

The Influence of Seed Position on the Emergence Some Rootstocks by *Lagenaria siceraria*

Mădălina DOLTU, Marian BOGOESCU, Dorin SORA

Research and Development Institute for Processing and Marketing of the Horticultural Products –
Horting, 1 A Intrarea Binelui St., 042159, Bucharest, Romania; doltu_mada@yahoo.com

Abstract. The researches was conducted in the Laboratory for Protected Cultures of the Research and Development Institute for Processing and Marketing of the Horticultural Products – Horting Bucharest. The observations were made during the growing season, in 2013 year. The experience was conducted in a rootstocks collection consisting from 3 hybrids F₁ by *Lagenaria siceraria* (Argentario, Macis, Achile). The research has aimed obtaining some rootstocks by cucurbits using different seeds positions, in order to establish technological dates to produce seedlings for grafting. The results show that at the studied hybrids the seed position has influenced the rootstocks emergence. The seed position is an important factor in the technology for production of *L. siceraria* rootstocks seedlings.

Keywords: seed, position, emergence, rootstocks, *Cucurbitaceae*

Introduction Grafting vegetables is based on the merge between scion – crop variety and rootstock – wild variety (Edelstein, 2004; Bogoescu, 2008). The researchers studied the compatibility of the plants diameters (Frederic, 2010). At the time of grafting, the scion should have the same stem diameter as the rootstock. The emergence should be uniform, to the optimum time; so, the plants will be phenotypic compatible. Thomas *et al.* (1978) investigating how the seeds position influences emergence.

Aims and objectives. The research has aimed obtaining some rootstocks by cucurbits using different seeds positions, in order to establish technological dates to produce seedlings for grafting. This strategy led to the choice of the best variant. So, can be correlated the plants diameters (scion and rootstock) and the grafting can be performed successfully.

Materials and methods. The researches was conducted in the Laboratory for Protected Cultures of the ICDIMPH-Horting Bucharest. The observations were made during the growing season, in 2013 year. The bifactorial experience was conducted in a rootstocks collection consisting from 3 hybrids F₁ by *L. siceraria*; the rootstocks investigated were: Argentario, Achile, Macis – Fig.1.



Fig. 1. Rootstock plants

It was organized a bifactorial experience with the following experimental factors: factor a – the rootstocks: a₁ - Argentario, a₂ – Achile, a₃ - Macis; factor b – the seed position: b₁ - pointing up, b₂ – upside down, b₃ - horizontal. The variants were: V₁ (a₁b₁), V₂ (a₁b₂),

V₃ (a₁b₃), V₄ (a₂b₁), V₅ (a₂b₂), V₆ (a₂b₃), V₇ (a₃b₁), V₈ (a₃b₂), V₉ (a₃b₃); 100 seeds/variant. With Duncan test were established differences between variants and rootstocks.

Results and Discussion The seed position has influenced the rootstocks emergence; were obtained differences between variants and rootstocks (Tab. 1, Fig.2)

Tab. 1

The emergence some rootstocks by *L. siceraria* (%)

Variant	Day of emergence					
	6 rd	8 rd	10 rd	12 rd	15 rd	21 rd
V ₁	11.67	33.33	10	11.67	11.66	3.34
V ₂	10	70	3.33	3.34	-	-
V ₃	3.33	46.67	13.33	6.67	10	-
V ₄	12.33	32	9	12.67	12	2
V ₅	9	68	2,33	4,34	1	-
V ₆	2	48.33	12	8	9,34	-
V ₇	12.67	31	11.33	11	12	4
V ₈	11	50	13	13	-	-
V ₉	3	25	28	20	3	2

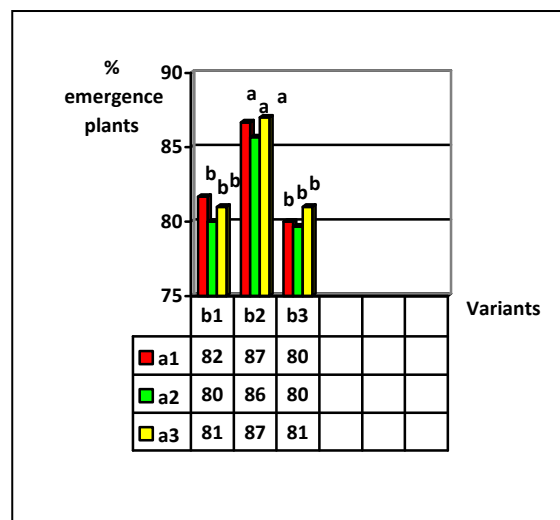


Fig. 2. The influence of seed position on the emergence some rootstocks by *L. siceraria*

The optimum variant is seeding seeds with upside down, in 12rd day from seeding more than 80% of the plants were emerging. Emergence rate was ranked between 72% and 100% in collected genotypes of Turkish *L. siceraria* (Yetisir *et al.*, 2007).

Duncan test shows a significant difference between the variant - upside down, the best variant and others variants - pointing up, then horizontal, a insignificant difference between the variant pointing up and the variant horizontal and a insignificant difference between rootstocks.

Conclusion

The seed position is an important factor in the technology for production of *L. siceraria* rootstocks seedlings. The emergence of the plants, to optimum time, influences the grafting, establishing the dates of the grafting technology - the optim variant is seeding seeds with upside down. Such, the rootstocks emerge to optimum time and the grafting is done in good conditions.

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