

ATTITUDES OF WHEAT CROP GROWERS TOWARDS THE USE OF MODERN TECHNOLOGIES IN BAIJI DISTRICT / SALAH AL-DIN GOVERNORATE AND THEIR RELATIONSHIP WITH SOME VARIABLES

Mahmood Hadies Jassim Al- Jumailey¹
Imam Mohammed Hamadi Al – Hamdani²

^{1,2}Tikrit University, faculty of Agriculture, Department of Economics and Agriculture Extension

Abstract

The objective of the research is to identify the trends of wheat crop growers in Biji/Salahuddin governorate towards the use of modern techniques in the cultivation and servicing of the spelt crop, and thus to create a correlation between the direction of spelt crop growers and certain personal factors of the farmer, including research (106) Researchers represent (10%) of the total number of farmers established in the farming people (Biji, McHull, Pilgrims and Chinese) within the Biji district of Salahuddin governorate. A two-part questionnaire form was prepared, the first of which included some variables specific to farmers. (Age, Land Ownership, Cultivated Area, Sources of Information) 28 A paragraph reflecting farmers' tendency towards the use of modern techniques, the data was obtained in a personal interview manner, and after the data was discharged and classified, it was statistically processed using a number of statistical means, including: range, favourable ratio, Pearson and Spearman law. The tendency is defined as the sentimental situation behind a person's conduct in relation to a particular topic where he or she rejects or accepts the subject and the degree of acceptance or rejection (Weiner et al, 2003:261). The trend is defined as a state of nervous and psychological preparedness or preparedness that is organized through a person's experience and has a guiding or dynamic effect on an individual's response to all the subjects and situations that trigger this response (o, keef.2002: 6). The results showed that more than half of the researchers had a neutral or negative tendency towards the use of modern techniques in crop cultivation. The results also showed that the tendency of wheat crop growers in Peggy District was neutral for most areas of crop service using modern techniques. The researcher recommends the development of training programs for the purpose of increasing the skills of wheat crop growers in the use of modern techniques in crop cultivation in order to crystallize their trend towards the use of such techniques and the implementation of illustrative fields and field day in the cultivation of wheat crop in order to convince older farmers of the importance of using modern technologies in the field of crop cultivation and service

Introduction and research problem

The study of trends occupies a prominent place in many psychological studies, in many applied and other fields of life, because the essence of work in these areas is to support trends facilitating the achievement of the goals of action, and to weaken impeded tre (Ibrahim, 2008:21) Trends are an appropriate means of interpreting and predicting human behaviour, while serving a human need aimed at creating harmony and harmony between what one says and thinks and what one does.

Trends are wavelength determinants and regulators of behaviour (Hanawi, 2005:17) The importance of studying farmers' trends as they constitute a high proportion of rural society and an important element in development and change in order to develop appropriate indicative programmes for such individuals in order to accept new agricultural techniques for the purpose of raising the productivity of the unit of area and optimizing the use of available agricultural resources to improve their economic status and conserve and develop agricultural resources (Hanawi, 2005:17) The agricultural sector is an important economic activity in most Arab countries, absorbing about 30% of the total workforce, making it a major source of livelihood for a large proportion of the population (Arab Organization for Agricultural Development, 44:2007). The agricultural sector contributes significantly to building Iraq's national economy; Because it provides food and employment opportunities for the population, where about 20% of the rural population lives, and in order to shape farmers' trends towards the use of modern agricultural techniques, it is necessary to remove obstacles that can lead to their reluctance to use these technologies

Research Problem: One of the most important problems facing the cultivation of wheat in Peiji District that prevents optimal productivity is how farms understand modern farming methods as well as the use of modern techniques in the farming process and through my meeting with farmers as well as the review of the Peiji District Agriculture People show that there is a clear problem in the low yields of one dunum compared to the yields of Iraq. (600) kg/d; Iraq-wide (800-1500) kg/d. Because of the importance of farmers' trends towards the use of modern agricultural techniques in raising productivity, the problem of research is to answer the following research questions

- 1- What are the trends of Beige/Salahuddin governorate wheat crop growers towards the use of modern techniques in growing the wheat crop in general ?
- 2 -What are the trends of wheat growers in the Biji/Salahuddin governorate towards the use of modern farming techniques in each area of research (namely, selection of suitable item, preparation of land for agriculture, irrigation, composting)
- 3 - What is the correlation between the trends of wheat crop growers in Peji/Salahuddin governorate and the independent factors of wheat crop growers (age, land ownership, cultivated area, contact with information sources
- 4- What are the problems of wheat growers the Biji/Salahuddin governorate ?

Statistical hypotheses:

- 1- There is no moral correlation between the tendency of wheat growers in the Biji district towards the use of modern techniques in crop and tooth cultivation.
- 2-There is no moral correlation between the direction of wheat crop growers in Peggy district towards the use of modern techniques in crop cultivation and land ownership.
- 3- There is no moral correlation between the direction of spelt crop growers in the Biji district towards the use of modern techniques in crop cultivation and cultivated space.

4-There is no moral correlation between the trend. There is no moral correlation between the trend of wheat crop growers in the Biji district towards the use of modern techniques in crop cultivation and communication with information sources.

Procedural definitions:

1- Attitudes: Farmers' tendency to use modern techniques in the cultivation of wheat crop in the district of Peggy. It can be measured procedurally through the digital values that an individual receives as a result of answering paragraphs of a scale prepared for this purpose.

2- Modern techniques: the results of scientific research on the cultivation of the spelt crop for the purpose of facilitating the implementation of agricultural processes more quickly and with high precision compared to the traditional methods used in the cultivation of the spelt crop and obtaining the highest production.

Materials and methods of work:

1- Research methodology: Follow the descriptive approach in this research, being a good way of searching for the present, and also to demonstrate the phenomenon to be studied whether natural or human as it actually is, and describe it accurately. The study's descriptive curriculum is known to depend on gathering information by asking the public questions (Al-Hazaran, 2001:78).

2- Research area: The district of Biji/Salahuddin governorate has been selected for research because there are a number of farmers who cultivate the wheat crop, and the productivity of the judiciary is reduced because farmers do not use modern techniques in growing the wheat crop.

3- Research community: The research community included all the Hutta crop growers in the Biji district of Salahuddin governorate (1093) Farmers divided into 4 agricultural populations, after taking a survey sample size (30) Research The final number (1063) became research, then a simple random sample was selected in proportion (% 10) Thus, the number of persons subject to research (106) became researchers divided into four divisions and as in table (1).

Table No. (1) Distribution of sample and search community.

TT	Division Name	Number of farmers	Sample Size
1	Biji Division	152	15
2	makhule Division	201	20
3	h'aj' Division	510	51
4	Chinese Division	200	20
Total		1063	106

Search Tool

A questionnaire form has been prepared to collect data from farmers. The questionnaire form is one of the good means by which information, data and facts can be obtained. It gives more objective data than other data collection methods to achieve the research goals (Melhem, 317:2010). The form has three parts, as follows

Part I - This part included a number of questions relating to some of the independent variables of researchers (age, land ownership, cultivated area, contact with information sources)

Part II: - This section (28) contains a paragraph that is divided into the areas of research in the field of selection of suitable items for agriculture. (8) paragraphs and areas of preparation of land

for agriculture. (6) paragraphs and area of irrigation, and (8) paragraphs and areas of composting and (6) paragraphs

Part III. The (11) has included a problem faced by wheat growers in the Peggy district. Four alternatives are (large), (medium), (few) and (non-existent). This was obtained from the researcher's knowledge of past literature and studies that related to the subject matter of the research, through personal interviews with farmers, as well as the views of specialists in the field of agricultural extension

Measurement of research variables: Measurement is defined as the quantitative description of information, i.e. the use of numbers in the description, arrangement and organization of information or data in an easy format that can be easily understood and interpreted (TED and others, 2019:23)

1-Measuring independent factors. For the purpose of obtaining digital values that reflect independent factor variables that can be used in statistical analysis, the values are automated to measure all variables and as it comes from

Age: measured by the number of years of farmer's age when collecting data a-

B -Land ownership: measured by the following alternatives (king, contract, lease, share) values (4, 3, 2, 1) have been given respectively

.c- Sources of access to information: measured through nine sources for which alternatives have been developed (always, sometimes, rarely, not contacted

d -Alternatives have been given (4, 3, 2 and 1) respectively, limiting the values expressed to this variable between (9 – 36)

Measurement of dependent variable (Attitudes): trends measured through (28) Each paragraph reflects the trends of wheat crop growers in the Biji district towards the use of modern techniques in the cultivation of the wheat crop, and has placed alternatives before each (OK, Neutral, not OK) The values have been given (3, 2, 1) respectively for positive paragraphs and values (1, 2, 3) for negative paragraphs, limiting the values expressing the trend between (28 - 84) Grades were distributed in the areas of research and as in table 2

TT	Field	Number of paragraphs	Scale Grade
1	Area of selection of the appropriate item	8	8 - 24
2	Land Creation Area	6	6 – 18
3	Irrigation Field	8	8 - 24
4	Composting Area	6	6 – 18
Total areas		28	28 - 84

Measuring problems: a problem has been identified (11) that can be encountered by wheat growers in the research area and placed before each of them alternatives (large, medium, few, no) and values (4,3,2, 1) have been given respectively

Results and discussion: The results were discussed according to the research's objectives

First Objective: - To Identify the Trends of Wheat Farmers in Biji/Salahuddin Governorate in General

The results of the research showed that the lowest digital value of the trends of the spelt crop grower is (77) degrees and the highest digital value is (148) with an average of (120.567). The researchers were divided into three categories by the law of range and the length of the category, as shown in table 3

Table No. (3) shows the distribution of investigators according to their overall trends.

Attitudesede	Number	Percentage	Average Trend
Negative (77 - 100)	23	21.70	91.78
Neutral (101 - 124)	38	35.85	115.95
Positive (125 - 148)	45	42.45	139.18
Total	106	100 %	

Table (3) shows that more than half of the researchers had a neutral to negative trend towards the use of modern techniques in the process of growing spelt.

Second objective: To identify the trends of wheat crop growers in the Biji district of Salahuddin towards the use of modern techniques in the cultivation of wheat crop

1-The area of selection of the appropriate item : The results of the research showed that the lowest digital value of spelt crop growers' trends towards the selection of the appropriate item is (12) degrees and the highest digital value is (24) degrees. The researchers were divided into three categories by the law of range and the length of the category, as shown in

Table No. (4) shows the distribution of researchers according to their tendencies towards the selection of the appropriate item.

Attitudesede	Number	Percentage	Average Trend
Negative (12 – 15))	10	9.43	14.70
Neutral (16 – 19))	80	75.48	19.33
Positive 20 and more	16	15.09	22.23
Total	106	100 %	

Table 4 shows that most farmers did not develop the trend towards the use of appropriate varieties in the cultivation of the spelt crop, while farmers whose trend was positive to choose the appropriate varieties were only their proportion. (15.09%) of the research sample, which may be due to the fact that farmers do not have sufficient knowledge of the new high varieties and to adhere to the cultivation of seeds from old varieties recognized in the region

2-The field of land preparation : The results of the research showed that the lowest digital value of the wheat crop's trends towards land preparation is (10) degrees and the highest digital value is (18). The researchers were divided into three categories by the law of range and the length of the category, as shown in table 5

Table No. 5 shows the distribution of researchers according to their tendencies towards preparing the land for agriculture

Attitudesede	Number	Percentage	Average Trend
Negative (10 – 12))	23	21.70	11.65
Neutral (13 – 15))	42	39.62	15.95

Positive(16 – 18)	41	38.68	18
Total	106	100 %	

Table 5 shows that the highest percentage of researchers were neutral towards the use of modern methods to prepare and prepare the land for the cultivation of the wheat crop. This may be due to the predominance of farmers using old agricultural machinery, or their lack of knowledge of the importance of preparing and preparing the land for production.

3 -Watering field : The results of the research showed that the lowest digital value of spelt crop growers' trends towards the use of modern techniques in watering is (12) degrees and the highest digital value is (23). The researchers were divided into three categories by the law of range and the length of the category, as shown in Table No. (6).

Table No. (6) shows the distribution of researchers according to their tendencies towards the use of watering techniques.

Attitudese	Number	Percentage	Average Trend
Negative (12 – 15))	21	19.81	13.48
Neutral (16 – 19))	31	29.25	17.52
Positive(20 – 23)	54	50.94	21.87
Total	106	100 %	

Table 6 shows that more than half of the researchers had a positive trend towards the use of modern techniques in irrigation, followed by a category whose direction was neutral and the lowest proportion of those whose trend was negative.

4-Composting area: - The results of the research showed that the lowest digital value of the crop grower's trends towards composting is (10) degrees and the highest digital value is (18) degrees. The researchers were divided into three categories according to the law of range and the length of the category, as shown in Table 7

Table No. 7 shows the distribution of searchers according to their trends towards composting

Attitudese	Number	Percentage	Average Trend
Negative (10 – 12))	32	30.19	12.25
Neutral (13 – 15))	62	58.49	15.42
Positive(16 – 18)	12	11.32	18
Total	106	100 %	

Table 7 shows that the highest proportion of researchers in the category of neutral orientation towards the process of fertilizing the spelt crop and then the category of searchers with a negative trend. This may be due to the failure of the wheat crop growers to be equipped with fertilizer by the state and its higher prices in local markets, which makes farmers reluctant to fertilize the crop.

third Objective: To establish a correlation between the trends of wheat crop growers and indepe

1. Age: The results of the research showed that the minimum age for researchers was 38 years old and 74 years old. The age of the researchers was divided into three categories by range and length, as shown in table 8. ndent factors

Table No. 8 shows the distribution of investigators according to age groups.

Categories	Number	Favourable lineage	Average	r value	Tabular t Value	t value Calculated	Moral e
Young persons (38-49 years)	25	23.58	92.72	- 0.17	1.658	1.760	0.05
Average age (50-61 years)	51	25	120.88				
Older persons 62 years old and over	30	51	143.23				
Total	106	30					

* Moral relationship at level 0,05

Table No. 8 shows that the highest percentage of researchers falls within the middle age group, with a percentage (48, 12%) and an average trend of 120, 88 degrees. The lowest percentage of researchers falls within the small age group and a percentage (23, 58%) and an average trend of 92, 72 degrees. To see if there is a correlation between the trends of spelt crop growers towards the use of modern techniques in agriculture and age, I use a simple binding coefficient. (pearson) valued at (-0,17) This indicates an inverse correlation between the two variables, and to ensure the morale of this relationship I use a test (t) calculated value (1,760) after comparison with value (t) Tabular (1,658) shows that it is greater than tabular at a level (0, 05) This means that there is a moral correlation between the trends of spelt crop growers towards the use of modern techniques and age, and therefore we reject the statistical hypothesis that (there is no moral correlation between the trends of spelt crop growers towards the use of modern techniques in agriculture and age) And since the highest average trend was in the category of the elderly, that is, farmers of large ages have a positive trend towards the use of modern techniques in the process of growing the spelt crop in the district of Peggy, and this result is consistent with what was reached (Omar, 2022)

2- Cultivated area: The values expressed by the cultivated area of wheat crop cultivation in the district of Biji were limited to 50-200 dunums. The searchers were divided into three categories by range and length of category, as shown in table 9

Table No. 9 shows the researchers' distribution according to the cultivated area categories.

Categories	Number	Favourable lineage	Average	r value	Tabular t Value	t value Calculated	Moral e
Small (50 – 100) dunums)	60	56.60	106.52	** 0.30	2.358	3.207	0.01
Medium (101 - 151) Dunums	28	26.42	134.54				
Large 152 Dunums Fatigue	18	16.98	145.67				
Total	106	100%					

* * Moral relationship at level 0, 01

Table No. 9 shows that the highest proportion of researchers falls into the small category with a percentage (56, 60%) and an average trend of (106, 52). The lowest percentage of researchers falls into the large category with a percentage (16, 98%) and an average trend of (145, 67 degrees). To find out whether there is a correlation between the trends of yarn growers towards the use of modern techniques in agriculture and the area under cultivation, I use a simple binding coefficient (pearson) valued at 0.30, which indicates a positive correlation between the two variables. To ascertain the morale of this relationship, I use the t test, which has reached its calculated value. (3,207) After comparing with the value of (t) tabular (2,358) it is found to be greater than tabular at the level of (0, 01) This means that there is a moral correlation between the trends of spelt crop growers towards the use of modern techniques in agriculture and cultivated space, and we reject the statistical hypothesis that stipulates (There is no moral correlation between the trends of spelt crop growers towards the use of modern techniques in agriculture and cultivated space) In other words, the larger the area under cultivation, the more positive the farmer's tendency towards the use of modern techniques, because this will bring him great profits, because the area under cultivation is large, and the use of modern techniques in the process of cultivation and servicing the crop will yield significant profits, and this result is consistent with his findings (Al-Jabouri, 2013)

3- Number of years of spelt crop cultivation: The values expressed in the number of years of spelt crop cultivation were limited to 10-36 years in the district of Biji. The researchers were divided into three categories by range and length, as shown in table 10.

Table No. 10 shows the distribution of researchers according to the categories of the number of years of land cultivation.

Categories	Number	Favourable lineage	Average	r value	Tabular t Value	t value Calculated	Moral e
Few (10 - 18) years	47	44.34	101.85	0.11	1.658	1.129	0.05
Average (19 - 27) years	36	33.96	129.44				
Many (28 - 36) years	23	21.70	144.91				
Total	106	100%					

The relationship is immoral at level 0, 05

Table No. (10) shows that the highest percentage of investigators falls in the small category, with a percentage (44, 34%) and an average trend of 101, 85). The lowest percentage of investigators falls in the large category, with a percentage (21, 70%) and an average trend of 144, 91). To find out whether there is a correlation between the trends of spelt crop growers towards the use of modern techniques in agriculture and the number of years of crop cultivation, I use a simple binding coefficient. (pearson) valued at (0,11) This indicates a positive correlation between the two variables, and to make sure the morale of this relationship I use a test (t) calculated value (1,129) and after comparing with the value (t) Tabular (1,658) shows that it is less than tabular at a level (0, 05) This means that there is no moral correlation between the trends of wheat crop growers towards the use of modern techniques in agriculture and the number of years of

agriculture, thus accepting the statistical hypothesis that stipulates (There is no moral correlation between crop growers' trends towards the use of modern techniques in agriculture and the number of years of agriculture) This result is consistent with Mohammed's findings (2013))

4- Sources of access to information: The values expressed by sources of access to information were limited to the cultivation of the wheat crop in Peji Benn District (18-28). The researchers were divided into three categories by range and length of category, as in table 11

Table No. 11 shows the researchers' distribution according to sources of access to information

Categories	Number	Favourable lineage	Average	r value	Tabular t Value	t value Calculated	Moral e
Few (18 – 21)	16	15.09	88.13	*0.20	1.658	2.081	0.01
Average (22 – 25)	69	65.09	120.57				
Big 26 And Over	21	19.82	145.27				
Total	106	100%					

* Moral relationship at level 0,05

Table 11 shows that the highest percentage of researchers falls in the middle category, with a percentage (65, 09%) and an average trend of (120, 57). The lowest percentage of researchers falls in the low category, with a percentage (15, 09%) and an average trend of (88, 13). To find out whether there is a correlation between spearman correlation trends towards the use of modern techniques in agriculture and sources of access to information, I use spearman correlation coefficients, which are valued at 0.20. To ensure the morale of this relationship, I use the test (t) calculated value (2,081) and after comparison of value (t) calculated with (t) tabular value (1, 658) It turns out to be higher than the tabular at (0, 05) level. This means that there is a moral correlation between the trends of spelt crop growers towards the use of modern techniques in cultivation of spelt crop in Peggy District and sources of access to information. (There is no moral correlation between crop growers' trends towards the use of modern techniques in agriculture and sources of access to information) This means that whenever farmers get enough information about modern technologies, whenever they have a positive trend towards using them, because technologies are constantly evolving and farmers have enough information about these modern technologies will help them understand those technologies and therefore use them In the best way, which will increase production and reduce cost and effort, this result is consistent with what it has (Amani, 2019)

Fourth Objective: To Identify the Problems of Huta Crop Farmers in Biji/Salah Al-Din Governorate

The problems faced by wheat growers in the Biji/Salahuddin governorate in the use of modern techniques have been identified and arranged downwards through the extraction of the weighted rate of each problem as shown in Table No. 12.

Table No. 12 shows the problems faced by farmers when using modern techniques in the process of growing the wheat crop in the Peggy District downward:

TT	Problems	scale of the problem				Weighted arithmetic average	sequence
		Great	Average	Few	There is no		
1	Delayed receipt of peasant's financial benefits after marketing	52	33	11	10	3.198	1
2	High cost of boring artesian wells	47	34	17	8	3.132	2
3	High cost of purchasing spray irrigation system	50	25	17	14	3.047	3
4	Lack of groundwater	37	37	21	11	2.943	4
5	High prices of chemical fertilizer	32	41	25	8	2.915	5
6	High Production Seed Prices	21	47	26	12	2.726	6
7	higher fuel prices	19	46	29	12	2.679	7
8	Complex procedures at seed reception centres	11	54	32	9	2.632	8
9	Complex procedures for the annual plan by the Ministry of Agriculture	13	38	40	15	2.462	9
10	High pesticide prices	7	42	43	14	2.396	10
11	No fertilizer arrives on time	13	29	49	15	2.377	11

Maximum value = 4

Table 12 shows that a paragraph that delayed receipt of the peasant's financial benefits after marketing ranked first in problems and may be due to the fact that whenever the farmer delays in receipt of the financial benefits whenever it adversely affects him in the process of interest in growing spelt. We also find that the paragraph of the lack of timely fertilizer arrivals was ranked last in terms of the problems experienced by the farmer in the district of Beji, and may be the reason why the peasant relies on local markets to buy fertilizer and not wait for agricultural equipment (Receipt of fertilizer from agricultural equipment after it is too late, i.e. after it is too late) or the small quantities processed by the state or the receipt of fertilizer after the end of the fertilizer date

: Conclusions and recommendations

1- Conclusions :

1- The results showed that more than half of the farmers of the wheat crop in Peji/Salahuddin governorate are neutral or negative towards the use of modern techniques in crop cultivation, inferring the need for extension activities that change the farmers' trend towards the use of modern techniques in crop cultivation and service

2- The results showed a moral correlation between the direction of wheat crop growers in the Biji district and most of the factors studied, from which we conclude the importance of these factors in the preparation of agricultural training and extension programmes

3- The results showed an inverse moral correlation between age and farmers' trend towards the use of modern agricultural techniques in the cultivation of the spelt crop, from which we conclude the need to develop special training programmes for older farmers.

4- The results show that the average volume of problems is significant for most of the problems studied, from which we conclude that wheat crop growers in the research area suffer from real problems affecting the crop cultivation and service process.

2- Recommendations

1- Develop training programmes for the purpose of increasing the knowledge of wheat growers in the use of modern techniques in crop cultivation in order to shape their trend towards the use of such technologies.

2- Implementing the illustrative fields and field day in the cultivation of the wheat crop in order to convince older farmers of the importance of using modern techniques in the field of cultivation and service of the crop.

3- Coordination between the Ministry of Agriculture and the Ministry of Commerce in order to secure sufficient cash for the cultivation of the wheat crop according to the agricultural plan.

4- Provide farmers with funds to cover the expenses of purchasing certain production supplies if they are not available by the Agricultural Equipment Company.

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