

# **AGRICULTURAL EXTENSION AGENT TRAINING NEEDS IN HORTICULTURE CROPS AREA**

## **Summary**

The progress of agriculture is regarded as an important aspect of our present era, in hope of a better future and a more prosperous life. In this, agricultural extension plays an important role in the development of agricultural production in general and horticultural crops in particular.

There is no doubt that horticultural production in Egypt is regarded as a vast field, in which agricultural extension can work effectively, considering the enormity and diversity of its production, either from an economic or a nutritious view point.

Training is an important means of developing the competence of Village Extension Workers (VEW) in the field of horticulture and upgrading their knowledge, skills and attitude levels, a continual upgrading that would improve the standard of their performance and the accomplishment of work tasks with the required efficiency. It is possible through training programs to provide them with knowledge, skills and new attitudes, and making them more efficient and competent in that field.

The success of training programs for VEW in the field of horticulture depends greatly on assessing their training needs, i.e., if training programs meet those needs, VEW will try to make maximum use of training results by fulfilling those needs.

Hence, this study aims to determine the training needs for those VEW to assist in designing training programs which

provide knowledge and agric-horticultural technical skills in a proper scientific manner help in overcoming problems that impede their efforts to increase production and improve quality, and to finally achieve social prosperity.

Studying training needs for V L W in the horticulture field will shed further light on the knowledge needs and attitudes towards extension horticultural works. Therefore reaching scientific applicable solutions that can be a basis for training programs based on actual reality and rooted in the actual needs of the VEW would lead to improved horticultural production, an increase in productivity and an improvement in quality.

For all the aforementioned, the objectives of this study were to:

- 1- Identify knowledge needs of VEW regarding the technical recommendations of the studied horticultural crops (tomatoes and citrus).
- 2- Identify y VEW attitudes towards their work in agri-horticultural extension.
- 3- Determine the relationship between the degree of VEWs' knowledge needs regarding technical recommendations of tomatoes and citrus crop, and each of the following independent variables:  
Age, educational degree (dualifications, residence, work experience in agriculture, number of training courses attended, level of job satisfaction, Information sources associated with horticultural crops.
- 4- Determine the relationship between the VEW' attitude toward

their work in agrihorticultural extension and each of the studied independent variables.

- 5- Determine the contribution ratio of independent variables correlated significantly / with the degree of VEWs' knowledge needs regarding technical recommendations of Tomatoes and citrus crop in explaining its total variance.
- 6- Determine the contribution ratio of independent variables correlated significantly with the degree of VEWs attitude toward their work in agri-horticultural extension in explaining its total variance.
- 7- Identify the main problems facing VEWs in the field of horticultural production.
- 8- Draw some indicators to develop an integrated training program for the VEWs in the field of horticultural production.

The study was conducted in EL-Qalyobia governorate due to the success of many extension projects there, and the fact that it is one of the principal governorates that produces horticultural crops. also to achieve regionalism by means of linking scientific research with the local environment Tomatoes and Citrus were selected as the most widely cultivated crops in EL-Qalyobia.

The population of VEWs is located in the districts of EL-Qalyobia governorate amounted to 744 VEWs from which a systematic random sample of 253 individuals (representing 34% of the overall population) was selected.

To fulfill the objectives of the study, a questionnaire was designed consisting of a number of parts that include the personal data of the VEW, data concerning their training needs regarding the studied crops, the problems faced in horticultural extension work, and a collection of statements for identifying the VEWs attitude towards their horticultural extension work.

A pilot test was conducted on 33 VEWs in the districts of Benha and Tokh to test the content's easy read, and the validity of the questionnaire, which indicated that respondents easily and clearly understood the questions and statements.

The actual data of the study was collected by interviewing respondents during the months of October and November.

The data then were collected, coded, tabulated and analyzed. Frequencies, Chi. Square test, percentages, simple correlation coefficient, Step- Wise were used to analyze data statistically using the Statistical Package for Social Sciences (SPSS) program.

The results of the study can be summarized as follows:

**First:** Knowledge needs for the agricultural extension agents in the horticultural crops under study:

**a. Tomato production:**

1- Land preparation for cultivation: About two thirds of respondent (61.6%) were found to have a high or moderate knowledge needs for understanding the practices of this operation, and (71.2%) of them were in need of knowledge

regarding sterilizing material, its concentration and the duration of immersing the seedlings.

- 2- Crop servicing: about two thirds of the respondents (65.3%) had a high or moderate knowledge need of the practices of this process, as most of them (71.2%) were ignorant of practices concerning the ripening of outgrowth and harvesting system.
- 3- Pests and disease: Less than three quarters of the respondents (72.4%) had a high or moderate knowledge need of pest and disease infection symptoms and methods of combating such infections and most of them (78%) were also ignorant of time to seize the spraying of chemicals.
- 4- Quality characteristics: More than three quarters of the respondents (76.8%) had a high or moderate knowledge need of the practices of this process.

**b. Citrus production:**

- 1- Land preparation for cultivation: More than two thirds of the respondents (68.4%) had a high or moderate level of the knowledge need of the recommended practices of this operation.
- 2- Crop servicing: Nearly two thirds of the respondents (65.2%) were of a high or moderate level of the need of the recommended practices of this process, and a high percentage of them (66.8%) were also in need for the recommended practices concerning leaf fertilization, its components, time and benefits.

- 3- Pests and disease: About two thirds of the respondents (62%) were of a high or moderate level of the need of the recommended practices of this process, and a high percentage of them (66.8) were also in need for the recommended practices concerning leaf fertilization, its components, time and benefits.
- 4- Quality specifications: More than three quarters of the respondents (78%) were of a high or moderate knowledge need of the practices of this process.

**Second:** VEWs attitude towards horticulture work: Results showed that a little more than two thirds of the respondents(68.6%) were having negative or neutral attitudes towards their work in horticultural extension.

**Third:** The relationship between the degree of knowledge needs of VEWs in the field of the studied horticultural crops and each of the independent variables: A significant and negative relationships were detected between the degree of respondents knowledge needs regarding tomatoes and citrus practices and each of the following independent variables: age, experience in agriculture, job satisfaction, innovativeness, number of training courses attended, degree of cultural openness, level of exposure to information sources. On the other hand, the relationships were significant and positive regarding each of: educational degree, origin and residence.

Five independent of these variables contributed by (66%) in explaining the total variance of the level of the knowledge needs of the respondents regarding tomato crop. The five

variables and their contribution were: the level of job satisfaction (49%), the number of training courses (9%), the degree of exposure to information sources (2%), and the degree of innovativeness (1%).

Six independent variables contributed by (72% ), in explaining the total variance of the level of knowledge needs of the respondents regarding citrus crop. The six variables and their contribution were : the level of satisfaction(54%), the number of training courses contributed (9%), the degree of compolition (6%). age(1%), and the degree of innovativeness with (1%).

**Fourth:**The relationship between the attitude level of the VEW towards their horticultural work and each of the independent variables: A significant and necative relationships were detected between the attitude level and each of the following variables: training courses, degree of cultural openness and the level of exposure to information sources. These relationships were significant and positive regarding each of: respondent's qualifications, origin and residence.

Five independent variables had contributed by (70%) in explaining the variance in attitude levels of VEWs toward their horticultural work These variables were: the level of job satisfaction number of training courses (9%), age (3%), innovativeness (4%), and finally the degree of cultural openness (1%).

**Fifth:** the main problems facing the VEWs in their horticulture work:

Results showed that the main problems, in order of importance were:

1. The weakness of coordination and cooperation between the extension organization and research organizations in the respective area.
2. Given many administrative tasks as VEW were too occupied to perform their original extension work.
3. Lack of personal means of transportation for most of the VEW, thus hindering the achievement of their work.
4. Scarcity of monetary incentive and motivation.
5. Weak training programs regarding:
  - a. Trainees' poor comprehension for the training content in the horticulture field.
  - b. Insufficiency of the references and illustrated publication during training.
  - c. Overshadowing of the theoretical side over the practical one with regards the training content.
  - d. Time of training is mostly insufficient to cover all intended practices.
6. Absence of weather forecasting station in the respective areas.

**Sixth:** Indicators for an integrated training program for VEW to develop the horticulture crops under study. In the light of the study results the following basic points can be considered as indicators when developing a training program



1. Establishing a permanent extension office in every agricultural administration incorporating extension specialists, with an agriculture extension library annexed to it containing publication.
2. Organizing visits for VEW to the nearby agricultural research stations, and organizing meeting with researchers and specialists in those stations.
3. Trainers should be selected academically specialized and competent , and of high performing capabilities and practical skills to compensate for any deficiency shown by the VEW.
4. The scientific content of the program must contain enough information regarding the following processes of horticulture: Land preparation for cultivation, crop servicing, modern methods of combating pests and disease and quality specifications.
5. It is recommended when developing a training program to concentrate on the practices that the study indicated its high needs which were: sterilizing material, concentration, the duration of immersing transplants, the ripening of outgrowth harvesting system, and the time to seize the spraying of chemicals in tomatoes. Also, the leaf fertilization , its components, time and benefits, the benefits of Pheromone Traps", bio- control practices, and the quality specifications in citrus.
6. The training program should embrace enough time to develop the knowledge and individual skills of some of the

VEW by organizing work groups and providing them with trainers of competent scientific capabilities to meet their knowledge needs.

7. Selecting the appropriate time for executing the training program, preferably that period which coincides with the various agricultural processes that improves the consumptive and marketing characteristics of horticultural products.

The most important recommendations drawn from this study can be summed up in the following:

- a. The necessity of focusing extension efforts to prepare Subject Matter Specialists (SMS) in horticultural in permanent posts of extension work
  - b. Develop training program for the VEWs covering all technical recommendations and horticultural production skills to improve their knowledge levels, skills and required ability to accomplish their work.
8. Develop an integrated training program for VEW in their work locations to meet their needs in the studied agricultural crops focusing on the following: sterilizing material, concentration, the duration of immersing transplant, the ripening of outgrowth, harvesting system, and the time to seize the spraying of chemicals in tomatoes. Also, the leaf fertilization, its components, time and benefits, the benefits of " Pheromone Traps", bio- Control practices, and the quality specifications in citrus.

9. Recognize the problems facing the VEWs and find proper solutions to change the negative and moderate attitudes of VEW toward their work in Horticultural extension.
10. The presence of a fixed policy based on scientific methods that allow the selection of VEW advantaged with personal characteristics that qualify them and improve their work performance, so they can be of use in developing agricultural methods and modernizing modes of agricultural according to the latest concepts and proper scientific methods. All of which lead to increasing productivity and improving the quality that meets the requirements of local markets and any changes in the international market.
11. Conducting similar studies for VEW in various fields of production and other areas, so indicators can be put forward for comprehensive training programs.