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INFLUENCE OF BIOLOGICAL PRODUCTS USED IN FOLIAR FERTILIZATION ON THE NUMBER AND QUANTITY OF FRUIT REPORTED TO THE PLANT AND AREA OF CULTURE

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Abstract

Assortment of cucumbers has evolved rapidly and radically in recent years. The consequence of this development has resulted in increasing the number of hybrids Cornichon type as well as quality. Recently created F1 hybrids are totally gynoecious and presents type of parthenocarpic fruiting and also being very productive. It presents a high resistance to some cucumber specific diseases being recommended for both culture in field and protected culture in solarium. Biological products used in foliar fertilization, Cropmax, Bionat and Bioleafz are stimulating synthesis of phytohormones that regulate the process of maturation facilitating norming of cucumber fruit load, that is responsible for increasing the number of flowers and fruits. Fertilizations were made every 10 days, applying organic fertilizers according to appropriate technological practices to five hybrid type cucumbers gherkins, Kybria, Karaoke, Compomist, Trilogy and Promisa, pursuing the influence of products used in foliar fertilization on the number and amount of fruit reported to the plant and surface.

Key words: *Cucumis sativus L., fertilization, fruits, number, quantity.*

INTRODUCTION

The present research wants to demonstrate how pickling cucumber production may be influenced by hybrids and culture techniques (biofertilizer used for plant growing).

The vast majority of the pickling cucumber used in vegetable growing in south of Dambovita County is grown for pickling and fresh alimentation use (size 3 to 6 cm and 6 to 9 cm). To optimize yield and quality of commercial size fruits, most growers use biofertilizer production growing.

Main objectives of this experience are as follow:

-Determining the production potential of some new hybrids have been used in the culture, using biofertilizer for plant growing.

-Comparison of productivity of fruit obtained in comparative culture conducted in 2010.

MATERIALS AND METHODS

Conditions of experiment

This field experiments were conducted at the family farm in 200 square meters solarium tunnels, cultivated with five pickling cucumbers cultivars: Karaoke, Componist, Kybria, Trilogy and Promisa (Table 1).

Table 1. Experimental variations in solar with pickling cucumber type, Tartasesti 2010.

Variant	Cultivar	Origin	Comments
1	Trilogy	Netherland	Rijk Zwaan Hybrid
2	Promisa	Netherland	Rijk Zwaan Hybrid
3	Karaoke	Netherland	Rijk Zwaan Hybrid
4	Kybria	Netherland	Rijk Zwaan Hybrid
5	Componist	Netherland	Rijk Zwaan Hybrid

The soil pH was 8.06, and soil analyzed N-NH_4: 29,58, N-NO_3: 33,25, P-PO_4: 60,20, K: 145. The trials were monofactorial and set after the randomized block method using five cultivars, in tree variant and two replication (Ciulca, 2002, Saulescu, 1968).

Specific elements of technology: culture was established by planting seedling on 10/04/2010 with distance between rows of 70 cm and 30 cm between plants per row.

Plant spacing and row spacing were selected on the basis of current practices. The specific

works were pickling the cucumbers in solarium tunnels.
Experimental culture was harvested by hand, gradually, with registration repeating the production quality for each variant. Quantities harvested were pooled to establish production in accordance with experimental scale (variations).
The experimental design was the latin square blocks with three replications. Immediately after planting, foliar fertilizers (Cropmax, Bionat and Bioleaf) were applied and then soil fertilizer at a rate of 1 kg/ha (1:2:1/N-P-K) in a microirigation system.
Pickling cucumbers were harvested manually on period of 12.05.2010 (32 days after planting day) up to 12.08.2010 (3 months after day picking starting).
Fruits were harvested when about 30% of them have about 9-12 cm in long and sorted according to market standards.

RESULTS AND DISCUSSIONS

The fruit number increased because of the good conditions of growing.
With increased density of fruits on terminal part of plant the fruit weight per plant decreased and fruit weight per unit area increased.
This study results shows information that could help the farmers in Dambovita county.
Plants had good performance as a result of biofertilizer used.
Profitability of fresh pickling cucumbers its directly linked to hibryd used, selling price and period of selling. In this study we try to show the optimum growing element required to maximize the revenue.
Results of this study suggest that hibryd Kybria have the highest production of 6.76 kg/sq.m and 13.95 kg/sq.m for the first month of harvest and second one.

Table 2. Total production type cornichon cucumber in solarium, Tartasesti 2010, (the first month of harvest).

V	Cultivar	Fruits number/plant	Average weight (g)	Production per plant (kg)	Density culture	Total production (kg/sqm)	Difference from the control
1	Trilogy	10.41	97	1.01	4.76	4.81	-
2	Promisa	9.78	92	0.90	4.76	4.28	-0.53
3	Karaoke	15.64	85	1.33	4.76	6.33	+1.52
4	Kybria	16.13	88	1.42	4.76	6.76	+1.95
5	Componist	11.47	95	1.09	4.76	5.19	+0.38

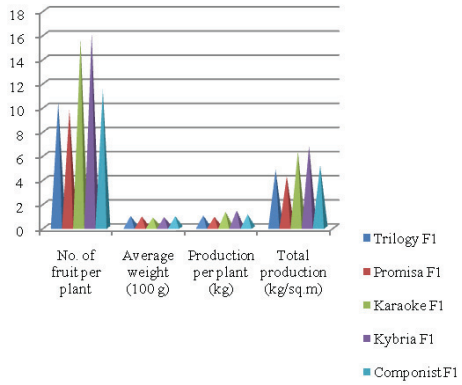

Figure 1. Total production type cornichon cucumber in solarium, Tartasesti 2010, (the first month of harvest).

Table 3. Total production type cornichon cucumber in solarium, Tartasesti 2010, (two month of harvest).

V.	Cultivar	Fruits number/plant	Average weight (g)	Production per plant (kg)	Density culture	Total production (kg/sq.m)	Difference from the control
1	Trilogy	17.04	97	1.65	4.76	7.85	-
2	Promisa	13.46	92	1.24	4.76	5.90	-1.95
3	Karaoke	25.20	85	2.14	4.76	10.19	+2.34
4	Kybria	33.24	88	2.93	4.76	13.95	+6.1
5	Componist	24.62	95	2.34	4.76	11.14	+3.29

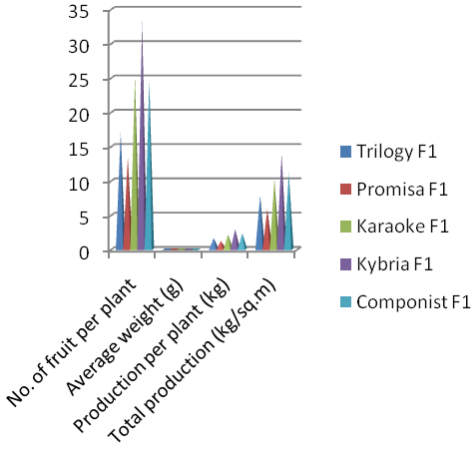

Figure 2. Total production type cornichon cucumber in solarium, Tartasesti 2010, (two month of harvest).

CONCLUSIONS

Regarding number of fruit per plant, hybrid Kybria are in top with average of 16.13 and 33.24.

For average weigh of fruit, the heaviest one are hybrid Trilogy with 97 g average and the smallest Karaoke with 85 g.

Production per plant: Kybria 1.42 kg (+0.45) and 2.93 kg (+1.28) for the first month of harvest and second one.

Regarding the production per sq.m hybrid Kybria had 6.76 kg/sq.m (+1.95) and 13.95 kg/sq.m (+6.10) for the first and second month of harvest.

Regarding productivity factor the highest from the four variants used was Kybria compare to Trilogy control.

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EX·TERRA·AVRVM