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## The Substantiation of Technology and Development of Technical Means for Seeding of Row Crops

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### ABSTRACT

The quality of seeding of row crops is evaluated depending on the uniformity of plants distribution over an area. According to the agro-technical requirements (ATR), row seeders should ensure an uniform distribution of seeds along the planting row, with a deviation of not more than  $\pm 30\%$  from the established interval between seeds in a row, at the same time ensuring that at least 70% of the seeds are embedded in the specified planting distance.

Under conditions of Moldova, the SUPN-8 are the main seeders for sowing row crops. According to the experience and long-term tests of this type of seeders imported in the Republic of Moldova, the seeders do not fully meet the ATR requirements. The percentage of maize plants located at the established planting distance decreases from 45 to 34% when the speed of the seed drill increases. The second characteristic of the most seeders is the process of continuous formation of a furrow with a discrete seed laying, which requires large amounts of energy for make a sowing furrow. Improving the seeding technology and creating the seeding technique able to make the discrete sowing of the row crops at high speeds and with a high degree of planting uniformity at a given planting distance, represents an urgent task. In this context, the no till planting technology of row crops using direct planting of seeds in the holes by the rotary-type seeders is of particular interest.

The no-till planting technology of row crops ensure: 1) a strictly uniform distribution of seeds along a planting distance in a row, which will ensure an increased yield of the cultivated crops; 2) a reduced traction resistance of the seed drill compared to the coulter, since the traction energy of the tractor will be spent only to perform the rolling of the seed wheels of the sections.

**Key words:** No-till planting technology, Rotary seed drill, Seed wheel, Precision device, Traction resistance, Seed distribution, Uniformity.