

# GROWTH AND FRUITION OF RASPBERRY PLANTS FOR GETTING IN INTENSIVE CULTURE OF ORGANIC PRODUCTION

## CREȘTEREA ȘI FRUCTIFICAREA PLANTELOR DE ZMEUR ÎN CULTURA INTENSIVĂ PENTRU OBTINEREA PRODUCȚIEI ECOLOGICE

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**Abstract.** *We studied the basic indicators of growth, photosynthetic activity, biological productivity and usefulness of raspberry plants in intensive culture for organic growing. Experimental data were obtained on plant growth substances content of plastics, crop and fruit quality. We have established the basic parameters of intensive culture Razzie for obtaining organic fruit.*

**Key words:** raspberry, growth, productivity, culture system, organic fruit.

**Rezumat.** *S-a studiat indicatorii de bază ai creșterii, activității fotosintetice, productivității biologice și utile ale plantelor de zmeur în cultura intensivă pentru obținerea producției ecologice. S-au obținut date experimentale referitor la creșterea plantelor, conținutul de substanțe plastice, recolta de fructe și calitatea lor. S-au stabilit parametrii de bază ale culturii intensive a zmeurului pentru obținerea fructelor ecologice.*

**Cuvinte cheie:** zmeur, creștere, productivitate, sistem de cultură, fructe ecologice.

### INTRODUCTION

A special role in the structure of berry have fruit tree species, and from these, raspberry fruit have a leading role. Although both the raspberry bush is required and necessary for human body, it is cultivated in Moldova on surfaces with much less to meet market requirements for fruit quality. These circumstances have fostered the need to develop and implement new methods of production and storage of raspberry fruit, maintaining a high level of therapeutic food and their values (Barbaroș M., 2005; Barbaroș M., Cimpoieș Gh., 2007).

In order to reduce environmental pollution and solve tasks of the proposed nominees for obtaining technology-based organic raspberry fruit.

### MATERIAL AND METHOD

In the experimental group planted soil sucker raspberry variety unvirused Fertőd Zamalos Mollnasarjai were administered natural fertilizers in quantities of 30 t / ha. In the vicinity of the experimental group, in an area of 10 acres on plants of this

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variety were given mineral fertilizer - 150 kg NPK content of these elements equivalent to 30 tons of manure spread on a similar surface, and on another parcel of 10 acres were taking control without fertilizer plants.

The raspberry plants maintained under the proposed technology during the vegetation has been applied to SBA harmless "Fitostim" slurry concentration of 0.5% and a total consumption of 600 l / ha.

Extraroot treatments with 0.5% suspension of powdered preparation obtained from the roots of germinated seeds of grain have been made to the flowering periods, after tying and harvesting fruit. The plants located in the three variants of the experiment, to determine the influence of natural and organic fertilizers matter applied to the processes of growth and development during the growing season following measurements were made and biochemical analysis: leaf area, length and width of shoots, the content Chlorophyll 'a', 'b', their sum and carotenoids.

## RESULTS AND DISCUSSIONS

The results are based on investigations carried out are presented in table 1. The data presented in table 1 found that 0.5% suspension of powdered preparation obtained from the roots of germinated seeds of grain, mineral fertilizers and the natural processes of growth are influenced differently, leaf surface and pigment content in raspberry plants during the growing season. The increased values were recorded in the nominated indicators variant proposed use of technology, significantly their values of the following mineral fertilizer use (known technology) and controls (no fertilizer).

Table 1

**Biometric and biochemical indicators of raspberry plants variety Fertőd Zamalos Mollnasarjai depending on the use of fertilizers and various biologically active substance harmless "Fitostim"**

Variant experience	Leaf area, dm <sup>2</sup>	The increase in length of shoots during the 55 days, cm	The increase the thickness of shoots during the 55 days, mm	The content of chlorophyll pigments, mg/dm <sup>2</sup>	Carotenoid content, mg/dm <sup>2</sup>
Controls	122,9	60,2	8,0	3,59	5,12
Known technology	138,7	61,7	10,0	3,89	5,41
Technology developed	149,0	63,1	12,0	4,23	5,58
DL 5%	4,3	0,55	0,8	0,12	0,07

So, management of natural fertilizer and 0.5% suspension of biologically active substances occurring naturally led to the intensification of growth and development of raspberry plants in relation to known technology, creating prerequisites for obtaining high quality organic fruit.

At harvest of raspberry fruit was also determined the influence of natural and mineral fertilizers, as well as SBA Fitostim" of food and technological qualities of raspberry fruit (table 2).

*Table 2*

**Food quality and technology of raspberry fruit depending on the use of natural fertilizers and SBA Fitostim"**

Variant experience	Volume and the average weight of a fruit		Vitamin C content, mg/%
	cm <sup>3</sup>	g	
Technology developed	4,91	3,23	6,28
Known technology	4,09	2,81	5,33
Controls	3,72	2,39	5,08
DL 5%	0,17	0,16	0,16

The results presented in table 2 show that natural fertilizers and SBA Fitostim" technology (proposed) have advantages over the use of mineral fertilizers variant (known technology) and control not only by obtaining non-polluting production, but also by enhancing food quality and technological thereof. In-administration of natural fertilizers and SBA Fitostim" both volume and weight of fruit and vitamin C content exceeded their values-administration of mineral fertilizer and control.

So, use natural fertilizers and SBA Fitostim" raspberry plants contributed to the increase in food technology and quality characteristics of fruit obtained, indicating the importance of the power of the human body.

Organic and mineral fertilizers, and SBA Fitostim" and clearly influenced the productivity of raspberry plants investigated variants (table 3).

*Table 3*

**Raspberry plant productivity according to the use of natural fertilizers and SBA Fitostim "**

Variant experience	Raspberry road at a plant in two growing seasons, g / plant	The advantage in weight to a plant cultivated according to the developed technology, known technology to the controls, g	The advantage in fruit from plants grown under 1 ha of developed technology known to the controls, %
Technology developed	156,4	0,00	0,00
Known technology	130,0	20,4	12,98
Controls	115,7	40,7	24,50
DL 5%	7,7		

From the data presented in table 3, it is found that by using natural fertilizers and SBA Fitostim" increased productivity of a plant growing fruit in year 2 to 20.3 g, compared with the technology known as cultivated plant and

40.7 g compared to the control. In determining the advantage in yield of fruit from plants grown under technology developed at the surface of 1 ha, he prevailed with 12.9% known technology, and to witness 24.5% respectively.

## CONCLUSIONS

As a result of the above, it may be observed that the administration of natural fertilizers and SBA Fitostim" of natural origin has contributed to increasing the amount of organic raspberries, since two of the plants growing.

## REFERENCES

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