# Interaction Between Agricultural Extension and Barley Farmers and the Most Important Problems of Production in Sweida Governorate

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**Abstract**

Agricultural policies and plans try to support barley as an important component of crop combination in Sweida governorate. The research aimed to identify the most important interactions between agricultural extension and barley farmers in Sweida governorate (located in the south of Syria), and to identify the most important problems of production facing barley farmers. To achieve these goals, different statistical tools were used including Spearman and Pearson coefficients and 4-point Likert scale. Data were collected from a random sample of barley farmers in Sweida governorate during season 2014/2015. The results revealed that interaction degree was weak in 51.74% of the sample and moderate in 30.23%. In spite of this result, there was a significantly positive relation between the interaction degree and each of: the presence of the agricultural extension unit in the village, registration in an agricultural cooperative, farmer's age, experience in agriculture, the main work of the farmer (whether it is related to agriculture or not). The most important problems face barley production from the farmers' point of view was the increase in labor and fuel prices. The participation of the farmer in the research and in the extension unit's activities at all stages, is highly recommended to improve the interaction with agricultural extension and scientific research centers.

**Keywords**: Agricultural extension, Extension activities, Barley, Sweida governorate.

## Introduction:

The agricultural extension system is the most important channel to deal with farmers. Its importance based on its role in spreading ideas, practices and modern agricultural technologies to the farmers in a direct and applicable manner. The professionalism also affects agricultural extension in service delivery by creating demotivated cadres in agriculture (Zwane, 2014). To achieve the goals of extension in dissemination of new technologies and adoption of these technologies by farmers, delivery methods have to be carefully selected and varied (Isaac *et al*., 2013).

The relationship and degree of interaction between farmers and extension are influenced by many factors. Al-Samawi (2005) has showed a positive correlation at 0.01 significant level between farmers' knowledge in post -harvest processing and the presence of an agricultural agent in the region, number of extension agent visits to farmers and sources of information. The results of an extension program applied to a number of farmers in Egypt showed that a large proportion of them interacted with the extension services, so that they are participating in paying the costs of the extension programs around 50% for 71% of the farmers (9th Conference on Agricultural Extension and Rural Development, 2010). The application

of modern agricultural extension policies which is supported by farmers' coverage of part of extension costs in most regions of Australia has had a positive effect on the adoption of the latest agricultural and environmental technologies (Marsh and Pannell, 2000)

According to Jasim, (2011) an assessment of the role of all visual and audio advertisement in dissemination of agricultural technologies from extension agents' point of view, all means of agricultural films, the internet, wall posters, and data slides were important means in transferring agricultural technologies. The study also found significant correlation at 0.05 significant level between years of experience in extension and pre-service training of guides on different means. Accordingly, the research recommends attention to the need for training workers in the field of agricultural extension as well as the use of means of interest of the feedback from them. This contributes (significantly) to the improvement and development of guidance and development means used in the dissemination of agricultural technologies

The organizational structure of the extension system has a significant role in its efficiency and effectiveness, such as the number of guides and the integrated relationship with scientific research bodies (Al Zaidi and Al Haj, 2004). Another study showed that the size of family, the main occupation of farmer (if it is agriculture), and the size of agricultural holding significantly and directly affect the participation of farmers in extension activities (Abdullah, 2011).

There are many obstacles limit the role of agricultural extension in achievement of rural development. Some obstacles related to targeted groups such as, social constraints associated with customs and traditions, illiteracy and lack in understanding the appropriate language between guide and farmers, which subsequently lead to misunderstanding of extension information. Other obstacles related to guides such as, the lack of extensional office supplies in some regions, the lack of financial resources for extension programs and the insufficient number of guides (Hossain and Mergny, 2013). In the same context, another study, concerning the performance of agricultural extension body and the organizational climate, revealed a significant positive relationship between the performance of extension tasks and reward system, teamwork and the finance available for extension body (Salman *et al*., 2015).

Even though the majority of farmers showed awareness toward agricultural extension methods and activities, they expressed some remarks including lack of specialized guides, lack of farmer participation in planning process, lack of referral of the problem to the research bodies, lack of the number of extension fields and failure to meet their real needs. As a result, most farmers prefer the participatory approach between the extension and the farmer (Shalaby and Mikhaiel, 2014).

The majority of the research studies focused on the importance of continuous training for agricultural extension workers, because there was a significant correlation between the number and quality of training courses for guides and the degree of their ability to transfer technologies, in addition to the age and the duration of extension work (Abd El Wahed, 2015).

Extension units (53 units) are covering most villages of Sweida governorate. These units undertake multiplicity of activities like seminars, courses and field days, which frequently performed each year. The continuous meetings with guides and farmers showed that the degree of interaction between agricultural extension and farmers in general, particularly barley farmers is still at levels that do not meet the general objectives of agricultural extension (personal communications).

**Objectives:**

1. To study the characteristics of the interaction between barley farmers and agricultural extension in the governorate of Sweida by developing a measure for this interaction, and to find out factors affecting this measure.
2. To identify the most important problems facing the farmers, and to determine what are the most important recommendations that would improve production process.

**Methodology and materials:**

**1. Data sources and sampling:**

The research was conducted in the governorate of Sweida, production season2014-2015. The analysis was based on primary data collected by a questionnaire directed to a random sample of barley farmers. Sample size was determined as 5% of total number of barley farmers in the governorate and distributed according to the percentage of farmer number in each administrative area. Sample consisted of 172 observations distributed in several villages of the governorate. The questionnaire was built to include all questions related to farmers' knowledge, their participation in extension activities and the problems faced them in production of this crop.

**2. Data analysis:**

**2.1 The nature of relationship between interaction and different variables:**

Different types of correlation coefficients including Spearman and Pearson (at significance levels 1% and 5%) were used to recognize the relationship between different variables and the degree of interaction using the following statistical hypotheses:

Null hypothesis (H0): There is no relationship between the degree of interaction (extension and farmers) and the studied variables.

Alternative hypothesis (Ha): There is a relationship between the degree of interaction (extension and farmers) and the studied variables.

Variables used were: the presence of an extension unit in the village or not, if the farmer is registered in one of the cooperatives or not, age of the farmer, the educational level of the farmer (determined using years of schooling), years of agricultural experience, if the main job of the farmer was agriculture or not, the total agricultural holding, the area of barley and farmer ownership of livestock

**2.2 Measuring the degree of interaction between farmers and extension:**

To measure the interaction between farmers and extension, the variables in Table (1) were employed.

**Table 1. Variables used for measuring the degree of interaction between farmers and extension**

| Variable | Lower value | Upper value |
|---|---|---|
| **Number of agricultural guide visits to farmers** | 0 | 20 |
| **Number of farmer visits to the extension unit** | 0 | 20 |
| **Number of extension activities that farmer participated in** | 0 | 4 |
| **Participation of farmers in the preparation of various extension activities and events** | 0 (no) | 1 (yes) |
| **The farmer's belief in the usefulness of the extension activities** | 0 (no) | 1 (yes) |
| **Application of guides' advices by the farmer** | 0 (no) | 1 (yes) |
| **Participation of farmers in the coming activities** | 0 (no) | 1 (yes) |
| **Values of constructed scale** | 0 | 48* |

**Source**: **primary data analysis.**

Based on the above-mentioned variables (Table 1), each farmer registered a score for each variable and the sum of these scores were used to construct a scale ranges from 0 (no score) to 48 (the maximum score registered). After that, the reaction degree (0 to 48) was divided into four levels considering the significant differences between these levels.

**2.3 Measuring the strength of problems facing the farmers:**

The 4-pointLikertscalewas applied to determine the most important problems facing barley farmers in the region according to their answers (Likert, 1932). The variable expressing farmers' answers was considered as an ordinal variable showing the strength of the problem as illustrated in Table (2).

**Table 2. The weight of problems strength.**

| Opinion | Weight |
|---|---|
| **None** | 1 |
| **Simple** | 2 |
| **Moderate** | 3 |
| **Strong** | 4 |

After that, the weighted mean was calculated by dividing 3 (based on the fact that 1,2,3,4 determined 3 intervals among them) by number of problem strengths (4) which equals 0.75. Then, the attitude was determined according to the weighted means (Table 3).

**Table 3. Attitude according to weighted means**

| Attitude | Weighted mean | |
|---|---|---|
| | **From** | **To** |
| **None** | 1 | 1.74 |
| **Simple** | 1.75 | 2.49 |
| **Moderate** | 2.50 | 3.24 |
| **Strong** | 3.25 | 4 |

**2.4 Reliability and validity tests:**

Cronbach's Alpha coefficient was used as a coefficient of reliability. This coefficient takes values between 0 to 1. If there is no reliability in the questionnaire, value of this coefficient will equal to zero. Conversely, if there is complete reliability in the questionnaire, the coefficient is equal to 1. Increasing value of this coefficient means increasing reliability of the questionnaire and in turn the data collected from the sample. In other words, reliability means the stability of the scale and its non-contradiction, and that it will give the same results if reapplied to the same sample once again.

On the other hand, the validity coefficient was calculated by calculating the square root of the reliability coefficient. Positive (0 to 1) validity coefficient indicates that Likert scale is appropriate for analyzing the level of problems strengths.

**Results and discussion:**

1. **Spreading of extension units and visits of agricultural guides to barley farmers:**

**1.1 Presence of the extension unit:**

The extension units are located in the farmers' villages in 77% ofthe sample. In addition, 20% of the farmers live in villages subordinated to the extension unit in a neighboring village. Only 3% of farmers live in villages far away from an extension unit.

**1.2 Guide visits to the farmers:**

The research showed that 54% of farmers have not been visited by the guide. Only 20% of the farmers have been visited less than three visits in the season (Table 4).

**Table 4. Distribution of farmers according to the number of visits performed by the agricultural guide**

| Number of visits | Frequency | % |
|---|---|---|
| **None** | 93 | 54 |
| **Less than 3** | 34 | 20 |
| **3-6** | 17 | 10 |
| **More than 6** | 28 | 16 |
| **Sum** | 172 | 100 |

**Source: primary data analysis.**

**1.3 Reasons for the guide visit:**

Table (5) shows the reasons for the visit of the agricultural guide to barley farmers. The agricultural advice given to farmers, especially concerning the control of barley pests, was the main reason for the visit in 28% of the sample, whereas 10% said that the visits were regular to monitor the execution of agricultural plan or to perform sheep vaccination. Only 8% of the visits were intended to invite farmers for participating in extension activities.

**Table 5. Reasons of visiting the agricultural guide to the barley farmers**

| The reason of guide visit | Frequency | % |
|---|---|---|
| **Provide agricultural advice especially for pest control** | 49 | 28 |
| **Regular visits to monitor agricultural work or performing sheep vaccination** | 17 | 10 |
| **Invitation to carry out an extension activity** | 13 | 8 |
| **No visit** | 93 | 54 |
| **Sum** | 172 | 100 |

**Source: primary data analysis.**

## 2. Barley farmer and agricultural extension:

### 2.1. Farmer visits:

The research showed that 18% of barley farmers did not visit the extension units during the season. Among the 82% of barley farmers who visited the extension, 30% of them performed 3-6 visits and ca 30% performed more than 6 visits (Table 6).

**Table 6. Distribution of farmers according to the number of their visits to the extension unit**

| Number of farmer visits to the extension unit | Frequency | % |
|---|---|---|
| **None** | 31 | 18.02 |
| **Less than 3** | 38 | 22.09 |
| **3-6** | 52 | 30.23 |
| **More than 6** | 51 | 29.65 |
| **Sum** | 172 | 100 |

**Source: primary data analysis.**

### 2.2. The reason for the visit:

Whereas the reason of the visit for 77% was to inquire about agricultural operations and services, 58% of sample visited the agricultural unit to attend an extension activity.

## 3. Interaction with extension activities:

### 3.1. Participation in extension activities:

The agricultural extension units undertake several activities such as an agricultural symposium, courses, implementation of extension fields and establishment of field days. As indicated above, only 58% of barley farmers participated in the activities carried out by the extension unit, and 42% of the farmers did not attend any activity. This is due to several reasons: 26% of farmers did not receive any invitation to attend any extensional activity, 2% were not convinced with the benefit of these activities,9% of the farmers did not participate because they did not hear about these activities and 9% did not have time to attend these activities, while 4% of farmers did not give any reason for not participating

### 3.2. Type of activity:

Figure (1) shows that agricultural symposium and field days were the most common activities that farmers participated in by49% and 22% respectively. In spite of this result, the preferred type of activities by the farmers was36% for field days and 16% for the extension field. This result reflects the importance of practical forms of activities in spreading new technologies

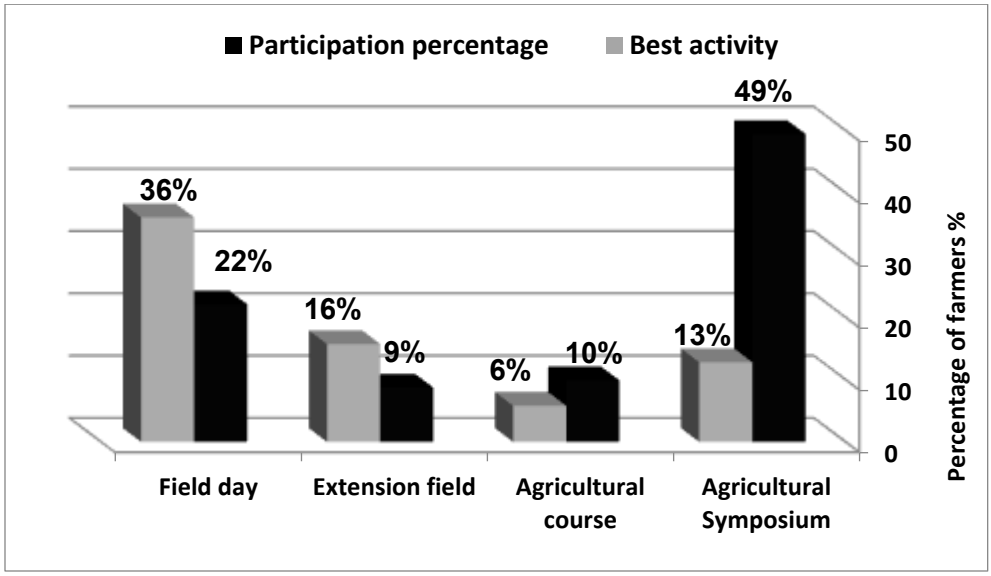


**Figure 1. Distribution of farmers by type and preference of extension activity**

### 3.3. Benefits from the activity:

The research revealed that 81% of farmers indicated that the agricultural guide provides useful and new information through his visits or through the activities of extension unit, while 19% of them saw that agricultural guide add none.

### 3.4. Application of extension advices:

Figure (2) shows that 61% of farmers applysome of guides` advices during their visits or duringparticipation in the activities of extension unit, while 39% do not. This is due to several reasons; the most important is the lack of usefulness of the subject discussed by the guide by 18%.

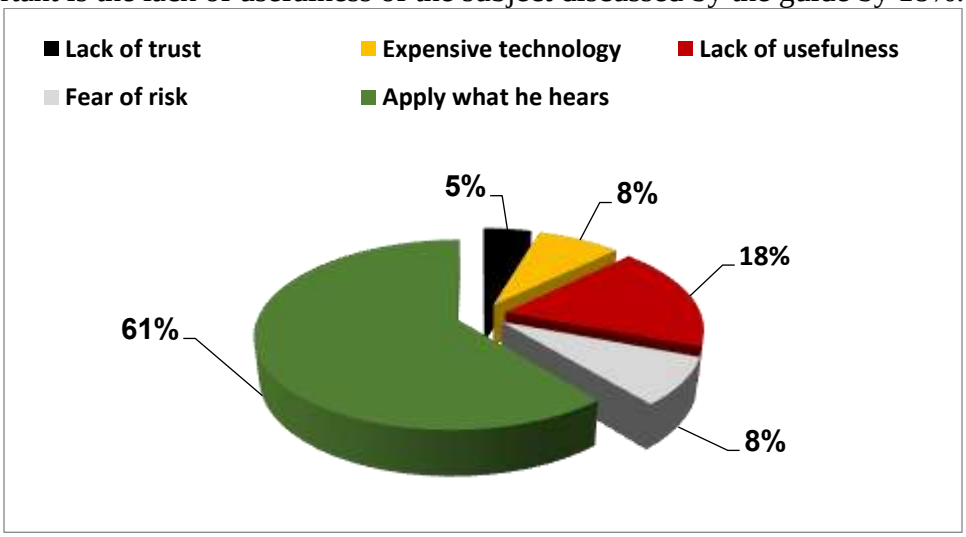


**Figure 2. Applying advices and reasons for not applying.**

### 3.5. Responding to future events:

Ninety-seven% of farmers said that they would respond to the invitation by the extension unit to participate in the activities and events in the future whereas 3% of them will not. Reasons for not participating are including the health status of the farmer, lack of time, some farmers are not convinced that guides have enough relevant experience in agriculture, and others believed to already be fully aware of what is new in agriculture.

### 3.6. Participation in activity preparation:

Further to querying, farmers who participated in the preparation and implementation of any type of extension unit activities, it was determined that only 9% of them actively participated in preparing or participating by giving a lecture or providing some agricultural samples.

### 3.7. Sources for information

Most farmers resorted to extension units when they face problems, but the questionnaire focused on other sources that farmers might rely on. The research showed that about 45% of the barley farmers resorted to other well experienced farmers to inquire about any problem they face in agriculture, while 37% resorted to agricultural pharmacies (Figure 3). It is worth mentioning that only 15% of farmers rely on scientific research centers to address their agricultural problems.

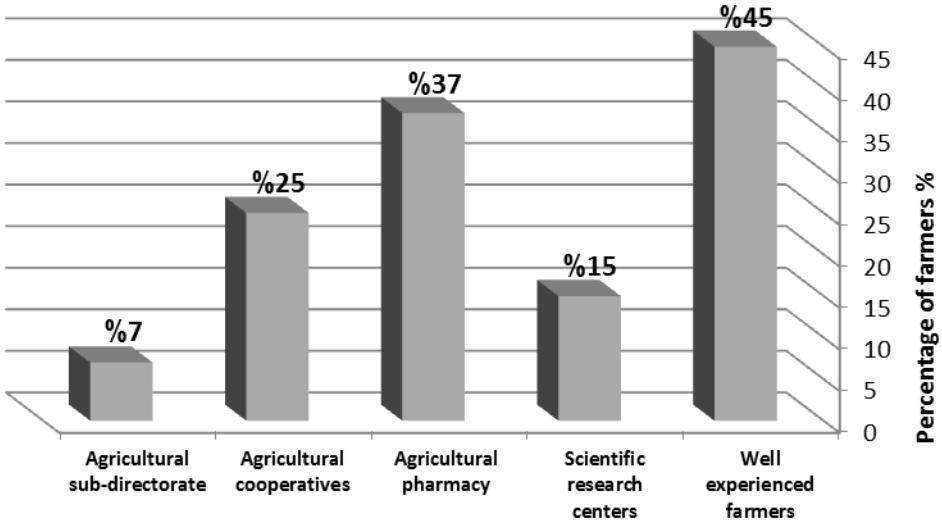


**Figure 3. Distribution of farmers according to the source of information**

## 4. The relationship between barley farmers and extension and the most affecting variables:

Based on data collected by using the questionnaire, the relationship between some economic and social factors and the interaction with agricultural extension units was studied after transformation of the variables into quantitative values using the principles of statistics and social measurement (Al-Qassas, 2007) as follows:

### 4.1. Determining the degree of interaction:

Barley farmers were distributed according to the degree of interaction into four interaction levels considering the significant differences between these levels: 0 no reaction, 1-8 weak reaction, 9-18 moderate reaction, ≥ 19 good reaction. It was found that weak interaction level within the sample was about 51.74%, followed by the moderate reaction for 30.23% of the sample (Table 7).

**Table 7. Distribution of sample farmers according to the degree of interaction with agricultural extension**

| Reaction degree | Frequency | % |
|---|---|---|
| **No reaction** | 1 | 0.58 |
| **Weak** | 89 | 51.74 |
| **Moderate** | 52 | 30.23 |
| **Good** | 30 | 17.44 |
| **Sum** | 172 | 100 |

**Source: primary data analysis.**

### 4.2. Nature of relationship between interaction and each of affecting variables:

The results in Table (8) showed a significant and positive relationship at 0.01 significant level between the degree of interaction and each of: the existence of an extension unit in the village, membership in

agricultural cooperatives, the age of the farmer and years of agricultural experience. Positive relationship was also observed at 0.05 significant level between the degree of interaction and the main job of the farmer if it is agriculture or not. Based on these results, the null hypothesis was rejected. In addition, no correlation observed between the degree of interaction and each of educational level, total agricultural holding, cultivated area of barley, farmers' ownership of livestock or not. According to the previous findings, the null hypothesis (H0) was accepted.

**Table 8. The relationship between the degree of interaction and studied variables**

| Variable | Correlation coefficient (r) |
|---|---|
| **Presence of an extension unit in the village1** | 0.24* |
| **Cooperative membership1** | 0.21* |
| **Age of the farmer2** | 0.20* |
| **Educational level2** | 0.08 |
| **Agricultural experience2** | 0.31* |
| **The main job of the farmer (if agriculture)1** | 0.15** |
| **Total agricultural holding 2** | -0.05 |
| **Barley area2** | 0.103 |
| **livestock ownership1** | 0.033 |

**Source: primary data analysis. *,** indicate significant relationship at 0.05 and 0.01, respectively. 1: Spearman (r), 2: Pearson (r).**

## 5. The main problems faced by barley farmers in the sample:

By analyzing problems facing barley production from barley farmers' point of view, the following steps were used:

**Main axes:**

The obstacles faced the farmers were divided into the following four axes:

**1-**Obstacles related to getting production inputs, including difficulties in obtaining seeds (problem 1, P1), obtaining fertilizers (P2), availability of labor (P3), availability of pesticides (4) and obtaining agricultural machinery (tractor, combine and mechanical harvester) (P5):

**2-** Obstacles related to high prices of production inputs including rise in the prices of seeds (P6), pesticides (P7), fertilizers (P8), fuel (P9) and labor (10).

**3-**Marketingrelated problems including difficulty in selling production (P11) and decline in producer price (12).

**4-**Problems related to weak governmental support to barley farmers including absence of compensation for barley farmers for repeated damage to their crop (P13), absence of agricultural loans for barley farmers (P14) and absence of drought support fund(P15).

### 5.1 Reliability and validity tests for the questionnaire related to the obstacles:

#### 5.1.1 Total reliability and validity tests on all axes and questions:

Table (9) shows that the value of Cronbach and validity coefficientsare0.880, 0.938 respectively, which are high and positive values. The number of elements listed are15 items.

**Table 9. Statistics for reliability and validity tests**

| Number of items | Cronbach's Alpha | Validity coefficient |
|---|---|---|
| 15 | 0.880 | 0.938 |

**Source: primary data analysis.**

#### 5.1.2 Reliability and validity tests for each axis

By performing reliability and validity tests for each axis alone, a summary of the results was obtained and shown in Table (10). The results indicated the strength of the reliability and validity for all studied axesrelated to farmers' questions about the problems and difficulties encountered.

**Table 10. Reliability and validity coefficients for each axis**

| Axis | Elements number | Reliability coefficient | Validity coefficient |
|---|---|---|---|
| **Getting production input** | 5 | 0.689 | 0.830 |
| **High prices of production input** | 5 | 0.787 | 0.887 |
| **Marketing related problems** | 2 | 0.84 | 0.917 |
| **Weak government support** | 3 | 0.93 | 0.964 |
| **Total** | 15 | 0.88 | 0.938 |

**Source: primary data analysis.**

### 5.2 Data analysis according to the 4-pointLikert scale

For the first axis, Table (11) shows that the general attitude of the getting production inputs is simple. That means most of the elements that are relevant to this axis are not considered as problems for barley farmers. This is due to the fact that barley farmer obtains seeds from his\her previous season, as well as the farmer uses his\her own machines and labor in performing all agricultural operations required for barley production. In addition, very few farmers applied both processes of fertilization (chemical and organic) and chemical control (primary data).

**Table 11. Attitudes of problems related to the getting production input axis**

| First axis | | None | Simple | Moderate | Strong | Weighted mean | Attitude |
|---|---|---|---|---|---|---|---|
| **P1** | **Frequency** | 123 | 21 | 14 | 14 | 1.53 | None |
| | **%** | 71.5 | 12.2 | 8.1 | 8.1 | | |
| **P2** | **Frequency** | 135 | 9 | 10 | 18 | 1.48 | None |
| | **%** | 78.5 | 5.2 | 5.8 | 10.5 | | |
| **P3** | **Frequency** | 33 | 19 | 27 | 93 | 3.04 | Moderate |
| | **%** | 19.2 | 11 | 15.7 | 54.1 | | |
| **P4** | **Frequency** | 136 | 4 | 14 | 18 | 1.5 | None |
| | **%** | 79.1 | 2.3 | 8.1 | 10.5 | | |
| **P5** | **Frequency** | 153 | 0 | 0 | 19 | 1.33 | None |
| | **%** | 89 | 0 | 0 | 11 | | |
| **getting production input** | **Frequency** | 580 | 53 | 65 | 162 | 1.78 | Simple |
| | **%** | 67.4 | 6.2 | 7.6 | 18.8 | | |

**Source: primary data analysis.**

For the second axis, it falls under the moderate attitude. Some items for this axis like the high prices of seeds, control materials and fertilizers were considered as simple problems for farmers, while other items like high fuel prices and high labor wages were set as the most important and strong problems (Table 12).

**Table 12. Attitudes of problems related to high prices of the production input axis**

| Second axis | | None | Simple | Moderate | Strong | Weighted mean | Attitude |
|---|---|---|---|---|---|---|---|
| **P6** | **Frequency** | 87 | 17 | 17 | 51 | 2.19 | Simple |
| | **%** | 50.6 | 9.9 | 9.9 | 29.7 | | |
| **P7** | **Frequency** | 108 | 2 | 1 | 61 | 2.09 | Simple |
| | **%** | 62.8 | 1.2 | 0.6 | 35.5 | | |
| **P8** | **Frequency** | 99 | 1 | 7 | 65 | 2.22 | Simple |
| | **%** | 57.6 | 0.6 | 4.1 | 37.8 | | |
| **P9** | **Frequency** | 12 | 0 | 4 | 156 | 3.77 | Strong |
| | **%** | 7 | 0 | 2.3 | 90.7 | | |
| **P10** | **Frequency** | 15 | 2 | 24 | 131 | 3.58 | Strong |
| | **%** | 8.7 | 1.2 | 14 | 76.2 | | |
| **High prices of production input** | **Frequency** | 321 | 22 | 53 | 464 | 2.77 | Moderate |
| | **%** | 37.3 | 2.6 | 6.2 | 54.0 | | |

**Source: Primary data analysis.**

Results showed that the third axis related to marketing problems was simple. It contains two problems; the moderate one represented by difficulty of selling production, while the simple one was about the dropin producer prices (Table 13).

**Table 13. Attitudes of problems related to the marketing problems axis**

| Third axis | | None | Simple | Moderate | Strong | Weighted mean | Attitude |
|---|---|---|---|---|---|---|---|
| **P11** | **Frequency** | 94 | 16 | 12 | 50 | 2.1 | Simple |
| | **%** | 54.7 | 9.3 | 7 | 29.1 | | |
| **P12** | **Frequency** | 67 | 14 | 23 | 68 | 2.53 | Moderate |
| | **%** | 39 | 8.1 | 13.4 | 39.5 | | |
| **Marketing** | **Frequency** | 161 | 30 | 35 | 118 | 2.31 | Simple |
| | **%** | 46.8 | 8.7 | 10.2 | 34.3 | | |

**Source: Primary data analysis.**

It was noted that the attitude of the fourth axis related to weak government support was moderate. The items contained in this axis were centered on absence of compensation for barley farmers for repeated damages, absence of agricultural loans, particularly for barley crop and the absence of drought support fund (Table 14).

**Table 14. Attitudes of problems related to weak government support**

| Fourth axis | | None | Simple | Moderate | Strong | Weighted mean | Attitude |
|---|---|---|---|---|---|---|---|
| **P13** | **Frequency** | 44 | 2 | 20 | 106 | 3.09 | Moderate |
| | **%** | 25.6 | 1.2 | 11.6 | 61.6 | | |
| **P14** | **Frequency** | 46 | 3 | 17 | 1.6 | 3.06 | Moderate |
| | **%** | 26.7 | 1.7 | 9.9 | 61.6 | | |
| **P15** | **Frequency** | 54 | 3 | 18 | 97 | 2.91 | Moderate |
| | **%** | 31.4 | 1.7 | 10.5 | 56.4 | | |
| **Government support** | **Frequency** | 144 | 8 | 55 | 204.6 | 3.02 | Moderate |
| | **%** | 27.9 | 1.6 | 10.7 | 39.7 | | |

**Source: Primary data analysis.**

## 6. Proposed solutions according to farmers' responses:

Barley farmers' responses against the proposed solutions can raise level of reality of barley production. The answers were generally focusing on the following points:

- In-kind and cash support

This solution may be applied through the provision of agricultural loans, production inputs and harvesters by agricultural cooperatives. In addition, the farmers proposed the provision of labor groups to carry out the harvesting processes under the supervision of agricultural cooperatives. The farmers also proposed intensification of extension unit supervision on agricultural operations periodically. Therefore, we find that this axis will reduce the cost of inputs if it has been performed in collective manner.

- Risk mitigation funds

Providing compensation to farmers, even in kind, such as seeds or fertilizers according to the cause of loss and supporting farmers in most vulnerable areas (drought or lack of rainfall). It should be mentioned that poor productivity is considered by the farmer as a threat for barley farmers.

- Land reform and construction of agricultural roads

Application of land reform specifically to barley lands and completion of recent reform operations by removing stones appeared during plowing operations. This facilitates the entry of harvesters and other agricultural machinery into barley cultivated lands.

- Barley marketing prices

Raising the price of barley purchased by the government and setting the prices in an encouraging manner taking into account the cost of transportation.

- Intensification of extension and scientific research activities

Especially implementation of field days, periodic workshops to analyze the soil in each area for giving the corresponding advice, focusing on planting dates, following the participatory approach by engaging farmers in both research and extension process, continuous and periodic training to focus on the most important scientific outputs especially before cultivating, and establishment of scientific research stations to cover several regions.

The results showed that 26% of farmers focused on the in-kind and cash support,8% on risk mitigation funds, 8% on intensification of extension and scientific research, 5% on barley marketing prices and 1% on land reform and construction of agricultural roads.

**Recommendations:**

- Intensification of extension unit activities, especially during winter season where farmers have enough time to participate.
- Diversification of agricultural extension materials such as preparation of a booklet of annual or quarterly activities with approximate dates for the implementation of extension activities and personal visits, which will remind and encourage the farmer to be involved.
- Participation of the farmer in the research and in the extension, unit's processes at all stages.
- Adoption of a participatory approach among farmers, extension unit and scientific research centers.

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# التفاعل بين الإرشاد الزراعي ومزارعي الشعير وأهم مشكلات الإنتاج في محافظة السويداء

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**الملخص**

تسعى السياسات والخطط الزراعية للنهوض ودعم محصول الشعير الذي يعتبر جزءاً أساسياً من التركيبة المحصولية في محافظة السويداء. هدف البحث إلى تحديد أهم ملامح التفاعل بين الإرشاد الزراعي ومزارعي محصول الشعير في محافظة السويداء (الواقعة جنوب سورية)، وإلى تحديد أهم مشاكل الإنتاج التي تواجه مزارعي الشعير. ولتحقيق ذلك، استخدمت بعض الأدوات الإحصائية مثل معاملي الارتباط بيرسون وسبيرمان، ومقياس ليكارت الرباعي. جمعت البيانات من عينة عشوائية من مزارعي الشعير في محافظة السويداء خلال الموسم الزراعي 2015/2014، حيث كشفت النتائج أن درجة التفاعل كانت ضعيفة بنسبة 51.74%، يليها درجة التفاعل المتوسطة بنسبة 30.23%، وعلى الرغم من هذه النتيجة، تبين وجود علاقة إيجابية ذات دلالة إحصائية معنوية بين درجة التفاعل وكلا من: وجود وحدة إرشادية في القرية، والتسجيل في الجمعيات الزراعية، وعمر المزارع، وسنوات الخبرة الزراعية والعمل الأساسي للمزارع (زراعي أو غير زراعي). كما بيّنت النتائج أن أهم المشكلات التي تواجه إنتاج محصول الشعير من وجهة نظر المزارعين هي ارتفاع أسعار أجور الأيدي العاملة والمحروقات. وتعتبر مشاركة المزارع في العمليات الإرشادية والبحثية من أهم التوصيات اللازمة لتطوير العلاقة مع الإرشاد الزراعي ومراكز البحث العلمي.

**الكلمات المفتاحية:** الإرشاد الزراعي، الأنشطة الإرشادية، الشعير، محافظة السويداء.