

## Research Regarding Technological Particularities For Obtaining Onion Ecologic Seeds

Niculai POPANDRON<sup>1)</sup>, Mircea TUDORA<sup>2)</sup>, Constantin TUDORA<sup>2)</sup>

<sup>1)</sup>Research and Development Institute for Vegetable and Flower Growing Vidra, 077185,  
nicupopandron@yahoo.com

<sup>2)</sup>SC Oferta Bob SRL Tartasesti, Dambovita

**Abstract:** An interesting novelty in onion production is represented by the development of ecological production using organic seed. A comparative study between the conventional technology of obtaining onion seed and the technology of obtaining organic seed has been made. There have been significant difference between the two technologies. The difference in production was very significant, obtaining a production of 345 kg / ha for the classical technology and a 164 kg / ha production for the organic seed. Regarding the classic technology, the average flower stems height was higher by 26 cm, the inflorescences diameter by 37% larger, the number of flowers in bloom by 40% higher, MMB = 4.2 g for the classic technology and 3.7 g for the organic technology, the germination higher by 6%.

**Keywords:** onion, conventional and organic technology, seed, productivity

**Introduction.** An interesting novelty in onion production is represented by the development of ecological production using organic seed. In order to obtain organic onion bulbs, of green organic onion and sprouts used in human nutrition is required to use organic seed. In Romania, until three years ago, there were no concerns about getting green onion seeds. The big vegetable producing companies (Bejo, Enza Zaden) are developing for a number of years organic seed for the main vegetable species.

**Aims and objectives.** A comparative study between the conventional technology of obtaining onion seed and the technology of obtaining organic seed has been made. The main objective was to obtain bio onion seeds using a technology in which all inputs for its implementation to be ecological. Also, we aimed to establish the difficulty of obtaining organic onion seed, to determine the economic efficiency of this activity.

**Materials and methods.** Between 2010 and 2011 at SC Oferta Bob SRL from Tartasesti (Dambovita county) the classic technology of onion seed production has been experimented and at ICDLF Vidra the experiment consisted in applying technologies to obtain organic onion seed. The cultivar used to achieve the two technologies was the Brilliant variety, a valuable local variety that is used successfully at the technologies of obtaining bulbs both by establishing the cultures in fall or spring. The variety is resistant to Peronospora destructor, quality that is suitable for organic seed production, not being necessary to perform treatments to combat this pathogen.

During both experiments the same optimal planting time has been taken into consideration (October 15), the same density (66,000 plants / ha) ecological bulbs were used for the technology for obtaining organic seed.

Biometric observations and measurements were made with reference to: seed production, height of flower stems, number of leaves / plant and their size, inflorescence diameter, number of flowers in bloom, MMB, germination of seed. During the experiments, there have been favorable climatic conditions for growing onion seedlings, not being necessary to perform treatments to combat Peronospora destructor in organic technology. For

the conventional technology there have been used chemical fertilizers (700 kg / ha), three preventive treatments with chemical products were performed, three herbicides were applied, watering was done every 10 days. The culture for obtaining organic onion seed was placed on unfertilized nonherbicised land in the past five years, chemical fertilizers haven't been used, no chemical treatments were made, no herbicides were made, the weed destruction was carried out manually.

**Results and Discussion.** There have been significant difference between the two technologies. Regarding the classic technology, the average flower stems height was higher by 26 cm, the inflorescences diameter by 37% larger, the number of flowers in bloom by 40% higher, MMB = 4.2 g for the classic technology and 3.7 g for the organic technology, the germination higher by 6%. These higher values reported for the conventional technology is explained by the fact that both the quantities of chemical fertilizers (700 kg / ha) and lack of competition between seed plants and weeds have had a positive contribution to growth, development and fructification. The difference in production was very significant, obtaining a production of 345 kg / ha for the classical technology and a 164 kg / ha production for the organic seed. Because the organic bulbs used in setting biological culture have a much higher price, because the organic seed production is much lower, the organic seed price is much lower.

**Conclusion.** It is the first time when in Romania is produced organic onion seed. It is an activity to be extended, the seed is used both to obtain bulbs in order to continue producing organic seed and also organic bulbs for consumption, for obtaining organic green onion and obtaining germs from organic seed (product appreciated in many countries). The organic green onion is much lower (less than 50% from the seed production obtained by the conventional technology) because the organic seed production is much lower and because the organic bulbs used in setting biological culture have a much higher.

## REFERENCES

1. Lascu, O. and C. Poasca (1989). Comportarea semincerilor de ceapa in conditiile anilor 1986-1987. *Anale ICLF-Vidra*. X: 305-318.
2. Popandron, N., and A. Marinescu (2003). Modernised technology of cultivating onion. *Bulletin UASMV- CN*. 60(1): 159.
3. Popandron, N., M. Tudora, V. Stoian and M. Basturea (2009). New Contribution for Improving the Technology of Onion Cultivation. *Bulletin UASMV-CN*. 66(1):443-450.
4. Popandron, N., M. Tudora and M. Basturea (2010). The study of three factors that influence the onion production. *Journal of Horticulture, Forestry and Biotechnology UASMV-Timisoara*. 14(1):177-182.