COMBINATION MACHINE FOR HARVESTING NUTS

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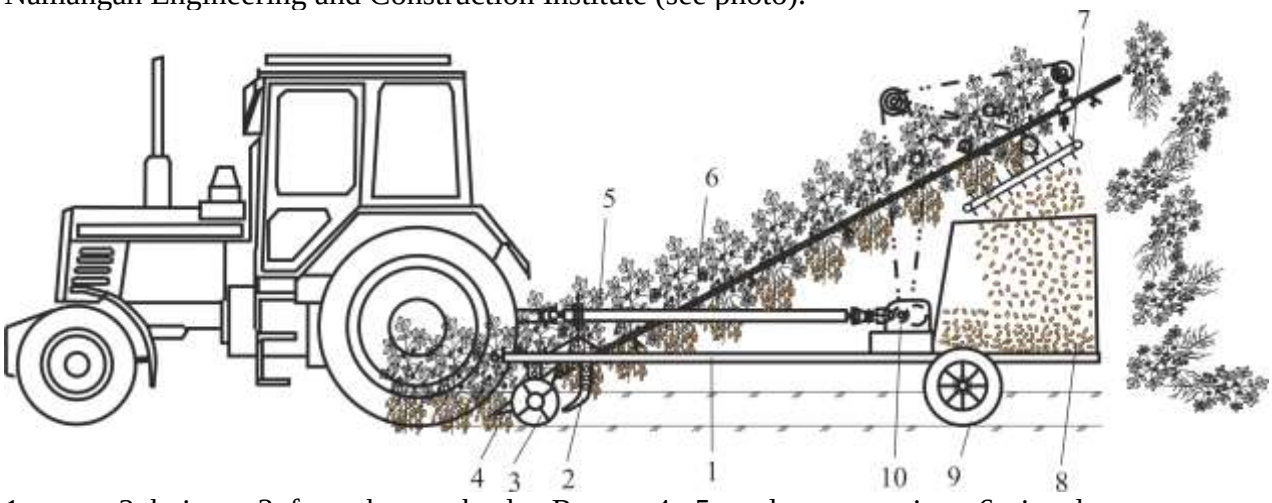
Abstract: This article describes the design scheme and technological processes of the nut harvesting machine, describes how the developed machine can dig out the nut and separate the pods from the stem at the required level, as well as eliminate manual labor in these processes.

The main task of agricultural production is to fully provide the population of the republic with cheap and environmentally friendly food products and raw materials for industrial enterprises by increasing the efficiency of all its branches.
It is known that in recent years, peanuts are grown on more than 20.0 thousand hectares of farms and farms of the republic. In the cultivation of nuts, many agro-measures, such as planting, inter-row cultivation, feeding and chemical treatment, are mechanized and carried out by technical means. However, the harvested walnuts are mainly harvested by hand. This, in turn, leads to delays and deterioration of the harvesting process and an increase in the cost of the finished product [1-5].
Peanuts are grown mainly in large areas in China, India, Nigeria, the United States and Argentina, and in other countries. However, the high cost of these techniques and their incompatibility with the soil and climatic conditions of the country hinders their use [6, 10].
Based on the above and on the basis of the analysis of scientific literature and patent-information research, a new design of a nut-harvesting machine was developed at the Namangan Engineering and Construction Institute (see photo).



1-rama; 2 knives; 3 front base wheels; Router 4; 5-cardant extension; 6-pin clamp tape extension; 7 comb-suckers; 8-bunker;

9-organ base wheel; 10-reducer
Schematic diagram of a nut harvesting machine

The machine consists of a frame, blades mounted on it, front and organ support wheels, guides, cardan gear, belt drive, comb-sucker, bunker and reducer.
The proposed machine allows you to harvest peanuts grown on farms and farms under favorable conditions quickly and without quality destruction.
In one pass, the machine digs two rows of walnuts with a width of 60-70 cm between rows, separates the pods from the stems and throws them into the bunker, and the stalks into the field. The technological process of nut mining is as follows: the machine attached to the tractor is adjusted to the required digging depth before entering the field and driven between the rows. The blade cuts the walnut roots to a depth of 22-25 cm, the guide picks up the walnut stalks and passes them to the ribbon extension, which squeezes the walnut stalks and moves them upwards at a certain angle. the comb-extractor separates the pods from the walnut stalk. The separated pods fall into the bunker, and the stem falls to the surface of the field.
In the initial tests, the developed machine showed that it was able to dig out the nuts and separate the pods from the stalks at the required level, and ensured the complete elimination of manual labor in these processes.

Conclusion

The developed machine showed that the process of digging nuts and separating the pods from the stems was carried out at the required level, and ensured the complete elimination of manual labor in these processes.

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