

**COMBINED AGGREGATE FOR WORKING THE SOIL BEFORE PLANTING**

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**ABSTRACT**

In the world, the cultivation of agricultural crops, maintaining the fertility of the soil and improving the combined machines and aggregates for soil cultivation occupy a leading place. Globally, the area under tillage before planting is 1.6 billion hectares, and in view of this, the development of high-quality and productive tillage machines is considered one of the important tasks. In this direction, due to the increasing level of production and consumption of agricultural products, special attention is paid to the implementation of combined technical and technologically modernized technical tools for high-quality soil cultivation in order to obtain a high yield from crops.

In the world, scientific and research work is being carried out, aimed at developing new scientific and technical bases of soil processing with machines equipped with rotary working parts, resource-saving technologies of preparing fields for planting, and the technical means that implement them.

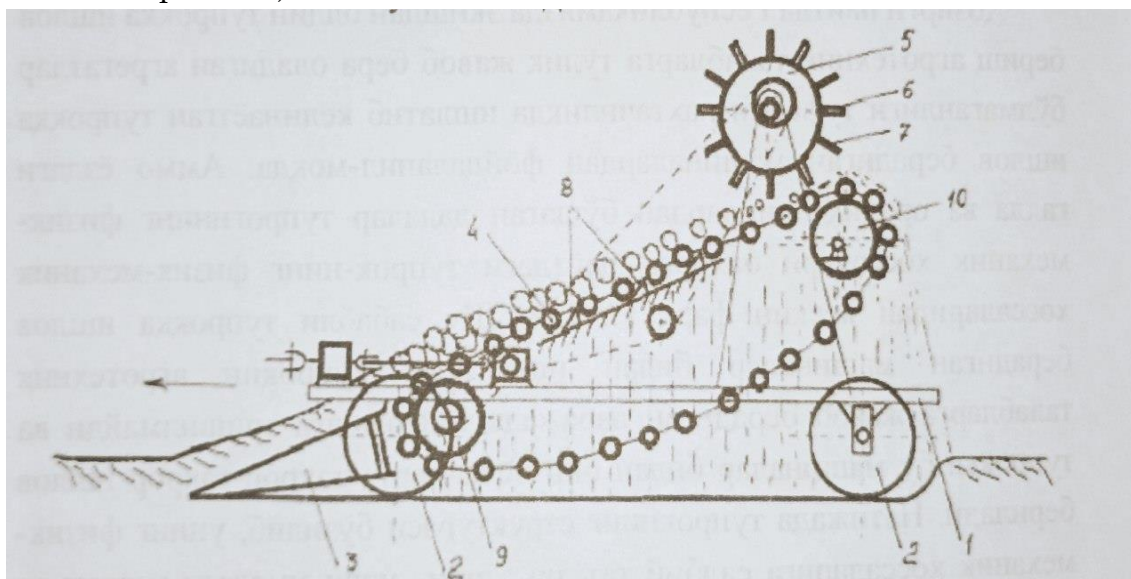
For farms, it is important to use combined aggregates, which prepare the soil for planting by processing the soil in one pass. Because when such aggregates are used, due to the small number of passes, the soil is less compacted, and this creates the basis for the good development of the root system of the future crops and the abundance of the harvest. In addition, the direct costs of various brands of soil tillage machines will decrease, productivity will increase, and conditions will be created for planting crops in short agrotechnical periods and collecting seeds for the natural moisture of the soil.

Currently, soil cultivation machines used in cotton cultivation are not used in our Republic due to the lack of aggregates that can fully meet the agrotechnical requirements for soil cultivation before planting. But the physico-mechanical properties of the soil of fields freed from grain and intermediate crops in the summer are sharply different from the physico-mechanical properties of the soil in the spring. Therefore, when working with soil tillage machines, it is not possible to prepare the soil to the level that meets agrotechnical requirements, and the soil is repeatedly worked with these machines several times. As a result, the structure of the soil is destroyed, it has a negative effect on its physical and mechanical properties, the period of planting is extended and it leads to an increase in material costs.

In order to improve the design of the above-mentioned machines, in the following years, suspension and rotary harrows were created, as well as aggregates that combine the processes of fertilizing with soil disking and scraping. However, insufficient scientific research work was carried out in our country on the creation of energy-saving technologies and combined agricultural machines that can prepare the soil for planting and meet the requirements of agrotechnics in terms of work quality.

Materials and methods. Based on these points, a combined aggregate was prepared and experiments were conducted before planting in the soil (Fig. 1).

The main working bodies of the unit are mounted on a welded frame. The pre-planting tillage unit works in the following order. When the unit moves, the harrow (3) cuts the soil layer of a certain depth and is transferred to the moving screw elevator (4). The elevator (4) sifts the fine soil and throws it on the surface of the field, and directs the uncrushed pieces to the drum (5) that grinds into pieces. The shredding drum (5) cuts the remaining pieces into the elevator and crushes them with piles (7), the crushed soil mass falls to the surface of the field.



*Figure 1. Combined unit that works before planting in the soil: 1 - frame, 2 - support wheels; 3 - a working body (lamex) that cuts the soil layer; 4- elevator with spikes, 5 drum with piles for crushing pieces 6- plank on which piles are fixed; 7 - piles, 8 shaking balls; 9 - leading star; 10 leading stars*

Results and their analysis. The results of the researches showed that the use of articulated pile cutting drums with rubber plates in light soils with a content of 16-18% in other cases gives good results. When using a drum with a pile, the radius of the drum should be 320 mm, the radius of the pile should be 150 mm, the mass should be 0.8-1.0 kg, and the angular speed should be 40-60 r/s.

## REFERENCES

1. Toshpulatovich, Yuldashev Odiljon. "SCIENTIFIC AND TECHNOLOGICAL BASIS OF POTATO DEVELOPMENT." *Galaxy International Interdisciplinary Research Journal* 9.12 (2021): 296-300.
2. Юлдашев, Одилжон. "Smart texnologiyasini texnologiya darslaridagi talqini." *Новый Узбекистан: успешный международный опыт внедрения международных стандартов финансовой отчетности 1.5* (2022): 336-344.
3. Юлдашев, Одилжон. "Talabalar bilimini nazorat qilishda nostandart test topshiriqlaridan foydalanishning ahamiyati." *Новый Узбекистан: успешный международный опыт внедрения международных стандартов финансовой отчетности 1.5* (2022): 345-352.

4. Юлдашев, Одилжон Тошпўлатович. "Умумий ўрта таълим, олий таълим тизимида меҳнат таълими дарсларини ташкил этишда интеграция жараёнининг ўрни." Современное образование (Ўзбекистан) 1 (2018): 35-43.
5. Toshpo'latovich, Yuldashev Odiljon. "REGARDING THE ORGANIZATION OF WOODWORKING TRAINING IN A NON-TRADITIONAL WAY." (2022).
6. Tojiyevich, Rahmonov Xusan, Xusanov Axmadjon Juraevich, and Yuldashev Odiljon Toshpo'latovich. "Theoretical Justification Of The Dimensions Of The Working Part Of The Combined Aggregate Cutting Grinder." Journal of Positive School Psychology 6.9 (2022): 3663-3667.
7. Toshpo'latovich, Yuldashev Odiljon. "THE REPLACEMENT OF TECHNOLOGICAL EDUCATIONAL WORK IN GUIDING SCHOOL STUDENTS TO CHOOSE THE RIGHT PROFESSION." (2022).
8. Yuldashev, Odiljon. "SCIENTIFIC AND TECHNOLOGICAL BASIS OF POTATO DEVELOPMENT." Galaxy International Interdisciplinary Research Journal (2021).
9. Yuldashev, Odiljon. "ЭКИШДАН ОЛДИН ТУПРОҚҚА ИШЛОВ БЕРИШНИНГ ЯНГИ ТЕХНОЛОГИЯСИ." Agro protsessing (2021).
10. Toshpo'latovich, Yuldashev Odiljon. "INTERPRETATION OF SMART TECHNOLOGY IN TECHNOLOGY LESSONS." Open Access Repository 9.11 (2022): 23-31.
11. Yuldashev, Odiljon. "ТУПРОҚҚА ИШЛОВ БЕРУВЧИ АГРЕГАТ ШАРНИРЛИ БОҒЛАНИШЛИ ҚОЗИҚЧАЛАРИ БЎЛГАН БАРАБАНИНИНГ КОНСТРУКТИВ ЎЛЧАМЛАРИНИ АСОСЛАШ." Agro protsessing (2021).
12. Yuldashev, O. "Important Features of Evaluating Efficiency of Tax Preferences." International Finance and Accounting 4 (2018): 40.
13. Toshpo'latovich, Yuldashev Odiljon. "THE IMPORTANCE OF USING NON-STANDARD TEST TASKS IN MONITORING STUDENT KNOWLEDGE." Open Access Repository 9.11 (2022): 44-53.
14. Yuldashev, O. T. "Development prospects of investment insurance product "UnitLinked"." International Finance and Accounting 5.1 (2020).
15. Yuldashev, Odiljon. "РАСЧЁТ СИЛОВЫХ ХАРАКТЕРИСТИК ТЕХНОЛОГИЧЕСКОГО ПРОЦЕССА ОБРАБОТКИ ПОЧВЫ." НАУКА И МИР (2021).
16. Tursunovna, Abdullayeva Kamila. "TECHNOLOGICAL EDUCATION AND PROFESSIONAL CHOICE PLANNING." Journal of Intellectual Property and Human Rights 2.10 (2023): 37-45.
17. Ganiyevich, Dosmatov Togonboy. "THE POWER OF INTERACTIVE METHODS IN TECHNOLOGY CLASSROOMS: ENHANCING LEARNING THROUGH ENGAGEMENT." Galaxy International Interdisciplinary Research Journal 11.10 (2023): 347-349.
18. G'aniyevich, Do'smatov To'g'onboy. "THE FACTOR OF USING NEW PEDAGOGICAL TECHNOLOGIES IN IMPROVING LESSON EFFICIENCY." (2022).
19. Rafikovna, Isakova Zukhra, Barkhayot Toshpolatovich, and Meyliboev Rakhmatali Inomjonovich. "THEORETICAL BASIS OF PREPARING FUTURE IT TECHNOLOGY TEACHERS FOR INNOVATIVE ACTIVITY." Web of Scientist: International Scientific Research Journal 3.11 (2022): 803-812.

19. Usmanovich, Olimov Baxtiyorjon, et al. "SELECTION OF ACTIVE TEACHING METHODS IN TECHNOLOGICAL TRAINING SESSIONS." *International Journal of Early Childhood Special Education* 14.7 (2022). 21. Rafikovna, Isakova Zukhrakhon. "RAW MATERIALS OF SEWING MATERIALS: FIBER TYPES." *Open Access Repository* 9.11 (2022): 180-181.
20. Karimov, M. A., B. B. Yuldashov, and Q. O. Fayzullaev. "DIRECTIONS FOR USING COMPUTER TECHNOLOGIES IN TEACHING THE SCIENCE OF "DRAWING GEOMETRY"." *EPRA International Journal of Research and Development (IJRD)* 7.12 (2022): 92-95.