*K*irkuk University Journal for Agricultural Sciences
ISSN:2958-6585
https://kujas.uokirkuk.edu.iq

RESEARCH*ARTICLE*
https://doi.org. 10.58928/ku25.16110

Knowledge needs of agricultural employees in the Nineveh Agriculture Directorate in the field of producing green fodder grown from barley seeds.

Ali Mohammad Jasim AL-joboury[1] Maher Ibrahim Dawood[2] Amera Younis Hussein[3]
2,3Agricultural Extension and Technology Transfer / College of Agriculture and Forestry / University of Mosul ,msul, IRAQ.
*Corresponding Author: mur21g5009@uoanbar.edu.iq

Received: 09/12/2024 Revised: 28/12/2024 Accepted: 02/01/2025 Published: 01/03/2025

ABSTRACT

The objective of the research is to identify the knowledge needs of the agricultural employees of the Nineveh Agriculture Directorate in the production of green fodder derived from barley seeds in general, to arrange its poverty according to importance and to establish a correlation between the knowledge needs of agricultural employees and certain independent variables. The research included all the Nineveh Agriculture Directorate's agricultural employees (416) Agricultural employees and a proportionate random sample of these employees' members was selected in proportion (25%) Thus, the search sample reached (*104*)agricultural employees. The data was collected by a questionnaire form and the apparent authenticity of the questionnaire was extracted and its constant coefficient was calculated in alfa-kronbach and for data analysis. using appropriate statistical means. The results showed that the percentage (50 %) of agricultural employees have a Medium tendency to rise in the production of green fodder cultivated from barley seeds. And there's a moral connection between the degree of knowledge needs of agricultural employees in the area of green fodder production derived from barley seeds and the age variable - academic achievement, the number of years of agricultural career service. While there is no moral correlation between knowledge needs and gender variables, specialization in agricultural extension, upbringing, and sources of information on agricultural employees' knowledge needs. One of the most important recommendations and proposals of the researcher is the preparation of training courses for agricultural employees and the promotion of the level of knowledge of agricultural employees in the production of green feed from barley seeds through cooperation with the Faculty of Agriculture and Forestry and coordination with the Directorate of Agriculture of Nineveh and its agricultural divisions and agricultural extension and training.

***Keywords*:** green fodder, barley seeds, Extension, Nineveh.

INTRODUCTION

Rural population development programs are of great interest to government institutions, especially in developing countries, because these countries, including Iraq, believe that the trend toward agricultural development is the basis of development as a fundamental step for the development of society as a whole [**1**], and therefore it can be said that agricultural development is achieved when agriculture begins to exit from the circles of agriculture traditional, the trend toward developments through the spread of modern mechanical and biological innovations that lead to increased agricultural production [**2**], and that Agricultural extension is one of the most important bodies to play a pivotal role in the context of sustainable agricultural development today. There is a very important role for agricultural extension, so we will need the tasks and responsibilities of extension service that form a broad basis in the transfer of agricultural technology [**3**], To help raise agricultural productivity, help increase household income, contribute to rationalizing consumption patterns, contribute to guiding economic planning, assist in training in agro-industrialization and contribute to addressing the housing problem, contribute to the preparation of the community to drive economic growth, change farmers' trends and make them more compatible with scientific methods, contribute to the development of human resources and contribute to agricultural development [**4**], where agricultural extension is one of the driving factors for the survival and continuation of agricultural development in both plant and animal sectors [**5**], Animal production is one of the important branches of agriculture and is the second sector after plant production, and provides us with products (meat, milk, and eggs) [**6**], Fodder has an important and fundamental role in animal nutrition, whether it is green feed, concentrated feed or plant residues. The expansion of the cultivation of feed crops and their development is linked to animal production, where it is impossible to increase animal production without expanding the cultivation of these crops. animal production is the second part of agricultural production and the main element in nutrition human [**7**], where the lack of the amount of feed, whether green or processed, leads to a decrease in the nutrition efficiency and thus this is reflected in the growth process of the animals, without the necessary

fodder resources to cover the nutritional needs of agricultural animals, these animals cannot grow their meat or dairy production [**8**], barley is one of the important grain crops globally and locally, where the importance of wheat grains, maize and rice is used as food for humans and animals, so Green barley has a high nutritional value and is rich in carbohydrates and protein, and large areas of it must be cultivated [**9**]. The cultured barley is a useful food for livestock as it contains many important nutrients. Including vitamins, mineral salts, amino acids and fatty acids since agricultural personnel are the main source of agricultural information obtained by farmers and most of the modern agricultural techniques that reach farmers are through the agricultural employees of the directorate of agriculture and its agricultural divisions at the same time the need is growing to green feed by breeders due to the lack of feed types and high prices, so we decided to conduct this study to identify the knowledge needs of agricultural employees in the field of this modern technology (the technology of producing green feed from the seeds of cultured barley) Through the following research questions: -

1-What are the knowledge needs of the agricultural employees of the Nineveh Agriculture Directorate in the field of green feed production?

What are the knowledge needs of the Nineveh Agriculture Directorate's agricultural employees in green feed production?

What is the correlation between the knowledge needs of the agricultural employees of the Nineveh Agriculture Directorate in the production of green fodder from barley seeds and each of the study's variables?

Objectives of the study

1- Identifying the knowledge needs of agricultural employees in the Nineveh Agriculture Directorate in producing green fodder grown from barley seeds in general.

2- Arranging the items of knowledge needed by agricultural workers in the Nineveh Agriculture Directorate in the field of producing green fodder grown from barley seeds, according to importance.

3- Determine the correlations between the knowledge need, which is green fodder, and each of the independent variables studied (age, academic achievement, gender, specialization in agricultural extension, number of years of agricultural career service, upbringing, sources of information on the knowledge needs of agricultural employees).

Research materials and methods

The research population included all the agricultural employees in the directorate of agriculture of Nineveh and the number of (416) agricultural employees. It was selected a random class sample proportional of these agricultural employees by (25%) thus the research sample (104) respondents, and to collect research data was prepared a questionnaire after reviewing the previous research on the subject of research and prepared the questionnaire consisting of two parts part I: includes the following independent variables.

First: Age was measured by counting the number of years of life of an agricultural employee.

Second: Academic achievement was measured by assigning digital symbols to the following levels (High school (1) agricultural institute (2) bachelor of agriculture (3) higher diploma of agriculture (4) master of agriculture (5) doctor of agriculture (6).

Third: Gender and was measured by assigning digital symbols to the following levels male (1) female (2).

Fourth: Specialization in agricultural extension this variable was measured by asking a question for agricultural employees specialized (1) and non-specialized (2).

Fifth: The number of years of agricultural career service this variable was measured by asking agricultural employees to calculate the number of years worked by agricultural
employee in the Directorate of Agriculture of Nineveh.

Sixth: The upbringing was measured through the allocation of digital symbols to the following levels rural (1) urban (2).

Seventh: Sources of information related to the knowledge needs of agricultural employees and this variable was measured through 9 sources of information and put before them four alternatives which are (always, often, sometimes, don't get) and allocated to the alternatives digital symbols respectively (4, 3, 2, 1) the total grades represent this variable (36-9).

Its second part consisted of a number of items amounting to (29) items distributed and was measured by five alternatives: (a very great need, a great need, a moderate need, a little need, no need) and their grades were determined. (5,4,3,2,1) respectively. So that's the theoretical range (29-145) degrees. and was confirmed the virtual honesty by presenting it to specialists in animal production, agricultural extension, and field crops. A preliminary test was conducted on a random sample of (30) respondents. They were excluded from the final sample The degree of reliability of the questionnaire was determined using Cronbach's alpha coefficient, where the general reliability coefficient reached (89.5) [10], After completing the preparation of the questionnaire and ensuring its readiness, the data was collected, recorded, tabulated, and analyzed using the frequency, percentage and the arithmetic mean and range [11].

Results and discussion

First: Identification of the knowledge needs of agricultural employees in the Nineveh agriculture directorate in the field of producing green fodder grown from barley seeds in general.

The categories of knowledge needs of agricultural employees were divided into the production of cultivated green feed using the actual range, with the actual value of knowledge needs ranging from(51 – 145)as in table

TABLE (1) Distribution of levels of knowledge of respondents.

Categories	Number frequency	Percentage
Little need (51-83)	4	3.85%
Medium need (84-116)	48	46.15 %
Great need (more than 117)	52	50 %
Total	104	% 100

$\bar{X} = 112$ $S.d = 16$

Table (1) shows that 3.85% of the respondents have low knowledge needs, falling into the first category (51-83), 46.15% have moderate knowledge needs, falling into the second category (84-116), and 50% fall into the third category (117 and above). This makes it clear that the knowledge needs of agricultural workers in the field of green fodder production from sprouted barley seeds are moderate, but tend to increase. This could be due to the lack of training courses for the participants in this field, as well as the limited availability of information about sprouted barley. Additionally, the recent use of sprouted barley in the country may also play a role, as reflected in the research results.

Second: Arranging the items of the knowledge needs of agricultural employees in the directorate of agriculture of Nineveh in the production of green feed grown from barley seeds according to importance.

TABLE (2) order items of the knowledge needs of agricultural employees according to their arithmetic averages.

No	Items	Arithmetic mean	Rank
1	Knowing of maturity signs	4.403	1
2	Knowing the irrigation method used in cultivating cultivated barley	4.182	2
3	Knowing the temperature needed to plant and grow in the hall	4.096	3
4	Knowing the quantity and weight of seeds needed for planting in each tray	4.076	4
5	Knowing the humidity required for plant and growth	4.057	5
6	Knowing how long it takes to take the first yield of cultured barley	4.048	6
7	Knowing the amount of lighting needed to plant and grow in the hall	4.038	7
8	Knowing how to select good-grade and resistant seeds	4	8.5
9	Knowing how much water the crop needs in each dish	4	8.5
10	Knowing the appropriate height of the genie	3.908	10
11	Knowing how to make a product	3.961	11
12	Knowing how to add compost to crops	3.942	12
13	Knowing how to store excess product when needed	3.923	13
14	Knowing the size of the room for agriculture	3.913	14
15	Knowing the process of rationing water as the product approaches maturity	3.875	15
16	Knowing How to Connect Automated Control Devices and Timers in Plant Hall	3.846	16
17	Knowing how to sanitize barley kernels to get rid of bacteria and fungi with chlorine	3.807	17.5
18	Knowing how much soaking is needed for barley seeds	3.807	17.5
19	Knowing how many times a genie a month	3.769	19
20	Knowing the order of the genie process by shelf	3.721	20
21	Knowing the nature of sterilizing trays before planting	3.701	21
22	Knowing the ways to ventilate in the hall	3.692	22
23	Knowing of farming methods and their rotation in the shelves to organize the daily harvest process	3.673	23
24	Knowing the number of trays in each shelf	3.625	24
25	Knowing how to attach bulbs to sterilize trays and seeds that we need in each hall	3.605	25
26	Knowing how to distribute barley seeds in trays	3.576	26
27	Knowing the dimensions and number of shelves in each hall	3.519	27
28	Knowing the dimensions of trays used in agriculture	3.5	28
29	Knowing how many workers are needed in each hall	3.346	29

As shown in the table above, the items of the knowledge need of agricultural employees according to their arithmetic averages, as it was shown that the items that scored the first order are a items (Knowing of maturity signs), an arithmetic

average of (4.403), The items (knowing how many workers are needed in each hall) was the last ranking, possibly because agricultural officials had sufficient information for the items.

Third: Finding the correlation between the knowledge needs and each of the personal variables.

1- **Age:** To find the relationship between age and knowledge needs, the Pearson coefficient was used, which reached a value of 0.751*), which is positive and significant between age and the study variable. This indicates that the greater the age, the greater the need for knowledge. This may be due to the novelty of the research topic and the accumulated knowledge and experience.

2- Academic achievement: The relationship between this variable and the knowledge needs variable was found through the Spearman rank coefficient**.** Which reached the value of (0.728*), which indicates a positive relationship between academic achievement and the knowledge needs of agricultural employees, meaning that the knowledge needs of agricultural employees increase as academic achievement has been this is because during their scientific careers, the researchers did not acquire knowledge in the subject area of the study.

3- Gender: To find the relationship between gender and the knowledge needs of agricultural employees, the Spearman correlation coefficient was used, reaching a value of-0.144, which indicates a lack of relationship between gender and the knowledge needs of employees.

4- Specialization in agricultural extension: to find the relationship between the specialization in agricultural extension and the knowledge needs of agricultural employees has been the use of the relationship coefficient of ranks (spearman), which reached the value of (0.117), which indicates the lack of a moral relationship between the specialization in agricultural extension and the knowledge needs of employees.

5. Number of years of agricultural career service: To know the relationship between the number of years of agricultural professional service knowledge needs, the Pearson coefficient was used, as its value was (0.632*), and this shows that there is a negative relationship between the number of the two variables, and this is evidence that knowledge needs are less, the more years of agricultural employees.

6- Upbringing: to find the relationship between the upbringing and the knowledge needs of agricultural employees was used the relationship coefficient of grades (spearman), which reached the value of (-0.149), which indicates the lack of a moral relationship between the upbringing and the knowledge needs of employees.

7. Sources of information: To find the correlation between information sources and knowledge needs, Pearson was used, which reached a value of (0.186) and is not significant.

Table (3) shows the relationship between the knowledge needs levels and independent variables

Variables	Number	Percentage%	r Value	rs Value	Sig
Age/year					
(28 - 38)	49	47.115 %	0.751*	---------	0.462
(39 - 49)	40	38.461 %			
(50 - 60)	15	14.424 %			
Total	104	% 100			
Academic achievement					
High school	1	0.962 %			
institute	5	4.807 %			
Bachelor's	51	49.038 %			
Higher Diploma	5	4.809 %	----------	.728*0	0.354
Master's	35	33.654 %			
Ph.D.	7	6.730 %			
Total	104	% 100			
Gender					
male	59	56.731 %	---------	-0.144	0.556
female	45	43.269 %			
Total	104	% 100			
Specialization in agricultural extension					
specialized	15	14.424 %	-------	0.117	0.524
Non-specialist	89	85.576 %			

Total	104	% 100			
Number of years of service					
(1 - 6)Y	6	5.769 %			
(7 - 15)Y	85	81.731 %	0.632*	---------	0.444
(16 - 30)Y	13	12.5 %			
Total	104	% 100			
Upbringing					
rural	13	12.5 %	---------	-0.149	0.654
Urban	91	87.5 %			
Total	104	% 100			
Sources of information					
Low (14-20)	45	43.26 %			
)21-27(Average	50	50 %	0.186	----------	0.523
High (More than 28)	7	6.74 %			
Total	104	% 100			

At level (0.05) *

Conclusion:

1. The agricultural employees in the Nineveh Agriculture Directorate had a Medium Tend to Rise need for information related to the production of green fodder grown from barley seeds. This may be due to the lack of exposure of the sample to training courses in the production of green feed grown from barley seeds, as well as the lack of sources of information on cultured barley due to its recent use in the country, which has already been shown in the results of the research.
2. Agricultural employees lack information in the production of green feed grown from barley seeds in terms of the signs of maturity of the crop and the irrigation method used in the cultivation of cultivated barley and the temperature required for germination and growth in the hall.
3. The Older researchers are more needed in the production of green fodder from barley seeds than young researchers and this can be due to the fact that young people are more open than older people.
4- The knowledge needs of agricultural employees who have many years of agricultural career service are much lower, i.e. those with few years of service are more knowledgeable and experienced compared to those with many years of agricultural career service.

Recommendations

1- Preparing training courses for agricultural workers in the field of green fodder production in cooperation with the College of Agriculture and Forestry, the Nineveh Agriculture Directorate, and agricultural extension and training centres.
2- Focus on important guidance activities for workers who have few years of service, as they are more in need of knowledge than those who have more years of service.
3- Distributing information brochures to employees to increase their knowledge about the status of green fodder.
4- Opening training courses on barley breeding for agricultural employees working in the study area.

References:

[1]. A. Z. Y. Alhafidh (2019). Farmers Knowledge Level of Potato Crop Cultivation in Rabia Sub- district / Nineveh Governorate. Dept. of agricultural Extension and Technology -College of Agric. and Forestry / Univ- of Mosul. Mesopotamia J. of Agric.

[2]. Al-Khalidi, Abd Rahman and Muhsin Jahjah (2008). Agricultural Extension and Rural Society Course, Faculty of Agriculture, University of teshreen, Syria.

[3]. Al-Jubouri, Ali Muhammad Jasim (2011). Obstacles to the development of plant production from the point of view of employees working in the agricultural sector in Nineveh Governorate, Master's thesis, University of Mosul, Iraq.

[4]. Al-Baali, Issam Muhammad Ibrahim (2019). The role of agricultural extension in achieving agricultural development in the new lands, Journal of Agricultural and Environmental Sciences, Damanhour University, Egypt.

[5]. Karimed, Abdel Salam Ahmed, Ibtisam Youssef Tantoush, and Iman Abdel Rahman Al-Ganzouri (2020). The role of agricultural extension in agricultural development, University, peer-reviewed scientific journal, issue (31), p. 301.

[6]. Maher، I. DAWOOD, Anhar M.A. HASAN, Hafsa F. HADE (2021). Knowledge needs for livestock breeders in causes of animals' sudden death in Almahalabiya district of Nineveh.

[7]. Al-Mahi, Muhammad Al-Mahi, Muhammad Ali Fathallah, Muhammad Ali, Muhammad Abdel Nabi Desouki, and Zahraa Mahmoud Muhammad (2019). An economic study of animal feed production in Egypt, Faculty of Agriculture, Alexandria University, Egypt.
[8]. Al-Khatib, Rabab Ahmed Mahmoud and Manal Mashhour Al-Sayyid Ali (2019). The impact of fodder production capacity on livestock development in New Valley Governorate, Egyptian Journal of Agricultural Economics - Volume Twenty-Nine - Issue Four, p. 1625.
[9]. Jasim، Abdullah Hayawi and Muhammad Amin Walid Taha (2021). Study of The Effect of Soaking Periods and Seed Rate Per Unit Area On Some Characteristics of Barley Culture (Hordeum Vulgare L).
[10]. Al-Abbasi, Amel Fadel Khalil (2018). Scientific research methods and statistical analysis in behavioral sciences, Dar Noun for Printing, Publishing and Distribution, Nineveh, Iraq.
Taiba, Ahmed Abdel Al-Samie (2008). Principles of Statistics, first edition, d al-bedaya Jordan, Amman

الاحتياجات المعرفية للموظفين الزراعيين في مديرية زراعة نينوى في مجال انتاج العلف الأخضر المستنبت من بذور الشعير

علي محمد جاسم[1] ماهر ابراهيم داوْد [1] أميرة يونس حسين[1]
[1] جامعة الموصل، كلية الزراعة والغابات، الإرشاد الزراعي ونقل التقنيات .

الخلاصة
هدف البحث الى التعرف على الاحتياجات المعرفية للموظفين الزراعيين في مديرية زراعة نينوى في مجال إنتاج العلف الأخضر المستنبت من بذور الشعير بشكل عام وترتيب فقراتهِ حسب الاهمية وإيجاد علاقة الارتباط بين الاحتياجات المعرفية للموظفين الزراعيين وبعض المتغيرات المستقلة. وشمل البحث جميع الموظفين الزراعيين في مديرية زراعة نينوى والبالغ عددهم (416) موظف زراعي وتم اختيار عينة عشوائية طبقية تناسبية من هؤلاء الموظفين بنسبة (25 %) وبذلك بلغت عينة البحث (104) موظف زراعي، وجمعت البيانات بواسطة استمارة استبيان وتم استخراج الصدق الظاهري للاستبيان وحساب معامل ثباته بطريقة الفاكرونباخ، وتم تحليل البيانات باستخدام الوسائل الاحصائية المناسبة، وأوضحت النتائج ان نسبة (50 %) من الموظفين الزراعيين لديهم حاجة متوسطة تميل الى الارتفاع في مجال إنتاج العلف الأخضر المستنبت من بذور الشعير. وانهُ توجد علاقة ارتباط معنوية بين درجة الاحتياجات المعرفية للموظفين الزراعيين مجال إنتاج العلف الأخضر المستنبت من بذور الشعير وبين متغير العمر - التحصيل الدراسي -عدد سنوات الخدمة الوظيفية الزراعية. بينما لا توجد علاقة ارتباط معنوية بين الاحتياجات المعرفية وبين متغير الجنس - التخصص بالإرشاد الزراعي - النشأة - مصادر المعلومات المتعلقة بالاحتياجات المعرفية للموظفين الزراعيين. وقد توصل الباحث الى أهم الاستنتاجات وهي أن الموظفين الزراعيين بحاجة الى تنمية معلوماتهم في مجال إنتاج العلف الأخضر المستنبت من بذور الشعير وأن من أهم توصيات ومقترحات الباحث إعداد الدورات التدريبية للموظفين الزراعيين والعمل على رفع وتعزيز مستوى معارف الموظفين الزراعيين في مجال إنتاج العلف الأخضر المستنبت من بذور الشعير من خلال التعاون مع كلية الزراعة والغابات والتنسيق مع مديرية زراعة نينوى والشعب الزراعية التابعة لها ومراكز الارشاد والتدريب الزراعي لما لهُ دور مهم في عملية التنمية الزراعية ولما لها مردود اقتصادي في ذلك.

الكلمات المفتاحية: اعلاف الخضراء،بذور الشعير،الارشاد،الاقتباس ،نينوى.