

VEGETABLE GROWING IN THE REPUBLIC OF MOLDOVA: STUDY OF MECHANIZED PLANTING SEEDLINGS

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Vegetable growing is one of the main agricultural sectors in the Republic of Moldova. However, for various reasons, today vegetable production is going through hard times, since the sales market for products has shrunk significantly, which has led to a reduction in the production area of major vegetable crops, such as tomatoes, peppers, cabbage and others.

The high level of imports of vegetables and vegetable products into the country pushes farmers away from the production of domestic vegetables. Today, vegetable growers initially find themselves in unequal competitive production conditions with their foreign colleagues, since these problems are aggravated by problems in the technology of growing vegetable crops, which do not allow for the full mechanization of technological processes. Planting seedlings is one of the most labor-intensive and important technological operations when growing vegetables. A lack of workers in agricultural production is felt more and more strongly, and the mechanization of work when planting seedlings plays an increasingly important role.

Transplanting machines do not fully comply with the agritechnical requirements for the process of planting seedlings. The working parts of imported planting machines do not always correspond to the physical and mechanical properties of the soil on which it is planned to grow vegetables. The result is a lot of wear on the working parts of the planting machines or failures associated with the machine breaking down in the field while performing work.

Preliminary field experiments on planting cabbage seedlings conducted in the early summer of 2023 at the „Polyus-Agro” farm in the village of Kremenchug revealed some design shortcomings of the carousel-type transplanting machine from the Italian company Checchi & Magli, such as: unevenness planting of seedlings; covering plants with soil; clogging of the press wheels and coulter with soil and plant remains.

During the experiments, simultaneously with planting, the performance of the equipment for installing a drip irrigation system additional installed on the transplanting machine was also tested.

Experiments have shown that this design can be improved by design and technological parameter optimization, which will eliminate the listed disadvantages and improve the quality of planting seedlings.

Keywords: drip irrigation, parameters optimization, transplanting seedlings, technological processes, transplanting machine, vegetables.