

ABSTRACT

The aim of the research is to reach the following objectives that have been specified in the framework of research work of the author. In the scope of his research, the author intended to:

- Identify the application level of scientific recommendations by farmers (respondents) towards the optimal use of two kinds of fertilizers (mineral and organic) in general,
- Identify the application level of scientific recommendations by farmers (respondents) towards the optimal use of mineral fertilizers in each field and in each statement (item) of the fields of mineral fertilizers,
- Identify the application level of scientific recommendations by farmers (respondents) towards the optimal use of organic fertilizers in each field and in each statement (item) of the fields of organic fertilizers,
- Identify personal, social, communicative and economic characteristics of farmers (respondents) in the Lublin province,
- Identify a correlation between the application level of scientific recommendations by farmers (respondents) towards the optimal use of two kinds of fertilizers (mineral and organic), mineral fertilizers and organic fertilizers, and between independent variables,
- Determine the differences between the application level of scientific recommendations by farmers (respondents) towards the optimal use of organic fertilizers and between mineral fertilizers,
- Identify the most important problems faced by farmers (respondents) in agriculture and during the use of fertilizers,
- Identify the knowledge level of farmers (respondents) in Lublin Province towards the agricultural extension in general and in each statement (item) of the knowledge scale,
- Identify a correlation between the application level of scientific recommendations by farmers (respondents) towards the optimal use of fertilizers and between the knowledge level of farmers towards the agricultural extension.

In order to obtain data for the research, a research tool (a questionnaire) was designed. The questionnaire consists of 5 parts. The first part included variables related to farmers' personal data and characteristics of farms (age, gender, education level, size of farm, diversity of land usage, diversity of soil classes, contacts with sources of information on the use of fertilizers, the percentage of crop groups cultivated in farm, average production, methods of agricultural production). The second part included information and statements

(items) related to agricultural extension. The third and the fourth parts include fields and statements (items) related to the use of mineral and organic fertilizers. The fifth part contained the most important problems faced by respondents in agriculture and during the use of fertilizers. The data of research were collected in 2015 during individual interviews with farmers (respondents) in the Lublin province with a help of the staff of the Agricultural Extension Center in Końskowola in Lublin Province. During the study period, the author visited many farms in the Lublin province. During the visits, the author met the owners of the farms. The farmers gave detailed descriptions of their farms to the author. The data of research was analyzed through the use of statistical methods (Pearson correlation, Spearman correlation and T- test).

The results showed the application level of scientific recommendations by farmers (respondents) towards the optimal use of two kinds of fertilizers (mineral and organic) in general, mineral fertilizers and organic fertilizers is medium tends to high degree. The application level of scientific recommendations in the fields of mineral fertilizers, according to the centennial weight of fields, is the following: The first field which has the highest centennial weight comparing to other fields is “the determination of doses of mineral fertilizers in general”, while the last field which has the lowest centennial weight is “Adverse effects of excessive use of mineral fertilizers”.

Also, the application level of scientific recommendations in the fields of organic fertilizers, according to the centennial weight of fields, is the following: the first field which has the highest centennial weight is “the timing of the use of organic fertilizers in general”, while the last field which has the lowest centennial weight is “the benefits of the use of organic fertilizers in general”. There is a significant correlation between the application level of scientific recommendations by farmers (respondents) towards the optimal use of two kinds of fertilizers “mineral and organic” in general and mineral fertilizers, and between independent variables (education level, size of farm, contacts with sources of information on the use of fertilizers), also, there is a significant correlation between the application level of scientific recommendations towards the optimal use of organic fertilizers, and between independent variables (education level, size of farm). The results also showed that there is no significant correlation between the application level of scientific recommendations by farmers (respondents) towards the optimal use of fertilizers (mineral and organic) in general and mineral fertilizers, and between independent variables (age, gender, diversity of land usage, diversity of soil classes, the percentage of crop groups cultivated in farm, average production, methods of agricultural production), also

that there is no significant correlation between the application level of scientific recommendations by farmers (respondents) towards the optimal use of organic fertilizers and between independent variables (age, gender, diversity of land usage, diversity of soil classes, contacts with sources of information on the use of fertilizers, the percentage of crop groups cultivated in farm, average production, methods of agricultural production).

The results showed that there is significant differences between the application level of scientific recommendations by farmers (respondents) towards the optimal use of organic fertilizers and the mineral fertilizers for the benefit of the use of mineral fertilizers. The results showed that most problems faced by respondents in agricultural and during the use of fertilizers are the problems that took the first three sequences: Difficulties in selling agricultural products, underdeveloped market for services, low prices and below the cost of production per unit. The knowledge level of farmers towards agricultural extension is medium tends to high degree. There is a significant correlation between the application level of scientific recommendations by farmers (respondents) towards the optimal use of fertilizers and between the knowledge level of farmers towards the agricultural extension. The author recommends :

1. The Agricultural Extension Center in Lublin province should continuously focus on promoting and increasing farmers' knowledge and information, especially in the fields of:
 - Adverse effects of excessive use of mineral fertilizers,
 - Methods of the use of mineral fertilizers in general,
 - The benefits of the use of organic fertilizers in general,
 - Adverse effects of the use of organic fertilizers in general.

This can be achieved by farmers' participation in specialized training courses in these fields.

2. Helping farmers by finding solutions to the problems that they face, by assisting in the sale of agricultural products, providing services to farms and agricultural work tools and finding solutions to the problem of the distance between the house and the farm and concertation of land use.
3. The Agricultural Extension Center in Lublin province, should continue to develop farmers' knowledge about the role of agricultural extension in rural development and agriculture.

4. Conduct studies and research in various other agricultural sectors and in different regions in Poland in order to identify the actual reality for farmers in the use and management of information, tools and resources of agricultural production. As well as to identify the problems that farmers face in their production.

Keywords: fertilization, scientific recommendations, level of knowledge of farmers, agricultural extension