

**IMPORTANT SPECIES IN ALIMENTATION AND IN THERAPY
UNDERTAKEN IN THE AGRO-ECOLOGICAL AREA OF ARAD FOR THE
SPECIES *CUCUMIS METULIFERUS***

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Abstract: *The species, Cucumis Metuliferus (the horned melon) is a annually species from the Cucurbitaceae family , native from Africa from the tropical region and from the Australian region, it was successfully acclimatized in the agro-ecological areal of Arad. The fruits are valuable from the nutritional point of view because they contain beneficial substances beneficial for alimentary domain also for the medical domain. It is appreciated by the amateurs of exotic flavors and also by those who want a hypocaloric diet. The undertaken research had the goal of improving the technology of cultivation of this species both in the field and in protected space such as greenhouse.*

Keywords: *Specie, agro-ecological areal, beneficial substances, exotic flavors*

MATERIALS AND METHODS

In Arad agroecological area, the characteristic area for the west side of the country, starting with 2012 were undertaken a series of research regarding the cultivation technology of the yellow melon with horns (*Cucumis metuliferus*). Being a new and not studied species in the west part of the country, our research were oriented for the acclimatization of this species, finding the right moment to start the cultivation in the field and also in protected spaces greenhouses, and also determining the optimal density to plant, establishing the optimal way to start the crop(by planting directly in the field or starting seedlings, establishing the optimum system for leading the plants also determining with is the best bio-fertilizer, control formulas for weeds , diseases and pests.

With the exception of proposed research variants were applied in a big part the similar technology of the cucumber grown in the open field on high espalier and those from protected areas (they are from the same family - Cucurbitaceae). It was respected that in rotation, *Cucumis metuliferus* not to be back on the same surface sooner than three years, and as a precursory plant was follow after beans and peas. The basic fertilization in autumn was performed with organic fertilizers (30 t/ha stable garbage well decomposed).

The crop establishment can be accomplished by seedling and planting directly in the field. The seedlings were produced in heated protected areas, in nutritional cubes, the seedling has to be approximately 15 days and have a number of 4 - 5 leafs. The seed used to produce seedlings and in direct sowing in the field were heated treated. Were tested a fertilization of the crop through seeds, a new concept that is based on the „starter" effect which these new fertilizers (Teprosyn) can be execute over the seeds and plants in the first developing phases.

This paper work it's proposes the presentation of the results obtained in three years of study (2012 - 2014) regarding the optimum time setting of establishment through seedling in protected areas (tunnel solarium type ICLF Vidra) and the optimum space of nutrition (density) for the melon with horns species. The experience was two-factor structured, in randomized blocks with four rehearsals. The data capitalization was made after analysis method version applied to pleased experiments in randomized blocks for many years and in the same town. Excepting proposed variants were applied the recommended crop technology for cucumber crop in protected areas. During vegetation period were effectuate determinations regarding morphofiaiological and production indices over each version and rehearsal partly.

RESULTS AND DISCUSSIONS

Analyzing the results obtained in three years of studies and testing (average years 2012 - 2014), from fruits production viewpoint, were finds that the best age of establishment crop of *Cucumis metuliferus* E. H. Ney ex Schard in protected areas (tunnels ICLF Vidra —5,40 m), for agroecological Arad area is in the first decade of April month. Very significant results were obtained in relation to the two witnesses at the establishment of crop in both April 5th as in 15 of April, production differences being contained between 3,7 and 13,2 t/ha (table 1.1).

Factor action concerning the optimum space of nutrition settings, the results is different, from significant productions to very significant productions. Compared to the two witnesses, very significant results were obtained using densities between 7408 and 9260 pl/ha, both on four rows as well as on three rows from tunnel solarium.

In the bilateral combination — establishment age and plantation sketch — the best association for the agroecological Arad area is obtained through establishing by plantation in protected areas (tunnels covered with polyethylene foil with 5,40 m width) during 5 -15 of April with a 7408 — 9260 pl/ha density. During vegetation period were made phenologic observations over the main morphoproductive indices, on versions and rehearsals.

CONCLUSIONS

1. Food and therapeutic importance of this species and the optimum conditions for a ecological agriculture in Arad area, justify the undertaken research regarding the yellow melon with horns (*Cucumis metuliferus*)
2. The studied species has rapidly demonstrated by the genetic potential, adaptability at environmental conditions specifically to the agroecological area from the west side of the country, especially in protected areas.
3. The optimum space of nutrition for this species include the distance between the rows that is 1,4 — 1,6 m and between plants in a row is 0,60 — 0,80 m, making densities between 7408 and 9260 pl/ha.
4. The optimum establishing age for the crops from tunnel solarium is the first decade of april month.

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Table 1.1

A-Planting moment B-Density (Planting scheme)	(a-1) 05.04				(a-2) 15.04				(a-3) 25.04				(B)Planting scheme				
	t/ha	D(t/ha)	%	S	t/ha	D(t/ha)	%	S	t/ha	D(t/ha)	%	S	t/ha	D(t/ha)	%	S	
b-1(12.346pl/ha) 4x1,4m x 0,60m	27,3	2,2 -3,3	108,7 89,2	00	25,1	1,9 -5,12	108,2 82,8	000	22,2	1,9 -3,4	109,3 86,7	00	24,9	2,0 -3,9	108,7 86,5	0	
b-2(9,260pl/ha) 4x2,4m x 0,80m	35,8	10,7 5,2	142,6 116,9	xx xx x	36,4	13,2 6,1	156,8 120,1	Xx x Xx x	30,5	10,2 4,9	150,2 119,1	Xxx Xxx	34,2	11,3 5,4	149,3 118,8	Xxx Xxx	
b-3(7,408pl/ha) 3x1,4m x 1m	32,3	7,2 1,7	128,7 105,6	xx x	33,5	10,3 3,2	144,4 110,5	Xx x Xx	26,8	6,5 1,21	132,0 104,7	Xxx	30,9	8,0 2,1	134,9 107,3	Xxx	
b-4(5,556 pl/ha) 3x1,5m x 1m	25,1	Mt ₁ -5,5	100 88,0	00 0	23,2	Mt ₁ -7,1	100 76,6	000	20,3	Mt ₁ -5,3	100 79,3	000	22,9	Mt ₁ -5,9	100 79,5	000	
b-5(6,945 pl/ha) 3x1,6m x 0,80m	28,6	3,5 -2,0	113,9 93,5		29,7	6,5 -0,6	120,0 98,0	Xx x	24,6	4,3 -1,0	121,2 96,1	Xx	27,6	4,7 -1,2	120,5 95,8	Xx	
b-6(9,260 pl/ha) 3x1,4m x 0,60m	34,3	9,2 3,7	136,6 119,1	xx x xx	33,8	10,6 3,5	145,7 111,6	Xx x Xx	28,9	8,6 3,3	142,4 112,9	Xxx Xx	32,3	9,4 3,5	141,0 112,2	Xxx x	
Average values	30,6	- Mt ₂	- 100		30,3	- Mt ₂	- 100		25,6	- Mt ₂			28,8	- Mt ₂	- 100		
(A) Planting moment	30,6				30,3				25,6				DL (t/ha)	A	B	BxA	Ax B
Dif.(t/ha)	5,0				4,7				Mt				5%	2,5 4	3,27	2,81	3,80
%	119,5				118,4				100				1%	3,1 1	4,12	3,76	5,23
Signification	xxx				xxx								0,1 %	4,7 2	5,16	5,05	7,26

The influence of planting moment and density at Cucumis Metuliferus in protected area (2012-2014)

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