



## THE ROLE OF EXTENSION IN INCREASING CANOLA PRODUCTION IN IRAN

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### ABSTRACT

The major purpose of this research was to explore perception of the canola producers in the Qazvin Province of Iran about the role of extension activities in increasing production of canola. Based on the perception of respondents, it was found out that recommendation by extension agents were the first preference of farmers that could influence the production of canola. The results show that the extension activities caused 23 % of variance on the dependence variable of increasing canola production.

**Keywords:** canola production, agricultural extension activities, farmers, Qazvin, Iran.

### INTRODUCTION

Iran is largely depended upon importing oilseeds, in order to fulfill more than one million tons of vegetable oil. The per capita consumption of vegetable oil is 16 kg per year. Canola is among crops which can help lower dependency of country to import of oilseeds. The current canola production capacity of country is about 5 million tons, while the current production is only 190 thousand tons (Negareh, 2008).

The average yield of canola in Iran is reported to be 1950 kg per hectare. The highest production level in 2001 was 5, 200 ha and this amount was increased to 7, 800 kg per hectare by 2010 (Association of Vegetable Oil Producers, 2010).

Researchers have elaborated on the issue of developing an appropriate extension sources and channels to obtain up to date information for their production needs. They emphasized on understanding of extension sources and channels as a pre-requisite for efficient educational programs (Okwu and Daudu, 2011).

Extension communicators and educators who design extension programmers that account for contextual effects can increase coverage of the targeted audience and subsequently, the impact of their programs (Okwu and Daudu, 2011).

The extension teaching methods are the tools and techniques used to create situations in which communication take place between rural people and the extension workers. The extension teaching methods can be classified based on their use: individual contacts, group contacts and mass contacts. They can also be classified based on their forms: written, spoken and audio visual. (Hosseini, Soltani, 2010).

Hosseini and others (2010) citing the Chizari and others (1998) that the majority of extension agents indicated that results demonstration were the most effective method for teaching their clientele. Okunade (2007) also pointed out that skills better acquired through group contact methods.

Based on the study by Okwu and Daudu (2011), the most important extension methods for extension agents were found to be the interpersonal interaction and immediate feedback enjoyed by the farmers. The less preference shown for newspapers, poster/handbills and extension bulletin/news letter may be probably due to the high illiteracy level among respondents.

\*Ali-Olubandwa and *et al.* (2011) indicated the most effective extension methods to increase production in Kenya by extension agents were group meetings and group demonstration, because it is cost effective with less constraint.

Yazdani and Sobhani (2008) examined the role of management, attitude and technical knowledge of farmers and reported that more than half of respondents were satisfied in producing canola. The results show that to increase canola production, there is need to improve the managerial skills of farmers through extension and education programs.

Homayonifar and Malekdar (2006) found out that factors such as farm size, working experience and attending extension classes were the most important factors in developing the areas under cultivation of canola in Iran.

Onyuma *et al.* (2006) in a research about effectiveness of management in agricultural production in Kenya indicated that establishing incentives, attending educational classes and empowering small scale farmers would improve their managerial skills.

Qazvin province is located in Central western region of Iran and based on the latest statistics, the total areas under cultivation of canola in this province were 4200 hectares and more than 5200 tons of canola was produced. However, it is predicated that this amount could be increased five times.

In this regard, agricultural Extension has an important role in informing farmers about new methods of farming which eventually could help them to increase production level of canola. The paper examines the perception of canola farmers about the role of extension in



increasing production of canola in the Qazvin Province of Iran.

## MATERIALS AND METHODS

The total population for this study was 918 canola producers in the province of Qazvin and by using Cochran formula, 130 farmers were selected by random sampling method. Data were collected through interview schedules.

A questionnaire consisted of open-ended and fixed choice questions was developed to collect the data. A series of in-depth interviews were conducted with some senior experts in the department of Agriculture in Qazvin to examine the validity of questionnaire.

Content and face validity were established by a panel of experts consisting of faculty members at Islamic Azad University and experts in department of Agriculture in Qazvin. A pilot study was conducted with 30 managers who had not been interviewed before the earlier exercise of determining the reliability of the questionnaire for the study. Computed Cronbach's Alpha score was 78.0 %, which indicated that the questionnaire was highly reliable.

For measurement of correlation between the independent variables and the dependent variable correlation coefficients have been utilized and include Pearson test of independence. The stepwise regression method was also used to explain the variance in the perception of respondents about role of extension in increasing canola production.

## RESULTS

The results of descriptive statistics show that the all respondents were male with average age of 44 years old and more than 41 percent had diploma and higher degree. The average production of canola was 2900 kilograms and average area under cultivation of canola was slightly less than 7 hectares. Respondents indicated that the average years of involving in the canola production was more than 4 years.

In order to finding the perception of respondents about their attitudes about role of extension activities in increasing canola production, they were asked to express their views. Table-1 displays the respondents' means about the nine statements. As can be seen the highest mean number refers to the using the recommendations by agents (mean=3.70) and lowest mean number refers to the radio and television programs (mean=1.80).

**Table-1.** Means of respondents' views about the role of extension activities in increasing production of canola (1= very little; 5 = very much).

Statement	Mean and standard deviation	
	Mean	SD
Recommendations by agents	3.7	0.973
Contact with agents on the farm	3.5	0.972
Visiting sample farms	3.17	1.024
Attending extension classes	2.78	1.017
Contact with extension volunteers	2.67	0.801
Attending joint workshops	2.48	0.925
Using printed materials	2.20	0.751
On farm research	2.05	0.677
Radio and TV programs	1.80	0.720

Spearman coefficient was employed for measurement of relationships between independent variables and dependent variable. Table-2 displays the results which show that there were relationship between perception of respondents about increasing canola production and working experience in canola production, areas under cultivation of canola and extension factors independent variables.

**Table-2.** Correlation measures between independent variables and increasing canola.

Independent variables	Dependent variable	R	p
Age	Increasing production of canola	0.120	0.182
Working experience in agriculture	Increasing production of canola	0.138	0.126
Working experience in canola	Increasing production of canola	0.308**	0.000
Areas under cultivation of canola	Increasing production of canola	0.353**	0.000
Extension factors	Increasing production of canola	0.354**	0.000

\*\*p<0.01.

Table-3 shows the result for regression analysis by stepwise method. Independent variables that were significantly related to perception of respondents about increasing canola were entered. The result indicates that 23 % of the variance in the perception of respondents

about role of extension activities in increasing canola production could be explained by the extension activities.



**Table-3.** Multivariate regression analysis (role of extension factors in increasing canola production as dependent variable).

	B	Beta	T	Sig.
Constant	-4.832	-----	-7.834	0.000
Extension factors	0.930	0.362	1.732	0.006

$R^2=0.23$

## DISCUSSION AND CONCLUSIONS

The major purpose of this article was to examine the perception of canola producers in the Qazvin province about the role of extension activities in increasing canola production. Based on the results of regression analysis, the extension activities caused 23 % of variance on the perception of respondents regarding increasing canola production. This result is consistent with Yazdani nad Sobhani (2008) and Homayonifar and Malekdar (2006) in which extension factors impact on increasing canola production.

The findings show that there was relationship between perception of respondents about increasing canola production and working experience in canola production, areas under cultivation of canola and extension factors as independent variables. This result is in accordance with findings of research by Shahroodi (2006), Yaghoubi (2005) and Upadhyay *et al.* (2004).

Respondents indicated that individual contacts between agents and farmers were the most effective method in helping them to increase canola production. The result is in accordance with study by Okwu and Daudu (2011) in which agents can help farmers to solve their problems by interpersonal contacts.

Based on the results of the mean score, respondents indicated that visiting sample farms was one of the extension methods which could help them to increase canola production. Farm visits as an early farm demonstration method can provide research-based recommendations to producers.

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