

ECOLOGICAL VEGETABLES, ADVANTAGES AND SAFETY IN A HEALTHY NUTRITION

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Abstract

In the current work we have tried to emphasize the nutritious importance of the vegetables obtained through ecological cultures, without fertilizers, chemical treatments with a remanence effect in the products used in human consumption and without being genetically modified and their production should stress on the use of biodegradable resources and on soil and water preservation. Still, ecological products contain pesticides but in much lower quantities than the pesticides found in the regular food, representing an alternative source of food for those preoccupied by the use of pesticides in agriculture and by those preoccupied with food safety. All these factors are found in the vegetables' quality, taste and natural virtues, so that people consumes them with great pleasure; our duty is that these vegetables get on the tables of the consumers at a high quality, with an almost zero risk of contamination, so that the population be safer and healthier due to the advantages brought by these safe ecological products. Adopting a healthy diet does not mean keeping a food diet – it represents a method to improve health.

Key words: natural nutrition, ecological elements, food safety.

INTRODUCTION

From a nutritious point of view, in order to improve food contribution, food safety has in view the increase of the population's number, the reduction or the destruction of the negative aspect of the climate changes upon agriculture, which mainly affects the development conditions of the ecological cultures and which imposes certain adaptation measures. The apparition and adoption of more and more sophisticated food diets, without a real scientific nutritional basis as well as the increase of the population's income impose an accelerated increase of the agricultural production through the intensification as the natural resources are disappearing, intensification that has got a negative effect upon the food safety. In a person's rational alimentation the vegetables together with other vegetal and animal origin products are considered a basic factor of the human health and the alimentary value, the therapeutic effects and the refinement of the vegetable cooked food contributes to the increased interest of the consumers for such food.

MATERIAL AND METHOD

The biological material used in the analysis were the Sugardrop type of tomatoes with a high content of carbohydrates and C vitamin and the cornichon Mirabelle F₁ type of cucumbers (figure1) obtained through conventional and ecological culture technologies due to their nutrition importance, to their special preservation properties as well as due to their multitude of uses, due to the fact that they are used in many food products obtained in the food industry.



Fig. 1. The biological material used in the analysis

The methods used in the nutritional quality analysis of the tomato and cornichon cucumber fruits were the following: The (sensorial) organoleptic methods.

In the current work the organoleptic methods consisted in the opinion surveys realized among the consumers and the sellers – producers of agricultural food products in private particular micro farms and valued in the vegetable sector in The Fortress Market, in Oradea. The interviewed people were particular producers as well as consumers but both categories are considered consumers mainly due to the accuracy of senses which was more relevant and more experimented in the producers' case, especially for the products obtained through ecological cultures. The organoleptic study consisted in appreciating the products through the method of the score, through which the highest importance is given to the taste and smell of the fruit, method which shows that many consumers use the taste to compare the ecological products and the conventional products. The tests have been performed by consumers who had to taste the products without knowing where the products come from.

RESULTS AND DISCUSSIONS

After the organoleptic determinations through the opinion surveys, realized through the score method in the comparative study of the vegetables obtained in ecological cultures and those obtained in conventional cultures, determinations performed by particular producers and

consumers, both categories being considered consumers for this organoleptic study which consisted in appreciating the products through the score method, in which the highest importance is given to the fruit's taste, freshness estate, consistency and juicy aspect, in figure 2 we can notice, analyzing the average data, that both the consumers and the producers make a taste difference in favor of the ecological products in comparison with the conventional products, the tests being performed by consumers who had to taste the products not knowing where these products come from.

It comes out that the taste differences are significant for the fruits of cornichon cucumbers and for those of tomatoes, the consumers definitely preferring the ecological ones.

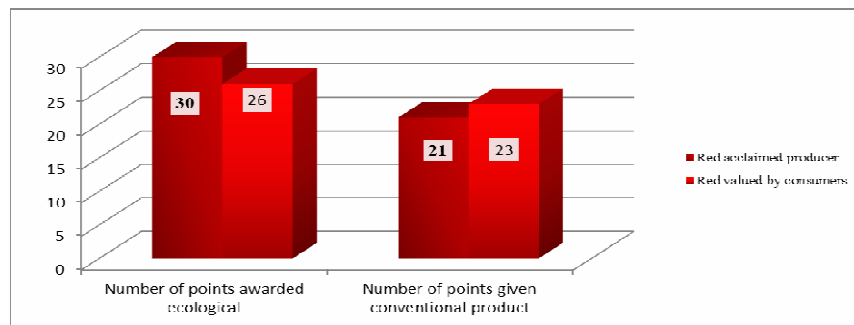


Fig. 2 The organoleptic appreciation of the tomatoes obtained in two systems of culture by two categories of consumers, through the score method

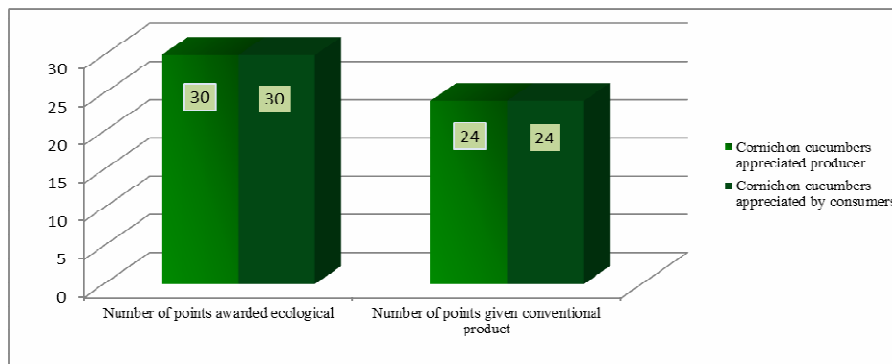


Fig. 3 The organoleptic appreciation of the cornichon cucumbers obtained in two systems of culture and by two categories of consumers, through the score method.

The fruits of cucumbers obtained in ecological cultures have gained a total of 30 points and the fruits of cucumbers obtained in conventional cultures have gained a total of 24 points. In figure 3 we can notice that the cucumbers obtained in the two systems of culture have obtained the same

total score at the organoleptic appreciation realized by the two categories of consumers.

CONCLUSIONS

The results obtained after appreciating the the organoleptic properties performed by the particular producers in the case of the tomatoes shows that, the fruits obtained through ecological cultures are tastier than the ones obtained through conventional cultures, thus the tomatoes obtained through ecological cultures have gained a total of 30 points out of 30 points whilst the tomatoes obtained through conventional cultures have gained a total of 21 points.

The cucumbers obtained in the two systems of culture have gained the same total of points when the organoleptic appreciation was performed by the two categories of consumers but there were score differences in what the taste, the shape, the freshness estate, the maturity degree were concerned, differences registered according to the consumers in the two culture systems.

The tomatoes and the cucumbers obtained in ecological cultures have registered an average higher content of dry substance in comparison with the same vegetables obtained in conventional cultures, content which is very close to the maximum limit of soluble dry substance determined in the witness tests.

REFERENCES

1. Apahidean, Maria, AL.S.Apahidean, 2000, Legumicultură specială, Ed. Risoprint, Cluj-Napoca, pp. 35-70
2. Apostu S., Naghiu A., 2008, Analiza senzorială a alimentelor, Publishing House: Risoprint, Cluj-Napoca, pp. 57-63
3. Banu C. și colab., 2002, Calitatea și controlul calității produselor alimentare, Ed Agir, București, 69-98
4. Banu, C. și colab., 2001, Alimentația și sănătatea, Ed. Macarie, Târgoviște, 32-45
5. Dimitriu C., 1980, Metode și tehnici de control ale produselor alimentare și de alimentație publică, Ed. Ceres, București, pp. 51-73
6. Dumitru Indrea – Coordonator, Silviu, Al., Apahidean, Maria Apahidean, Dănuț, N., Măniuțiu, Rodica Sima, 2009 – Cultura legumelor, Ed. Ceres, București, pp. 39-128
7. Hawrylak-Nowak, B., Matraszek, R., Szymańska, M., 2010, Selenium Modifies the Effect of Short-Term Chilling Stress on Cucumber Plants Biological Trace Element Research.
8. Khoshgoftarmaneswh A., Aghili F., Sanaeiostovar A., 2009, Daily intake of heavy metals and nitrate through greenhouse cucumber and bell pepper consumption and potential health risks for human, International Journal of Food Sciences and Nutrition, 60: SUPPL. 1, 199-208.
9. Mihalache, M., 2003, Consumul de legume proaspete, o necesitate pentru sănătatea omului, Revista Hortinform nr.10-134, București
10. Mincu Iulian, Popa Elena, Segal Brad, Segal Rodica- “Orientări actuale în nutriție”, Editura Medicală, București, 1989, pp. 54-62
11. Annuaire de la production, FAO, 1994.