Attitudes of Grain Farmers Towards Selecting and Producing Certified Seeds and Their Relationship to Some Variables in Halabja Governorate

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Abstract. The research aimed to identify the trends of grain farmers towards selecting and producing certified seeds and their relationship to some variables in Halabja Governorate, as well as identifying the variation in farmers' attitudes towards them according to the research variables. The data were collected using a questionnaire and in the way of a personal interview from a simple random sample of (312) farmers, who represent (9%) of the size of the research community. The results of the research showed that the trends of grain farmers towards selecting and producing certified seeds in Halabja Governorate are medium and tend to be low. There is no discrepancy in the farmers' attitudes towards selecting and producing certified seeds according to the research variables (number of family members, agricultural holding area, agricultural experience, the degree of informal group participation, trends towards agricultural innovations) while there is a discrepancy between farmers' attitudes towards selecting and producing certified seeds according to research variables (age, educational level, exposure to information sources), the results showed that there are several problems hindering the selection and production of certified seeds, the most important of which are (poor exploitation and sustainability of call centres with farmers to produce certified seeds, the lack of clear policies to support the production of certified seeds, the weak use of biotechnologies in developing new varieties has led to the failure of the certified seed industry to develop, so the researcher recommends intensifying specialized training courses in the field of selecting and producing certified seeds and working on modifying negative and neutral trends to positive towards selecting and producing certified seeds by educating farmers and convincing them of their usefulness. And taking into account the obstacles that the study found when preparing a future indicative plan in this area.

1. Introduction

The agricultural sector is one of the most important economic sectors that constitute the economic structure of most countries of the world, whether developed or developing ones, as the importance of this sector for developed countries appears through the prominent role it played in the advancement of the economies of these countries as the agricultural sector contributed to financing the economic development process in general And industrial development in particular in most of these countries [1].

The countries of the world seek to achieve integrated agricultural development and for this they have adopted many methods and means to develop their agriculture, including the use of modern agricultural technologies, which are an important element in agricultural development [2]. Therefore, the process of producing and developing scientific agricultural technologies and spreading them among farmers for the purpose of adopting it is one of the most important factors affecting the decision of the agricultural producer regarding its adoption [3]. New technologies have a clear effect on improving production efficiency or farmers' standard of living if they are deployed and taught how to use them for different groups of adopters in agricultural areas [4]. seeds are considered one of the most important production inputs on which the success of agricultural production depends. This can be achieved through the use of improved, high-quality seeds in the cultivation of crops, the use of which has increased productivity at
rates of up to 30% compared to unimproved seeds, which contributed to a great revolution in most Consequently, all countries have increased their interest in improving and developing them, by introducing new varieties to resist drought and diseases in order to improve their agricultural production, in terms of quantity and quality, on the one hand, and to raise production rates per unit area on the other hand. [5]. The process of producing seeds for improved varieties that contain constant genetic characteristics and distributing them to farmers is a very accurate and important work, as the use of traditional methods in agriculture that farmers tend to use and their continued use of unimproved seeds leads to their impurity and deterioration, as the seed circulation process must be organized within Scientific organizations to maintain their quantity and quality [6]. Improving the quality of seeds of any variety is the basis for improving agricultural production [7]. Is positive in improving rural poverty and improving the outcome [8]. In order to keep pace with the production and development of scientific agricultural techniques on the strategies of agricultural development, many development devices must be developed, including agricultural guidance in its various activities and practices and adapted in a manner that responds to and meets the growing needs of farmers to develop their agricultural productivity [9]. Agricultural extension is one of the main devices that help increase production. And the development of the rural family and improving its standard of living, by bringing about educational changes in the knowledge, skills, and attitudes of farmers and their families, by communicating the results of agricultural research to them. [10].

Among the goals that agricultural extension seeks to make trends, [11] as an educational process aimed at changing or modifying the farmers' attitudes towards adopting scientific techniques developed in all aspects [12]. It expresses the individual's response, whether with approval or rejection, towards the situations surrounding him, according to previous experiences [13].

(Qeshta), sees the trend as an emotional tendency organized by previous experiences that the individual went through to interact, positively or negatively, towards a specific situation or person [14] and the trend consists of three components that interact with each other, which is the cognitive component that reflects the individual's knowledge and beliefs about a certain thing and the emotional component. It is the individual's feelings and sentiments related to the issue of the trend and the behavioral component, which is the willingness to take a specific action towards the issue of the trend [15].

The trend towards selecting and producing certified seeds was a necessity to limit the import of certified seeds and the hard currency incurred by the state, and most importantly to reduce dependency on foreign inputs and markets and their negative consequences. And changing the behavior of individuals towards these technologies [16] and this requires that those in charge of the extension work be aware of the selection and production of certified seeds and their positive attitudes are desirable towards them. The seeds of the grain crops used by farmers in Halabja Governorate usually consist of their agricultural community and the quality of the seeds from these sources is not guaranteed and often they are a mixture of several varieties due to the farmers 'lack of technical skills and positive trends in selection, and thus production of improved seeds for crops in Halabja depends on the ability and attitudes of farmers to produce seeds. Because of the importance of cultivating and producing improved seeds, this study was conducted on the attitudes of grain growers towards selecting and producing certified seeds. To the actual users, it renders it useless and thus useless for scientific research [17].

1. What are the farmers' attitudes towards selecting and producing certified seeds in Halabja governorate?
2. Is there a discrepancy between the independent studied variables of the respondents and their attitudes towards selecting and producing certified seeds in Halabja governorate?
3. What are the obstacles that limit the use of certified seeds from the viewpoint of the respondents?

1.1. Research objective

1. Identify the farmers' trends towards selecting and producing certified seeds in Halabja Governorate.
2. Defining the variance between the independent studied variables of the respondents and their attitudes towards selecting and producing certified seeds in Halabja governorate.

3. Detect the obstacles that limit the selection and production of seeds certified by the respondents' point of view.

1.2. Research hypotheses

There is a moral relationship between the studied variables (age, educational level, number of family members, area of agricultural land acquisition, number of years of experience, degree of Informal participation, Sources of information), and their attitudes towards selecting and producing certified seeds.

1.3. Research importance

The importance of this research is due to the results it may yield in terms of identifying the level of farmers’ trends towards selecting and producing improved seeds, as knowing these trends contributes and helps those in charge of extension work in maintaining the promotion of the positive side of farmers, and benefiting from it, while avoiding the negative side and working to change it. This helps extension institutions achieve the goals for which they were established.

2. Materials and methods

Research methodology: In order to achieve the aims of the research, use the descriptive approach, which is one of the methods to obtain comprehensive and accurate information from the social reality, identify common practices, and identify the opinions, beliefs and trends of individuals and groups and their methods of growth and development [18]. Therefore, this approach is appropriate to arrive at detailed data and facts about the trends of grain farmers towards selecting and producing certified seeds and their relationship to some variables in Halabja Governorate.

2.1. Research area

Halabja Governorate from Kurdistan Region was chosen as the area for conducting the research. Halabja Governorate is located in the northeastern part of Iraq at a distance of (76) km Southeast of the city of Sulaymani, the total area of the district is (342107) dunums, of which (232243) dunums are not suitable for agriculture. As for the area suitable for agriculture, it is (109864) dunums of which (62480) dunums, and the irrigated area is (47384) dunums. Halabja Governorate, because the governorate is one of the important agricultural areas, especially cereal crops, on which the majority of the region’s residents depend for their livelihood.

2.2. The research population and sample

The research community consisted of grain crop growers in Halabja governorate, whose number is (3447) farmers officially registered in the Halabja Agriculture Department for the year 2020-2021. Simple according to the (Fisher) sampling method [18] and a simple random sample of farmers with a size of (312) farmers representing 9% of the research community was chosen.

2.3. Data collection tool

The questionnaire is an appropriate tool to obtain objective information, data and facts through which the objectives of the research can be achieved [19]. For the purpose of achieving the objectives of the research, a special questionnaire form was prepared for this purpose, which consists of three parts. It was
prepared after the researcher referred to the relevant scientific and literary sources. Agricultural extension, as well as consulting specialists in these aspects, as follows: The first part includes the independent factors which are (age, educational level, number of family members, area of agricultural land possession, number of years of experience, informal participation, and source information). As for the second part of the questionnaire, it aimed to measure the trends of grain farmers in Halabja governorate towards selecting and producing certified seeds. While the third part consists of the problems and obstacles faced by farmers in the field of selecting and producing certified seeds in Halabja Governorate. For the purpose of verifying the apparent content validity and fact validity of the content, the questionnaire was presented to a group of specialists in the Department of Agribusiness and rural development and Field Crops at the College of Agriculture at the University of Sulaymani, their directions were taken by deleting or adding to the paragraphs of the questionnaire. The questionnaire was pretested on 9/5/2020 on a sample of (20) farmers in Sulaymani governorate that followed the method of half-segmentation to measure stability using the Pearson equation. Whose value was (0.72) and corrected for the scale as a whole using the Spearman Brown formula as its value reached (0.83), and the validity was extracted where it reached (0.91) and thus the form was characterized by high stability and validity. after the questionnaire became its final form, data were collected from the respondents in the period between 1/10/2020 -1/11/2020.

2.4. Measuring search variables
Measuring farmers’ attitudes towards selecting and producing certified seeds (dependent variable)
The farmers’ attitudes towards selecting and producing certified seeds in Halabja governorate were measured according to the following procedures: the literature and models that have been viewed in the field of organization and administration, expert observations and opinions of teachers and researchers specializing in this field, in addition to officials of agricultural departments and divisions in the governorate. 26 paragraphs were drawn up, all of which formed the initial formula for measuring the trend. The scale was presented in its initial form to a group of experts and specialists in the field of agricultural extension and management, and after taking their notes, it became (20) paragraphs developed to identify trends, (10) paragraphs of which are positive and (10) paragraphs of which are negative. The four-stage Likert scale was used to measure trends to avoid focusing the answers on the neutral value if a scale of five degrees was chosen, which is (very agree, agree, disagree, very disagree) While the following values were given the positive expressions (1,2,3,4) and to the negative expressions (4,3,2,1) respectively, and the respondent was asked to express his opinion in each paragraph, by putting a mark (true) under any level it applies to. The positive expressions took the individual sequence in the questionnaire form, while the marital phrases took the marital sequence, and were placed alternately in the questionnaire, and thus the values of the trends towards selecting and producing certified seeds were limited to between (10-80) numerical values.

2.5. Independent variables
Each of the independent research variables was measured as follows:
1. Age: The age of the respondent: it is the number of years when collecting the research data.
2. Educational level: it was measured according to the following levels: (illiterate, reads and writes, elementary, intermediate, preparatory, institute, and college). For these levels, the following weights were given: (1,2,3,4,5,6 and 7), respectively.
3. The number of family members: it refers to the number of family members residing with the respondent, and one score was assigned to each member.
4. Area of agricultural land acquisition: The area of land exploited for agriculture was measured in dunums.

5. The number of years of experience in agricultural work: It refers to the number of years of service that the respondent spent in his current work, and one grade was given for each year.

6. The degree of informal collective participation: This variable was quantitatively measured on the basis of measuring the respondent's participation in seven social activities of the most important social activities in the region through four responses to each of them determining the degree of participation, which is as follows: (Always participates, sometimes participates, Rarely participate, not participate), and those responses were given scores related to each response as follows: (4,3,2,1) score respectively, and the scores obtained by the respondent are combined to express the total degree of informal social participation

7. Sources of information: This variable was measured through (12) sources of agricultural information and indicators that included the following levels (frequently, sometimes, rarely and little). And these levels were given the following weights (4, 3, 2, 1), respectively, so the level of this variable ranges between (12-48).

2.6. Statistical means

After completing the data collection, unpacking and tabulation, it was analyzed using the statistical analysis programs (SPSS) for the social sciences and used the following statistical methods: range, frequencies, percentages, arithmetic mean, simple correlation coefficient for (Pearson,) and coefficient of correlation for (Spearman correlation), standard deviation, t-test, weighted mean, analysis of variance.

3. Results and discussion

3.1. Identify the farmers' trends towards selecting and producing certified seeds in Halabja Governorate.

The results of the research showed that the highest numerical value obtained by the respondents is (65) degrees, out of (80) degrees, and the lowest numeric value is (45) degrees, with an arithmetic average of (53.29) degrees. The degrees of the trend were classified into three categories (low, medium, High) after adding and subtracting one standard deviation degree from and to the arithmetic mean, and it became clear that (36.2%) of the respondents had their attitudes towards selecting and producing certified seeds, in the trend category (low), while the average trend percentage reached (51.0%). The high trend category (12.8%), as shown in Table 1:

Table 1. The categories of the respondents 'attitudes towards selecting and producing certified seeds

| categories of attitude       | Frequency | % Percentage | Attitude Mean |
|------------------------------|-----------|--------------|--------------|
| Low (45-51) Negative attitude| 113       | 36.2         | 49.5         |
| Medium (52-58) Neutral attitude| 159     | 51.0         | 53.9         |
| High (59-65) Positive attitude| 40       | 12.8         | 61.35        |
| Total                        | 312       | 100          | 53.29        |

S.D = 4.157
It is evident from the results that the majority of the respondents have a moderate tendency that tends to decrease towards selecting and producing certified seeds, and that the categories of medium and low applicants formed (87.2%) of the total number of respondents. And traditional sources, such as some agricultural offices for imported seeds, and therefore it is necessary to work to change the direction of these respondents to be more receptive to choosing and producing certified seeds, and that is through the efforts directed by the agricultural extension agency in the region. The results of the research also showed that the highest score obtained by the phrase (I prefer to follow agricultural courses because it improves the quality of certified seeds) is (3.61) score out of (4) as a weighted average score, and the lowest score obtained is (I wish to replace certified varieties with imported modern varieties). (1.42) degree, and the reason may be due to the farmers’ awareness of the importance of using the agricultural cycle to restore the land’s fertility and productive strength and get rid of some insect and pathological infections that affect some seeds, field crops, and the phrases are arranged in descending order as in Table (2):

Table 2. Phrases of expressions towards selecting and producing certified seeds arranged in descending order according to the weighted average

| Phrases                                                                 | Weighted Average | Percent weight | Rank |
|------------------------------------------------------------------------|------------------|----------------|------|
| I prefer to follow agricultural rotations because it improves quality   | 3.61             | 90.25          | 1    |
| of certified seeds                                                     |                  |                |      |
| The field should be free of bushes as much as possible so that they    | 3.60             | 90             | 2    |
| can be minimized when producing certified seeds.                       |                  |                |      |
| I encourage the cultivation of certified seeds.                        | 3.50             | 87.5           | 3    |
| My use of animal fertilizers makes the agricultural operations of the  | 3.39             | 84.75          | 4    |
| certified seeds more difficult.                                        |                  |                |      |
| The certified seeds are not necessarily uniform in size, shape and     | 3.36             | 84             | 5    |
| color                                                                    |                  |                |      |
| I think moisture content is not necessary in certified seeds           | 3.32             | 83             | 6    |
| I would like to collect and store certified seeds for the next season. | 3.24             | 81             | 7    |
| The best modern methods and techniques in selecting and producing      | 3.22             | 80.5           | 8    |
| certified seeds                                                        |                  |                |      |
| I think producing certified seeds increases profit and income.         | 3.15             | 78.75          | 9    |
| I want to close border crossings to prevent the import of large         | 2.88             | 72             | 10   |
| quantities of imported seeds in place of certified varieties.          |                  |                |      |
| I think certified seeds are less productive than imported seeds.       | 2.72             | 68             | 11   |
| I think certified seeds fit changes in consumer tastes.                | 2.49             | 62.25          | 12   |
| I think the average germination rate of certified seeds is less than   | 2.26             | 56.5           | 13   |
| 70%.                                                                   |                  |                |      |
| I think that growing certified seeds needs modern technologies and     | 2.06             | 18             | 14   |
| chemicals.                                                             |                  |                |      |
| I want to grow certified seeds because they are suitable for soil and  | 1.97             | 51.5           | 15   |
| weather conditions in my area.                                         |                  |                |      |
| I think imported seeds are more disease resistant compared to          | 1.93             | 48.25          | 16   |
| certified seeds                                                        |                  |                |      |
| I want to grow all of my seeds without using certified seeds.          | 1.698            | 42.5           | 17   |
| I am working with my experience and I do not need to grow certified   | 1.692            | 42.3           | 18   |
| seeds.                                                                 |                  |                |      |
| I believe that using improved seeds does not reduce production costs.  | 1.68             | 42             | 19   |
| I would like to replace the certified items with imported modern       | 1.42             | 35.5           | 20   |
| items.                                                                 |                  |                |      |

When looking at Table (2), it is noticed that the majority of expressions with a positive trend towards selecting and producing certified seeds occupied the advanced order, as in terms of rank (1, 2, 3, 4), while expressions with a negative trend towards selecting and producing seeds Certified has occupied the last ranks, as in the phrases with ranks (17, 18, 19, 20), and this indicates that the respondents tend to adopt positive trends towards selecting and producing certified seeds, and this is confirmed by the arithmetic
mean of trends towards selecting and producing certified seeds. It tends to rise clearly and the percentage of positive values was (61.35%), while the percentage of neutral values was (53.9%), while the negative values occupied a percentage (49.5%).

3.2. Defining the discrepancy between the independent studied variables of the respondents and between their attitudes towards selecting and producing certified seeds in Halabja governorate.

Age: The results showed that the highest age of the respondents is (72) years and the lowest age is (30) years, with an average of (51 years). The ages of the respondents were divided into four age groups, and it is noted from the results that the highest percentage of age (45.8%) falls within the age group (41-51) and the lowest percentage (10.9%) falls within the age group (63-73) as shown in Table (3) To test the differences between the arithmetic means of the level of the respondents’ tendency for different age groups, an analysis of variance was used, and the results were as follows:

| The source of the difference | Sum square deviation | d.f | Mean square deviation | F     | Sig. |
|-----------------------------|----------------------|-----|-----------------------|-------|------|
| Between Groups (Combined)   | 285.044              | 3   | 95.015                | 5.751 | .001 |
| Within Groups               | 5088.568             | 308 | 16.521                |       |      |
| Total                       | 5373.612             | 311 |                       |       |      |
It is evident from Table (4) that the calculated value of \( F \) is greater than the value of \( F \) tabular at a significant level (0.01), thus accepting the research hypothesis that states (there are significant differences between the level of orientation of farmers with different ages) and this means that farmers in the categories Different age groups differ in their level of attitudes towards selecting and producing certified seeds for different ages. This result is consistent with his findings [20], and this result is not consistent with her findings [21].

3.3. Educational level

Table (3) shows an increase in the percentage of those who completed primary school and who read and write among the respondents, and this may be due to the fact that rural and rural residents often make their children leave school after they learn to read and write or after obtaining the elementary certificate, due to their need for children in agricultural work. To test the differences between the arithmetic averages of the level of attitudes of the respondents at different educational levels, analysis of variance was used, and the results were as follows:

Table 4. Results of the analysis of variance between mean level and trend averages according to age groups

| Variables               | cultivators | Mean to Total attitude | Variables               | cultivators | Mean to Total attitude |
|-------------------------|-------------|------------------------|-------------------------|-------------|------------------------|
| Age                     |             |                        |                         |             |                        |
| 30 - 40                 | 51          | 16.3                   | 52.16                   | 12 - 21     | 34                     | 10.9                   | 53.21                   |
| 41 - 51                 | 143         | 45.8                   | 54.14                   | 22 - 31     | 120                    | 89                     | 28.5                    | 53.67                   |
| 52 - 62                 | 84          | 26.9                   | 53.26                   | 32 - 41     | 143                    | 51                     | 16.3                    | 53.63                   |
| 63 - 73                 | 34          | 10.9                   | 51.44                   | 42 - 51     | 18                     | 10.9                   | 50.94                   |
| Educational attainment |             |                        |                         |             |                        |
| unlearned              | 21          | 6.7                    | 54.67                   | Low (9-15)  | 6                      | 1.9                    | 51.17                   |
| Able to read and write | 22          | 7.1                    | 51.50                   | Medium (16-22) | 33                  | 10.6                  | 54.36                   |
| Primary education      | 118         | 37.8                   | 53.81                   | High (23-29) | 273                   | 87.5                  | 53.13                   |
| Medal education        | 66          | 21.2                   | 51.56                   | Sources of information | 12 | 3.8 | 53.29 |
| Secondary education    | 73          | 23.4                   | 53.97                   | Low (13-24) | 16 | 5.1 | 53.10 |
| Institute              | 12          | 3.8                    | 53.29                   | (38-25) Medium | 135 | 43.3 | 54.31 |
| No. of family members  |             |                        |                         |             |                        |
| 1-4                    | 72          | 23.1                   | 53.28                   | (37-48) High | 161                  | 51.6                  | 52.47                   |
| 5-8                    | 210         | 67.3                   | 53.14                   | 7 or more | 292 | 93.6 | 53.31 |
| 9-12                   | 30          | 9.6                    | 54.33                   | Total      | 312 | 100 | 100 |
| Area of agricultural land acquisition |             |                        |                         |             |                        |
| 1 -3                   | 2           | 0.6                    | 49.50                   | Total      | 312 | 100 | 100 |
| 4 - 6                  | 18          | 5.8                    | 53.28                   |             |                        |
| 7 or more              | 292         | 93.6                   | 53.31                   |             |                        |
Table 5. the results of analyzing the differences between the mean level and the trend according to the educational levels

| The source of the difference | Sum square deviation | d.f | Mean square deviation | F   | Sig. |
|-----------------------------|----------------------|-----|-----------------------|-----|------|
| Between Groups (Combined)   | 386.059              | 5   | 77.212                | 4.737 | .000 |
| Within Groups               | 4987.553             | 306 | 16.299                |      |      |
| Total                       | 5373.612             | 311 |                       |      |      |

It is evident from Table (5) that the calculated value of (F) is greater than the tabular value of (F) at a significant level (0.01), thus accepting the research hypothesis that states (there are significant differences between the level of orientation of farmers at different educational levels). This result is consistent with the findings of [22].

**Number of family members:** The results showed that the highest number of members of the respondent's family is (13) and the lowest number is one, with an average of (6) individual. The respondents were distributed into three categories according to this variable, as shown in Table (3).

To test the differences between the arithmetic averages of the respondents' level of tendency for the different categories of the number of family members, an analysis of variance was used, and the results were as follows:

Table 6. the results of the analysis of variance between the mean level and trend according to the number of family members

| The source of the difference | Sum square deviation | d.f | Mean square deviation | F   | Sig. |
|-----------------------------|----------------------|-----|-----------------------|-----|------|
| Between Groups (Combined)   | 37.506               | 2   | 18.753                | 1.086 | .339 |
| Within Groups               | 5336.106             | 309 | 17.269                |      |      |
| Total                       | 5373.612             | 311 |                       |      |      |

It is evident from Table (6) that the calculated value of (F) is less than the tabular value of (F) at a significant level (0.05), and thus rejects the research hypothesis that states (there are significant differences between the averages level of orientation of farmers and the number of family members). This means that farmers in different categories of family members do not differ in their level of attitudes towards selecting and producing certified seeds.

### 3.4. Area of agricultural holding

The results of the research showed that the highest percentage of respondents (93.6%) fall into the category (7 or more) dunums, as shown in Table (3), and that the respondents with the third category (7 or more) dunums have a higher level of trend compared to other categories, and to test the differences between the arithmetic averages of the respondents' trend level on the different agricultural holding area, an analysis of variance was used, and the results were as follows:
Table 7. the results of the analysis of variance for the differences between the level and trend averages according to the agricultural holding area

| The source of the difference | Sum square deviation | d.f | Mean square deviation | F   | Sig. |
|-----------------------------|---------------------|-----|----------------------|-----|------|
| Between Groups (Combined)   | 28.861              | 2   | 14.430               | .834| .435 |
| Within Groups               | 5344.752            | 309 | 17.297               |     |      |
| Total                       | 5373.612            | 311 |                      |     |      |

It is evident from Table (7) that the calculated value of (F) is less than the tabular value of (F) at a significant level (0.05). Thus, the research hypothesis is rejected, which states (there are significant differences between the level of orientation of farmers according to the area utilized in agriculture). This means that farmers in the different categories of the area utilized for agriculture do not differ in their level of attitudes towards selecting and producing certified seeds. This finding is not in agreement with his findings.

3.5. Agricultural experience

The results of the research revealed that the highest numerical value expressing the number of years of experience in the field of cultivating field crops was (51) years and the least years of experience were (2) years with an average of (24) years. The years of experience of the respondents were divided into five categories as shown in Table (3) the highest percentage of respondents (38.5%) was in the category (12-21), while the lowest percentage of respondents (5.8%) was in the category (42-51). To test the differences between the arithmetic averages of the level of the respondents’ trend in different agricultural experience, analysis of variance was used, and the results were as follows:

Table 8. results of the analysis of variance of the differences between mean level and trend according to agricultural experience

| The source of the difference | Sum square deviation | d.f | Mean square deviation | F   | Sig. |
|-----------------------------|---------------------|-----|----------------------|-----|------|
| Between Groups (Combined)   | 118.712             | 4   | 29.678               | 1.734| .142 |
| Within Groups               | 5254.900            | 307 | 17.117               |     |      |
| Total                       | 5373.612            | 311 |                      |     |      |

It is evident from Table (8) that the calculated value of (F) is less than the tabular value of (F) at a significant level (0.05), thus rejecting the research hypothesis that states (there are significant differences between the level of orientation of farmers with different agricultural experience). This means that farmers in the different categories of agricultural expertise do not differ in their level of attitudes towards selecting and producing certified seeds. This result is not consistent with his findings [23].
Degree of informal group participation: The results of the research revealed that the highest numerical value expressing the degree of informal collective participation is (29) degrees and the lowest value (9) is a degree with an average of (24.7) degrees. The degree of informal collective participation of the respondents was divided into three categories as shown in Table (3). The highest percentage of respondents (87.5%) falls within the category (23-29) and the lowest percentage (1.9%) falls within the category (9-15). It is evident from the research results that the degree of informal collective participation is high for respondents and to test the differences between the arithmetic averages of the level of the respondents' trend. On the difference in the degree of informal group participation: Analysis of variance was used, and the results were as follows:

Table 9. results of the analysis of variance of the differences between the mean level and the trend according to the informal group participation

| The source of the difference | Sum square deviation | d.f | Mean square deviation | F     | Sig.  |
|-----------------------------|---------------------|-----|-----------------------|-------|-------|
| Between Groups (Combined)   | 91.259              | 2   | 45.629                | 2.669 | .071  |
| Within Groups               | 5282.353            | 309 | 17.095                |       |       |
| Total                       | 5373.612            | 311 |                       |       |       |

It is evident from Table (8) that the calculated value of (F) is less than the tabular value of (F) at a significant level (0.05), thus rejecting the research hypothesis that states (there are significant differences between the level of farmers' orientation according to the degree of informal collective participation). This means that farmers in the different groups for informal collective participation do not differ in their level of attitudes towards selecting and producing certified seeds. This result is not in agreement with what was reached [13].

Sources of information

The results of the research revealed that the highest numerical value expressing information sources is (48) degrees and the lowest numerical value is (13) degrees with an average of (35.59) degrees. The degree of exposure to information sources for the respondents was divided into three categories as shown in Table (3). The highest percentage of respondents (51.6%) falls into the category (37-48) and the lowest percentage (5.1%) falls within the category (13-24). Difference in the degree of exposure to the information sources. Analysis of variance was used, and the results were as follows:

Table (10) the results of the analysis of variance of the differences between the mean level and the trend according to the degree of exposure to information sources

| The source of the difference | Sum square deviation | d.f | Mean square deviation | F     | Sig.  |
|-----------------------------|---------------------|-----|-----------------------|-------|-------|
| Between Groups (Combined)   | 242.116             | 2   | 121.058               | 7.290 | .001  |
| Within Groups               | 5131.496            | 309 | 16.607                |       |       |
| Total                       | 5373.612            | 311 |                       |       |       |
It is evident from Table (9) that the calculated value of (F) is greater than the tabular value of (F) at a significant level (0.01), thus accepting the research hypothesis that states (there are significant differences between the level of farmers’ orientation with different sources of information). This means that farmers in different contact groups differ in their level of attitudes towards selecting and producing certified seeds. This result is in agreement with his findings [24].

3. Examine the obstacles that limit the selection and production of certified seeds from the viewpoint of the respondents:

The obstacles that limit the selection and production of certified seeds (15) problems obtained weighted averages ranging between (2.08-2.81) degrees and percentage weights located between (69.33% -93.66%), which were arranged according to their sequence relative to the number of respondents who mentioned that they suffer from it as shown in the following table:

Table 11. Distribution of the respondents according to the problems related to the selection and production of certified seeds

| Problems                                                                 | Rank | Mean   | Percent weight |
|-------------------------------------------------------------------------|------|--------|----------------|
| Weak utilization and sustainability of call centers with farmers to produce certified seeds | 1    | 2.81   | 93.66          |
| Lack of clear policies to support certified seed production             | 2    | 2.75   | 91.66          |
| The weak use of biotechnology in developing new varieties has led to the failure of the certified seed industry to develop | 3    | 2.74   | 91.33          |
| The lack of agricultural insurance for the production, multiplication and marketing of seeds. | 4    | 2.69   | 89.66          |
| The technical and financial weakness of the control system for seeds and seeds | 5    | 2.68   | 89.33          |
| The lack of agricultural institutions related to the seed industry, whether productive, marketing or service. | 6    | 2.67   | 89             |
| Significant shortage of technical staff specialized in producing and selecting improved seeds | 7    | 2.65   | 88.33          |
| The weak role of agricultural extension in convincing farmers and informing them of the importance of certified seeds | 8    | 2.63   | 87.66          |
| Lack of necessary legal legislation to enforce farmers’ use of improved seeds. | 9    | 2.60   | 86.66          |
| Lack of practical seminars and conferences in the field of using certified seed production | 10   | 2.58   | 86             |
| Lack of rain and fluctuation of rain during the season and high temperatures. | 11   | 2.57   | 85.66          |
| The lack of a specialized program for training in the use of certified seed production | 12   | 2.53   | 84.33          |
| High prices for certified seeds | 13   | 2.41   | 80.33          |
| Decreased awareness among farmers of the importance of using certified seed production | 14   | 2.10   | 70             |
| Lack of skill farmers have in producing certified seeds | 15   | 2.08   | 69.33          |

The previous table indicates that the problem of (poor exploitation and sustainability of call centers with farmers to produce certified seeds) came first on all problems of various kinds according to importance and percentage weight, as it achieved an average of (2.81) degrees and a percentage weight of (93.66%), which is It is higher than the average for other problems, and this may be attributed to the fact that constant contact with farmers leads to behavioral changes and changes in social relations, values and customs, and thus leads to raising the standard of living of the rural family, while the problem (lack of skill among farmers by producing certified seeds) ranked last for problems of various kinds according to
importance and percentage weight, as it achieved an average of (2.08) score and weight percentage (69.33%), which is lower than the averages of other problems and perhaps the advent of the skill In the last place, it is due to the respondents' belief that the skill is less important compared to other problems and that the majority of farmers have the traditional skill of producing seeds.

4. Conclusions

The results of the research showed that the level of tendency of grain growers towards choosing and producing certified seeds tends to be medium to low. This may be due to the weakness of extension activities in the field of producing certified seeds or the farmers' dependence on local and traditional expertise from non-scientific sources such as some agricultural seed centers for imported seeds. The study showed that there are several problems and obstacles hindering the selection and production of certified seeds, the most important of which are (poor utilization and sustainability of call centers with farmers to produce certified seeds, lack of clear policies to support the production of certified seeds, poor use of biotechnologies in the field of developing new varieties, which led to the lack of development. Certified seed industry. Lack of agricultural insurance for the production, multiplication and marketing of seeds.

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