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Study of Some Agrotehnological Characteristics of Rocket (*Eruca sativa* Mill)

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Abstract. Currently in the world grow hundreds of vegetable species, many of them taken from spontaneous flora for special nutritional qualities, increased resistance to disease and pests. In our country the rocket (*Eruca sativa* Mill),is hardly knew, therefore this experience took place to accumulate further knowledgment upon this vegetable, for simple reason; to proceed diversification of the current range of vegetables.

Keywords: *Eruca sativa*, rocket

INTRODUCTION

Rocket is a herbaceous plant indigenous to the Mediterranean basin and western Asia and was cultivated and highly appreciated by the ancient Romans. Garden rocket is used as a medicinal plant against eye infections and to treat digestive and kidney problems. It is considered an excellent stomachic and stimulant, and is also used as a diuretic and antiscorbutic. The leaves are used as a rubefacient on the skin. Garden rocket has always been considered a potent aphrodisiac and people in the Mediterranean region still use it as such. The seeds oil has a high erucic acid content and is used as an industrial oil for lubrication and illumination. The seeds are also used to produce a kind of mustard. Leaves contain 91,70 % water, 2,58 grams protein, 15 mg vitamin C, 160 mg calcium, 52 mg phosporus, 47 mg magnesium reported at 100 grams fresh product.

In recent years, in various Mediterranean countries, the area dedicated to its cultivation was grown, with ever more interests. Its popularity as a market vegetable has increased recently, the economic interest in rocket is growing, he is intitled the 4th generation of vegetables (ready – to – use) salads. In favorable climatic conditions, *Eruca sativa* can be cultivated in almost any type of soil, provided there are no difficulties in working or preparing the soil. At the outset of cultivation, careful attention must be paid to soil preparation particulary in the case of direct sowing, which is one of the most important factors in ensuring its success.

DESCRIPTION

Erect annual herb up to 80 – 100 cm tall, branched; stem glabrous or sparsely covered with rough hairs. Leaves alternate, petiolate (upper ones almost sessile), lyrate – pinnatifid, up to 12 cm x 4 cm, irregularly serrate. Inflorescence a terminal receme without bracts. Flower bisexual, regular, 4 – merous; sepals free, erect, 1 cm long; petals free, spatulate, distinctly

clawed, white to pale yellow or pale violet with violet veins; stamets 6, free. Fruit an ellipsoid silique up to 4 cm long, with a distinct, flat beak, longitudinally dehiscent, many – seeded.

MATERIAL AND METHOD

The experience was conducted in greenhouse belonging to the Vegetable Growing Department at USAMV Cluj, in the spring culture. Two cultivars of rocket were compared with different origin, one from Réde Kertimag, Hungary and the other from Intersemillas, Spain alike the size, number of leaves. The culture was performed on 24 March, by direct sowing.

The experience was bifactorial, studiing the influence of cultivars and density on achieved yield. The first factor was represented by the cultivar, the second factor was the density, both with two graduation. The second factor has a preset number of plants, 150 – 300, thereupon have made observation and determination. The density (second factor) with two graduations, first plant density was 394 plants / sqm., respective 1042 plants / sqm. second plant density.

Tab. 1

The influence of plant variety and plant density upon the achieved yield (kg/sqm) between 30.04.09 – 7.05.09.

Variety	Density	Data	Rep. 1	Rep. 2	Total yield kg/sqm
V1	dense	30.04	1.76	0.95	2.71
V1	dense	7.05	2.44	3.37	5.81
V1	rare	30.04	1.51	1.62	3.13
V1	rare	7.05	1.91	1.68	3.59
V2	dense	30.04	3.24	2.88	6.12
V2	dense	7.05	5	4.65	9.65
V2	rare	30.04	2.78	2.21	4.99
V2	rare	7.05	3.42	5.14	8.56

The obtained yield recorded values between 1,51 – 2,88 kg / sqm at first harvest (30.04) when harvesting was performed after 31 days from the plant emerge, and between 1,68 – 5,14 kg / sqm at the second harvest(7.05), 38 days after plant emerge. Were made biochemical analysis of rocket leaves, there aren't distinguished differences between the two cultivars.

RESULTS AND DISCUSSIONS

The obtained results show that the most important factor for obtaining of high yields of rocket is represented by the cultivar from Intersemillas, from Spain, detaching the other cultivar of rocket, with 85 % in case of interaction within cultivar 2 at first density, and 58 % production increasment in case of interaction within cultivar two at second density, compared with control of experience, and with 41 % increase compared with the experimental average.

Tab. 2

Combined influence variety and density upon the total yield obtained at rocket (kg/sqm)

Variant	Total yield		Dif. Compared	Total yield		Dif.compared
	kg/sqm	%	with the control	kg/sqm	%	with the average
v1 - d1	4,26	100,0	0,00	4,26	76,4	1,31
v2 - d1	7,89	185,1	3,63*	7,89	141,6	2,32*
v1 - d2	3,36	78,8	0,90	3,36	60,3	2,21
v2 - d2	6,77	158,9	2,51*	6,77	121,5	1,20
X	5,57			5,57	100,0	0,00
	LSD 5%		2,28			2,29
	LSD 1%		6,13			6,20
	LSD 0,1%		30,42			31,12

CONCLUSION

The obtained results recommend to expand the cultivar from Intersemillas in covered crop culture, because on achieved yield and for his short growing period.

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