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The Promotion of Pulses Cultivation and Awareness for its Nutritive Value among the Farmers of District Faisalabad

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Abstract:

This study intends to promote pulses cultivation and to aware the farmers of District Faisalabad regarding the nutritive value of pulses. For this purpose, 116 farmers were selected for data collection through simple random sampling from 5 Tehsils of Faisalabad namely Jaranwala, Tandlianwala, Chak Jhumra, Samundri and Faisalabad itself. The data was collected through a questionnaire as an instrument tool and analyzed. The results showed that most of the respondents (55%) were small farmers and only 12% of farmers were large landholders. Most of the farmers were well-aware about good yielding varieties, appropriate sowing time, seed selection, seed preparation, seed rate, and sowing methods. Farmers were also well-aware of the nutritive significance of pulses but due to the low output of its production, farmers were afraid of growing on a wide scale. The single way out of this issue is to furnish farmers with modern technologies and stimulate them to create more food within accessible resources. Most recent high-quality research is impractical until it is accurately spread to the farming community. Pakistan is one of the largest pulses producing country but still, production per acre is very low than in developed countries. It is recommended that transparently providing inputs at subsidized rates to the farmers, proper marketing facilities and effective extension campaigns may help in pulses production.

Keywords: Pulses, awareness, information, adoption, marketing, entrepreneurship.

INTRODUCTION

The awareness level and understanding influence the adoption of latest agriculture production practices and modern technology. As indicated by Khan and Keatinge (2000), under half of the respondents have adopted latest agriculture production practices and modern technology. It was revealed that because of non-availability of adequate resources, one half of the respondents had shown the absence of trust in the suggestions for new and improved technologies. Punjab Government launched a project of Promotion of Pulses Cultivation with a specific end goal to increase the awareness and dissemination of the modern production practices of pulses among farmers. The funds allocated to this project were done by the Government of Punjab to enhance the yield of pulses everywhere throughout the province to satisfy the needs of pulses in the nearby markets through the dissemination of the latest pulses cultivating practices. United Nations declared the year 2016 as the "Year of Pulses" to raise awareness among people about the importance of pulses regarding its nutritive values as well as to motivate them for its consumption in the food industry (FAO, 2019). The present research was carried out to "Investigate the Effectiveness of Promotion of Pulses Cultivation Project among the Farmers of District Faisalabad" because no such research has been led before.

According to the report published by the Planning and Evaluation Cell of Agriculture Department (2015), pulses contain up to 30% protein and minor elements but the climate change for agriculture in Pakistan is vulnerable, so Pakistan cannot achieve the desired target for pulses production. Sometimes drought may hit the crop and sometimes flood affect the crops adversely. Singh (2002) concluded that awareness and inspiration in growers regarding the selection of latest practices can be improved by utilizing participatory techniques in planning and arranging demonstrations. In the entire procedure, farmers were found involved by utilizing a participatory approach. The bottom-up approach makes the feeling of "owing" among the farmers which revealed better and prompted the correct utilization of interventions and contributions for respectable transfer of technology. Rehman (2016) stated that extension education shows a noteworthy part in bringing awareness among farmers. Growers of rich fertile land developed areas, and the individuals who approach off-farm salary assets had more awareness levels. For raising the awareness level in farmers, reinforcement of the

agricultural extension and encouraging education among growers will be done. Bringing awareness, expansion of infrastructure, and taking care of the issue of reducing soil fertility will also play an incredible role.

Mahmood and Shiekh (2005) reported that the first step in the adoption of recommended latest production practices is the creation of awareness. Awareness among farmers regarding the latest production practices through mass communications is faster than individual contact. As of now, television and radio were bringing awareness yet the timing of broadcast for agricultural programs should be revised. Cheema (1990) revealed that less awareness level of growers makes it difficult in the adoption of latest production practices and exorbitant utilization of inputs results in lower yields. Thus there is a need to raise the awareness level of the farmers and he likewise recommended that govt. should educate the growers concerning the effective utilization of agricultural inputs.

For creating awareness, adoption of the latest knowledge and innovation among the farming community, print, and electronic media were the most successful tools and farmers were also inspired to get knowledge from the extension agent and the peer of their village (Ayaz, 1993). Another study revealed that mass media and interpersonal ones were the main channels being utilized to bring awareness about the latest production practices among the farming community (Naveed *et al.*, 2012).

Sharma (1998) concluded in light of 200 farmer's responses in 3 chosen areas of the Indian Punjab that adoption of the latest suggested practices for weed control in mango plantation was exceptionally bad. As indicated by him the main problems in the adoption of weedicides were the absence of official assistance. Therefore, he proposed that extension field staff should create awareness among farmers by sharing of latest scientific literature, timely contact with them, and arranging short duration training courses. The adequacy of communication techniques utilized by Novartis organization in tehsil Ariffwala of the district, Pakpattan was tested (Muhammad *et al.*, 2002). The findings showed that most of the respondents (89.16%) were come to be aware of the organization through friends/neighbors/relatives indicating fellow farmers as the main sources in creating awareness.

Ali and Abedullah (2002) reported that Asia is far beneath the per capita utilization of vegetables. Among consumers and producers, awareness about production methods and their diets can increment in the interest in vegetables. Endeavors ought to be made for raising

awareness among vegetable growers for upgrading vegetable yields. Roy (2003) conducted a survey and concluded that a large number of the respondents wished for training related to the cultivation of vegetables, crop cultivation, dairy farming, and utilization of present-day technologies to create their awareness. By creating awareness among producers, issues confronted by the producers can be reduced and the production can be improved.

It was investigated that farmers cultivating different crops utilized insecticides, fungicides, and pesticides with no guideline from the extension worker (Ngowi *et al.*, 2007). Around half of the farmers applied more than 5-time pesticides for the one season and pattern of utilizing pesticide were improving which indicated their less awareness level concerning the utilization of pesticides. Singh *et al.* (2006) reported that the right awareness of all kinds of species was crucial in assessing the weed. Farmers from one territory in a similar region named 18 plant species with different names in contrast to those from another region, which made some perplexity when making use of common names.

To keep away from these issues, he recommended a local herbarium or a handbook ought be arranged together by the extension departments and farmers with the collaboration of national organizations which are involved in plant and weed scientific classifications to upgrade awareness of weeds at every level among farmers. David (2007) investigated that how UNESCO addresses the requirement for creating awareness in an assortment of settings under various projects and areas. In this review, an example is taken from the work of the education division, which goes for presenting creative learning strategies and educational modules that transform and develop the point of view of individuals of any age on sustainable development.

A lot of individuals know about UNESCO through the World Heritage Sites. These are places that are perceived by the world as specific landmarks, either natural or cultural, that warrant safeguarding for the entire of humanity. Sacchetti *et al.* (2012) investigated that the center thought of the Council of the European Union keeping in mind the end goal to accomplish sustainable use of pesticides (SUD). It is important that everybody is aware regarding the risk to both human wellbeing and the environment regarding the utilization of plant protection products. In this manner, the sustainable use of pesticides training and bringing awareness plays a significant role to

accomplish the targets of the Council (Wyatt and McDermott, 2017).

The extension field staffs contribute a key share in giving awareness to the farming community with issues related to weeds. Likewise, they also recommended that agricultural extension should contribute its part in the advancement of effective weed management practices to enhance the yield of numerous crops (Khan and Nawab, 2006).

Production technology gives data regarding the productive utilization of the soil, water, and management practices regarding nutrients. For getting better yield farming community get attention towards the sensible utilization of seed and sowing techniques, land preparation, fertilizer application, irrigation methods, inter-cultural operations, major diseases/pest attack, and their remedies and post-harvest operations, and so forth (Mushtaq, 2002).

This study was conducted to promote the cultivation of pulses and create awareness among the farmers for its nutritive value in district Faisalabad, Punjab, Pakistan.

MATERIALS AND METHODS

This study was conducted in district Faisalabad, Punjab, Pakistan. The data concerning the study area, research methodology comprising instrumentation, sampling, and interviewing the respondents was collected. For this purpose, 116 farmers were selected for data collection through simple random sampling from 5 Tehsils of Faisalabad namely Jaranwala, Tandlianwala, Chak Jhumra, Samundri, and Faisalabad itself. The data was collected through a questionnaire as an instrument tool and analyzed using statistical software SPSS (Version 16). Both data collection and data analysis are essential parts of research work (Blaxter *et al.* 2001) and it indicates diverse dimensions of the techniques and methodologies utilized for data collection and analysis (Ghafoor, 2007). Adoption of the most proper research strategy is essential for obtaining the results of the issue by utilizing the most appropriate and right techniques for the research. The highly suitable research technique unlocks the route for precise, reliable, and valid outcomes (Khan, 2007).

RESULTS AND DISCUSSION

The data was collected from 116 respondents. The results showed that most of the respondents (55%) were small farmers and only 12% of farmers were large landholders. Most of the farmers were well-aware about good yielding varieties, appropriate sowing time, seed selection, seed preparation, seed rate, and sowing methods. Farmers were also well-aware of the nutritive significance of pulses but due to the low output of its production, farmers were afraid of growing on a wide scale. On the adoption and level of awareness of the respondents, these attributes may have a positive or negative impact. The behavior of the respondents depends on the demographic characteristics (Hassan *et al.*, 2005). It includes data related to age, educational level, landholding size, kind of tenure-ship, total area of cultivation, sources of income, and annual income that contribute a noteworthy part in deciding their behavior towards rejection or adoption of present-day innovation (Abuzar, 2003).

Distribution of the respondents regarding education level

The educational level shown by the respondents is given in Figure 1. The results showed that 19.8% of the respondents were illiterate and 80.2% were educated. Out of educated respondents, 36% of the respondents indicated they acquired education up-to primary level, 21% had acquired education up-to middle, 29% up-to matric, and 14% were above matric. It might be concluded from the above outcomes that many of the respondents were got the education which showed that their enthusiasm for getting training and more interest in the numerous sessions of training. Education plays a vital role in the changing of human behavior. It is considered one of the supreme methods to improve the country's progress. Education contributes an important part in varying behavior with respect to new developments dissemination between the people. Thus, it is accepted that the farmers who have more education will give better yield and embrace innovation quickly (Abuzar, 2003). The deficiency of awareness regarding new agricultural production practices among the farming might be credited to their high deficiency of education (Amir, 2003).

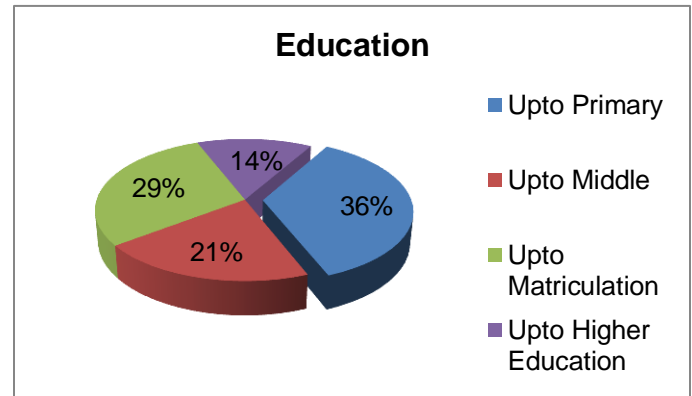


Fig. 1. The educational level shown by the respondents in the current study.

Distribution of the respondents regarding landholding

The size of landholding contributes a key part in the decision-making process for the adoption of several modern agricultural production techniques. Thus, data collection from the respondents concerning their landholding size was regarded as important and expressed in Figure 2. The results showed that more than half (55.17%) of the respondents were small farmers which hold less than 12.5 acres of land followed by more than one-fourth (32.67%) of the respondents were medium farmers who hold 12.5 acres to 25 acres of land. On the other hand, 12.07 % of the farmers belong to the large farmer category which holds more than 25 acres of land.

These outcomes are pretty much like that of Sadaf (2015) who revealed that approximately half (52%) of the respondents were small landholders after that 36% of the respondents have medium-size landholding and the remaining one-tenth (8%) were large size landholding. It is expected that the adoption frequency and size of landholding are directly proportional to each other (Nawaz, 1989). Exchange of innovation is simpler on bigger farmhouses than the small landholder. The farmers who have more landholding adopt innovation before than the farmers who have small landholding (USDA, 2007).

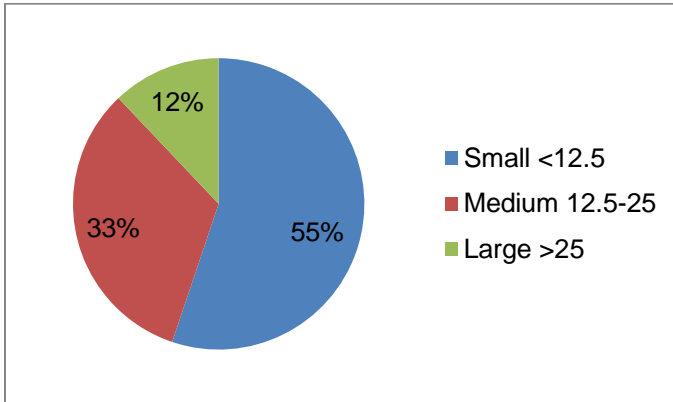


Fig. 2. Distribution of the respondents regarding landholding in the current study.

Awareness level regarding seed and sowing methods

Sowing time contribute to an imperative part in the germination of crop and ultimately production. Appropriate time of sowing guarantees a high percentage of germination. It additionally profoundly influences crop production. (Ahmed and Javed, 2017). The respondents were asked about their level of awareness regarding seed and sowing (Table 1). The results showed that the majority of the respondents increased their level of awareness regarding seed and sowing. Respondents indicated that their level of awareness about seed preparation and seed

rate was increased up to 100%. After that, an overwhelming majority (98.28%) of respondents showed that their level of awareness about high yielding varieties was increased, followed by 97.41% respondents depict that their level of awareness about appropriate sowing time was increased, followed by 95.69 respondents revealed that their level of awareness regarding seed selection and seed treatment was increased. It was also found that 65.52% and 10.34% of farmers were aware of manual and mechanical sowing methods respectively (Table 1 and Figure 3).

The results are more similar to Shahzad (2015) who revealed that 100% of respondents increased their awareness level regarding high yielding varieties, sowing time, seed rate, and sowing methods. Early or late sowing equally decreases the production of the crop (Bukhari, 2000). Seed germination is a complex process that occurs by the successful regulation of different factors (Zaynab *et al.*, 2018). Higher germination percentage is the key factor in higher crop production (Nadeem *et al.*, 2017). Crop production can be severely influenced by the high or low seed rate suggested by extension agents. Low seed rate diminishes the intensity of crop and high seed rate makes suffocation in crops. In this way, both situations are not reasonable (Zafar, 2005).

Table 1. Distribution of the respondents according to the increased level of awareness regarding seed and sowing.

Production Practices (Seed and Sowing)		Awareness Level			
		Yes		No	
		F	%	F	%
High Yielding Varieties		114	98.28	2	1.72
Appropriate Sowing Time		113	97.41	3	2.59
Seed Selection		111	95.69	5	4.31
Seed Preparation		116	100	0	0
Seed Rate		116	100	0	0
Seed Treatment		111	95.69	5	4.31
Sowing Methods	Manual	76	65.52		
	Mechanical	12	10.34		
	Both	28	24.14		

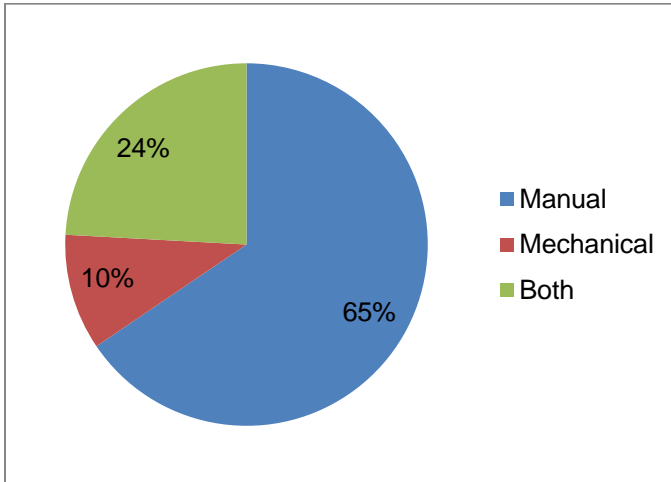


Fig.3. Distribution of respondents regarding the application of seed sowing methods in their fields.

CONCLUSION AND SUGGESTIONS

The achievement of any development project related to agriculture relies on agricultural extension services, timely supply of inputs, and availability of the latest technology. Therefore, the utilization of modern and up-to-date knowledge and technologies related to communication is particularly essential. Presently media is contributing an awesome part in the dissemination of the latest agricultural messages to the community of farmers however in upcoming days latest Information and Communication Technologies (ICTs like web and email) will give a capability to the farmers to get the latest information, education, and training related to modern agricultural production techniques and likewise it will raise awareness among the farmers regarding the utilization of latest practices.

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CONFLICT OF INTEREST

All the authors have declared that no conflict of interest exists.

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