

Насіння сорту 'Глесія' перевищувало вміст стронцію у насінні попереднього сорту на 70 і 78 відсотки відповідно. Проте необхідно відмітити, що насіння сорту 'Гляна' акумулювало набагато вищий відсоток сполук стронцію у порівнянні з показниками у насінні сорту 'Глесія'.

Отже, за результатами трьохрічних досліджень можна зробити висновок, що за допомогою сортової агротехніки вирощування можливо впливати на інтенсивність процесів накопичення такого хімічного елементу як стронцій рослинами конопель посівних.

На величину показників акумуляції стронцію (Sr) рослинами конопель посівних проявляли істотний вплив: концентрація сполук цього елементу в орному шарі ґрунту, рівень енергетичного (світлового) забезпечення рослин культури у процесі вегетації, сортові особливості, етапи

органогенезу рослин культури і специфіка надземних частин: стебла, насіння.

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QUALITY OF SUGAR BEET SEEDS AND THE WAYS OF ITS INCREASE

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In the thesis were discussed the issues of the importance of quality seeds by the sugar beets growing. The one important element of the technology of hybrids seed growing based on the cytoplasmic male sterility is to ensuring the synchronization of flowering and the pollination of the parental components through the minting of the testes, which significantly affects not only on the level of seed yield, but also on its quality, especially on the sprouting energy and germination

Key words: seeds, sugar beet, minting, additional pollination, seed stimulation, germination, yield

The quality of sugar beet seeds is caused by the complex of genetic factors that are controlled by plant breeders and environmental and agrotechnological conditions of their growing and methods of post-harvest and pre-seeding seed preparation with modern technology using. Therefore, we are focusing only on those methods that directly influence on the yield and quality of sugar beet seeds by its cultivation of plantings and without plantings methods and during of its pre-seeding preparation. The most important indicators of seed quality are viability, energy germination, germination, one sprouting, uniformity and stability by the size and forms.

One of the most perspective ways to improve the quality of seed is its pre-sowing preparation in the seed plants that including seed cleaning from impurities that do not relate to the main crop seeds,

sizing, polishing, sorting by the aerodynamic properties and specific gravity, stimulation, pelleting and encrusting. The stimulation of the intensity of seed germination is possible with the using of mechanical methods of seeds preparation on the seed plants by the way of removal the artificial barriers to seed germination, the usage of growth stimulants and microelements. However, the most perspective way to increase the intensity is to initiate the passing of start phase germination with the following of its suspension, which was the goal of our research.

By the research program was envisaged to studying the features of seed quality formation by the growing of seeds, and it's pre-preparation in the seed plants. The researches were conducted at the Institute of bioenergy crops and sugar beet NAAS, Umansky Experimental Station, Uman National University of Horticulture and Vinnytsia seed plant Company "Ahrohrad B" in 2013-2015.

The field experiments were conducted according to the scheme: 1. No minting - control 2. Minting of 50% of plant pollinator 3. Minting of 50% of plant pollinator and 100% of plants CMS component. In the process of studying the optimal terms of minting and study its effectiveness on the processes of flowers formation, the synchronous of flowering and productivity of seed plants the studies were performed on the paternal and maternal components of triploid hybrids of sugar beet Umansky MS 97 simultaneously. The minting

was carried out in the period of mass stem formation by manually when the plants were 60-70 cm in height. At the same time was removed the top of the main stem for 5-10 cm. The square of scoring plot was 56 m², the repetition in three-time.

For stimulate the seed under the production conditions is using the 12 parties of calibrated seed of diploid hybrids Ukrainian MS 72, Westo and triploid Dobroslav, Alexandria. The stimulation of seed was performed by the method of Institute of bioenergy crops and sugar beets. In the control variant was sown the not stimulated seeds.

In the laboratory conditions were stated: the energy germination, germination and the seeds purity, the mass of 1000 fruits and one sprouting and one seeding. The selection of the average seeds samples was performed in accordance with applicable. In the field conditions on the seed plants were determined: the number of flowers by the variations of the experiment was determined by the way of calculation, the seeds yield determined by the way of heap weighing from the calculation plots and from the individual seed plants. The statistical processing of the experimental data was carried out by the methods of variance and correlation analysis set out in the book of B. Dosp'yehov with using the appropriate computer software.

By the researches is established that the minting of seed plants mating components has a positive effect on the processes of growth and development and, especially on the synchronicity of the flowering and flower formation. As a result of the suspension of the tops growth of the stems is the redistribution of nutrients, improves the supply of flowers that are formed, and this is contribute of additional formation of high-quality seeds and thus an increase of its productivity.

The experiments are conducted with the plants of CMS component and fixative of sterility of triploid hybrid Umansky MS 97 in isolated breeding houses.

So the minting of the plants of the fixative of sterility and of both components of breeding is provided the synchrony of flower formation and respectively – the flowering. Without minting the flowering of seed plants of fixative of sterility is began and finish more early in 2.1 times and held intensive on the start of flowering and 1.3 times - at the end of flowering, than seed plants of the MS component, than the flowering of mating components are not held synchronously.

The minting of 50% of the plants of fixative of sterility is ensured the extension of its flowering and more synchronous flowering of components. The flowering of fixative of sterility held more intensively only in 0.64-1.03 times. At carrying out the minting of all plants of MS-component and 50% of fixative of sterility is provided the most synchronous its flowering. In the beginning of flowering and his completion the number of flowers of MS component and fixative of sterility O-type were almost identical. Thus, on the last date

of accounting the number of flowers that bloomed in the MS component was 1082.2 pc./plant, in fixative of sterility - 1038.3 pc./plant.

In the process of studying the influence of plants minting of diploid MS component on seed production is established that this method contributes to a significant increase the yield of the baseline seed.

By the minting only the 50% of the plants of fixative of sterile the yield of baseline seed of MS component is increased to 0.17 t/ha. By the minting the 50% of the plants of fixative of sterility and 100% of plants of MS component the yield is increased in compared with the control at 0.20 t/ha. That is, the both methods of minting are provide the significant increase of yield of MS component seeds, but there is no the significant difference between them.

An important factor that influences on the indicators of seed productivity and, especially on the seed quality is its degree of tying, which depends on the synchronicity of flowering the components of hybrid. In our researches, this feature is varied in the range from 86.6 to 91.0%.

The restriction of the central stem growth in resulting the nutrients are active entering in the side stems, where is forming the basic mass of the seeds, improves their growth and development and, ultimately, decreasing the number of fruits of the diameter less than 3.50 mm, that does not apply to the seeds and by the post-harvest treatment of heap is losing. It is established that the regulation of the process of flowering the number of fruits of fraction with the diameter 3.00-3.50 mm are decreased to 1.7-2.0 times of MS component and in 1.9-2.2 times of fixative of sterility and the yield of seeds of sown fractions increased accordingly - on 8-10.4% and 9.7-11%.

The final stage of seeds preparation for pelleting is seeds polishing by the technological fractions and sorting it by specific mass. It was established that during seeds polishing by the technological fraction in diameter less than 3.75 mm is removed 5.3% of mass pericarp, and the intensity of germination through 72 hours after seeding is increased on 17% in compared with the control.

The analysis of influencing factors on the number of sprouted encrusted pelleted seeds through the 48 hours is showed that the share of impact of factor "stimulation" is significantly increased, in compared with the impact on the calibrating seeds and was 30%, a factor hybrid - 60%, other factors - 10%.

The directional regulation of processes of flowering and flower formation of seed plants of mating components has a positive effect on the processes of growth and development and, especially on the synchronization of flowering, and the degree of tying seed and consequently its yield and quality. The yield of seed and its quality are significantly increased in compared with the control (without minting) as a MS component of the fixative of sterility.