (7) shows that the highest percentage of respondents (poultry breeders) was in the middle category (38-50 year) where it reached (40%). The results showed also that there was a significant positive correlation between the application reality of scientific recommendations in poultry breeding by poultry breeders and the age variable, where the correlation coefficient of simple Pearson was (0.78 **) it is significant at the probability level (0.05), this meaning that the older poultry breeders have experience and ability to apply the scientific recommendations in poultry breeding more than youngest breeders. This result is disagree
with the findings of Al-Masoudi (2007) and Al-Abbadi (2010).

6.3.2. Educational level:
Respondents were divided according to the educational level into three categories using the range and category length. As shown in table (8):

| Categories              | The number | Percentage | The value of Spearman Brown's correlation rs |
|-------------------------|------------|------------|---------------------------------------------|
| graduate of primary     | 7          | 14         |                                             |
| graduate of secondary   | 12         | 24         |                                             |
| graduate of high school | 17         | 34         |                                             |
| graduate of faculty     | 10         | 20         | 0.69**                                      |
| Another                 | 4          | 8          |                                             |
| Total                   | 50         | 100%       |                                             |

Table (8) shows that the highest proportion of respondents (poultry breeders) were in the category of graduate of high school, which amounted to (34%). The results showed a significant positive correlation between the application reality of scientific recommendations in poultry breeding and the educational level. The correlation coefficient of Spearman Brown (0.69**) was significant at the probability level (0.05), which means that the higher the educational level of poultry farmers, their ability to apply scientific recommendations will be greater. This result is agree with the findings of Al-Masoudi (2007) and Al-Abadi (2010).

6.3.3. Number of years the work in poultry breeding:

The results of the study showed that the highest number of years worked in poultry breeding was (25 year) and the lowest number was (10 years) and an mean (18 year). The respondents were divided according to the number of years the work in poultry breeding to three categories using the range and length of the category, as in table (9):

| Categories of the work in poultry breeding (year) | The Number | Percentage | The value of the simple correlation coefficient |
|--------------------------------------------------|------------|------------|-----------------------------------------------|
| Low (10-15)                                      | 13         | 26         |                                               |
| Medium (16-21)                                    | 21         | 42         | 0.61**                                        |
| High (22-27)                                      | 16         | 32         |                                               |
| Total                                            | 50         | 100        |                                               |

Table (9) shows that the highest proportion of respondents (poultry farmers) were in the medium category (16-21 year) reaching (42%). The results showed also that there was a significant positive correlation between the actual application of poultry breeders to the scientific recommendations in poultry breeding and the number of years the work in poultry breeding. The correlation coefficient of Pearson (0.61**) it is significant at the probability level (0.05), which means that, when the years of
work in poultry breeding increase this will led to increase the application of poultry breeders for scientific recommendations. This result is disagree with what he reached (Masoudi: 2007).

6.3.4. **Number of poultry owned:**

The results showed that the highest number of poultry breeders was (1000), and the lowest number (500) individuals and an mean (745) chickens. The respondents were divided according to the number of poultry according to preparation of poultry owned three categories using the range and length of the category, as in table (10):

Table (10): The distribution of respondents to categories according to the number of poultry owned and its relationship with the application reality of scientific recommendations in poultry breeding.

| Categories Number of poultry owned | The number | Percentage % | The value of the simple correlation coefficient Pearson r |
|------------------------------------|------------|--------------|------------------------------------------------------|
| Law (500- 666)                     | 15         | 30           | 0.056                                                |
| Medium (667- 835)                  | 14         | 28           |                                                      |
| High (836- 1000)                   | 21         | 42           |                                                      |
| Total                              | 50         | 100          |                                                      |

The mean (745) chickens

Table (10) shows that the highest percentage of respondents (poultry breeders) was in the high category (836- 1000), reaching (42%). The results showed that there is no significant correlation between the application reality of scientific recommendations in poultry breeding and the number of owned poultry. The correlation coefficient was (0.056). This means that the difference in the number of poultry owned not effect to the application of scientific recommendations in poultry breeding by breeders and maybe depend on other variables.

6.3.5. **Purpose of poultry breeding:**

Poultry breeders were divided according to the purpose of poultry breeding into two categories, as in table (11):

Table (11): The distribution of respondents to categories according to the purpose of poultry breeding and its relationship with the application reality of scientific recommendations in poultry breeding.

| Categories purpose of poultry breeding | The number | Percentage % | The value of Spearman Brown's correlation rs |
|---------------------------------------|------------|--------------|--------------------------------------------|
| Breeding for the purpose of domestic consumption | 6          | 12           | 0.068                                      |
| Breeding for the purpose of selling in the markets | 44         | 88           |                                            |
| Total                                 | 50         | 10           |                                            |

Table (11) shows that the highest proportion of respondents (poultry breeders) were in the category of breeders for the purpose of selling in the markets, reaching (88%). The results showed also that there is no a significant correlation between the application reality of scientific recommendations in poultry breeding and the purpose of poultry breeding. The correlation coefficient of Spearman Brown’s was (0.068). This means that the accordance with the purpose of poultry breeding, the application level of scientific recommendations
in poultry breeding by poultry breeders not different. This result is agree with what he reached (Abadi: 2010).

6.3.6. Sources of information adopted in poultry breeding:

The respondents were divided according to the sources of information adopted in poultry breeding, as in table (12):

Table (12): The distribution of respondents to categories according to the sources of information adopted in poultry breeding and its relationship with the application reality of scientific recommendations in poultry breeding.

| Categories Sources of information adopted in poultry breeding | The number | Percentage | The value of Spearman Brown's correlation rs |
|---------------------------------------------------------------|------------|------------|---------------------------------------------|
| Personal experience                                           | 5          | 10         |                                             |
| Relatives and friends                                        | 8          | 16         |                                             |
| Agricultural TV Programs                                     | 4          | 8          |                                             |
| Agricultural Radio Programs                                  | 3          | 6          |                                             |
| Agricultural Division                                        | 7          | 14         |                                             |
| Agricultural Extension                                       | 2          | 4          |                                             |
| Veterinarian in the Region                                   | 7          | 14         |                                             |
| Agricultural Guidelines                                     | 5          | 10         |                                             |
| Journals of Agricultural Extension                           | 4          | 8          |                                             |
| Agricultural extension posters                               | 5          | 10         |                                             |
| Total                                                         | 50         | 100        |                                             |

Table (12) shows that the highest proportion of respondents (poultry breeders) according to the sources of information were in the following sequence (relatives and friends, agricultural division, veterinarian in the region) in the percentages (16, 14, 14), respectively. The results showed also that there is no significant correlation between the actual application of poultry breeders to the scientific recommendations in poultry breeding and the sources of information adopted in poultry breeding, where the correlation coefficient of Spearman Brown's rs was (0.61), This means that the difference the sources of information adopted by Poultry breeders, this not effect to their application level to the scientific recommendations in poultry breeding, that is, the same information can be obtained by poultry breeders from all sources. This result is consistent with what he reached (Abadi: 2010).

7. Conclusions

According to the research results the author conclude the following:

- It was found that the application reality of scientific recommendations in poultry breeding in the district of Al-Sharqat in general is medium tends to high. We conclude from this that poultry breeders have the knowledge and ability to apply the scientific recommendations in poultry breeding in order to obtain positive results in poultry breeding.
- The application reality of poultry breeders for scientific recommendations in the district of Sharkat in the field (chicken feeding, health care, management and attention to poultry, hatchery) in general is medium. We conclude from this that poultry breeders have information and knowledge on the application of scientific recommendations guidance in
poultry breeding in order to reach the production and high profit.

- The results showed a significant correlation between the application reality of scientific recommendations and the variables (age, educational level, number of years the work in poultry breeding). The results showed also that there is no significant correlation between the application reality of scientific recommendations and variables (the purpose of poultry breeding, the number of poultry owned, and the sources of information adopted in poultry breeding).

8. Recommendations:

- The Directorate of Agriculture in Salah Al-Den Governorate and Agricultural Division in the region shall develop and support the poultry breeders of the and provide them with information and knowledge through participate in specialized training courses in poultry breeding.
- Conducting other studies similar to this study in different region of Nineveh governorate and other governorates in Iraq to identify the actual reality of poultry breeders in the apply of scientific recommendations and guidance.

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