

PRE-PLANTING CULTIVATION TECHNIQUES FOR AGRICULTURAL CROPS.

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<https://doi.org/10.5281/zenodo.14355882>

Abstract: Methods of using harrows in pre-sowing processing of agricultural products. In preparing the land for sowing, the following agricultural machines are used: BZSS-1.0, BZTS-1.0 and BZTX-1.0 toothed harrows, RVN-8.5 leveler-soiler, BDT-3.0 and TDB-5 disc harrows, ChKU-4A chisel cultivator, MV6.0 harrow-soiler, VP-8 pre-sowing leveler, laser harrow-soiler and a number of other agricultural machines that prepare the land for sowing.

Keywords: Harrows, Tractor, toothed harrows, leveler, disc harrows, Chisel cultivator, leveler, track leveler, laser leveler, pre-sowing leveler.

Preparing the land for planting is an important agrotechnical measure. Proper soil cultivation improves water absorption, increases water reserves in the root zone and creates an environment for moisture retention, creating conditions for the strong development of the plant root system. In particular, in well-cultivated soil, the water and air regime is correctly established. All this creates the necessary conditions for the development of bacteria that serve as food for plants.

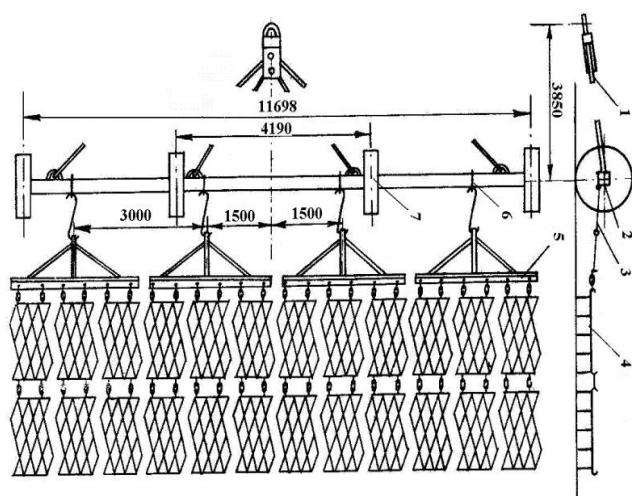
Usually, large lumps and pores appear on land plowed with plows, and the field surface is not sufficiently flat. Therefore, it is impossible to sow seeds on such land with high quality. Therefore, shallow tillage is carried out on plowed land without turning the soil over, loosening and leveling it, and harrows are used.

Toothed harrows are divided into heavy (16-20 N), medium (12-15 N) and light (6-10 N) types, depending on the weight per tooth. The toothed harrow is used to break up the clods of plowed land, level the field surface before planting, break up the clods, mix the sown seeds and scattered fertilizers with the soil, remove weeds, and partially loosen grasslands [14]. The harrow tooth works like a double-sided wedge, and depending on the orientation of the unit relative to the direction of movement, it can push the soil to the side, partially compact it, grind and loosen the soil, and mix it. In order to adapt to the microrelief of the field surface and have a uniform effect on the ground, the harrow is made with a relatively narrow width (about 1.0 meters), and after freely connecting them with their sides to adapt to the unevenness of the field surface, an aggregate with a large width is formed. According to the design, the harrow teeth are divided into straight, arrow-shaped, bent spring-shaped, etc. The cross-section of the teeth can be square, round, oval, rectangular, or triangular.

Design and manufacture of harrowing units.

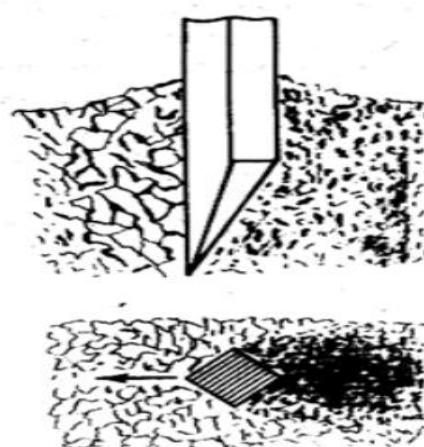
In fact, in order to avoid excessive soil compaction and to increase the efficiency of the unit, it is advisable to build harrowing units from chain tractors. Harrowing units are usually recommended to be built on the basis of wide-ranging trailers (Figure 43), and the unit should consist of harrows of the same type, their teeth should be straight, sharpened, of the same length, and installed with the sharpened tip in the direction of movement.

Scheme of a harrowing unit based on a wide-ranging trailer



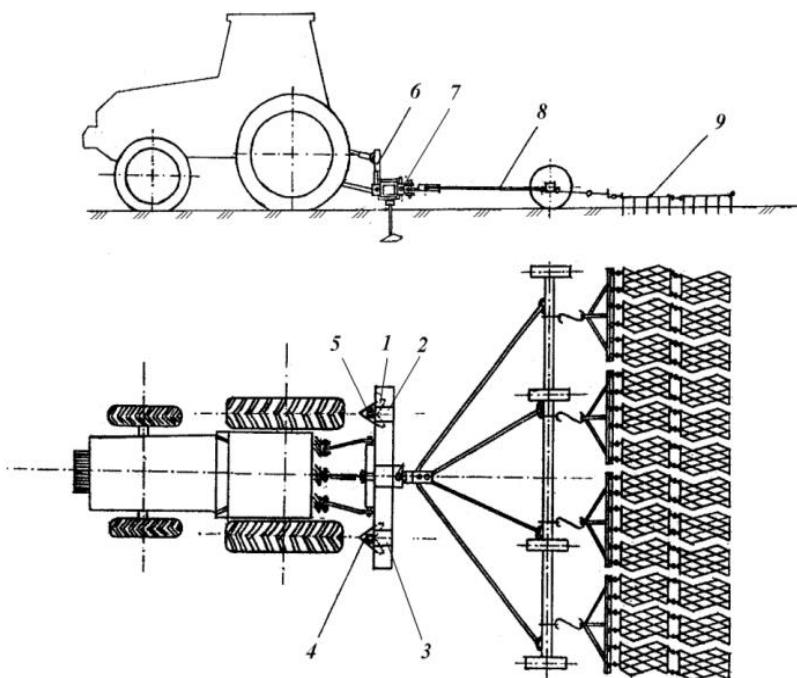
1 – tirkagich; 2 – ko‘ndalang brus; 3 – tortqi; 4 – boronalar; 5 – pishang; 6 – xomut; 7 – g‘ildirak.

Position of the harrow tooth relative to the direction of movement



Currently, the practice of using wheeled tractors for harrowing fields is widespread. Because wheeled tractors have high maneuverability. However, it is recommended to install devices that soften the tracks left behind by the wheels.

Scheme of a harrowing unit based on a wheeled tractor equipped with a track softener



1 – iz yumshatkichlar o’rnatiladigan ko’ndalang brus; 2,3 – kronshteynlar; 4,5 – iz yumshatuvchi ish organlari; 6 – osgich; 7-sirg‘a; 8 – tirkama; 9 – borona.

When harrowing non-saline and non-irrigated fields, the use of two-row BZSS-1.0 harrows and RVN-8.5 levelers ensures high quality of work, and when harrowing saline and irrigated fields, the use of BZTS-1.0 and BZTX-1.0 heavy harrows ensures high quality of work. When harrowing furrowed or furrowed fields, the use of harrows mounted on walk-behind tractors gives good results, since the furrows and furrows are not crushed by the tractors.

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