

American Journal of Biodiversity

https://biojournals.us/index.php/AJB

ISSN: 2997-3600

Cost Efficiency of Restoration of Strepleniya Grids in Agricultural Machinery

Mirzaakhmedov Mirzarakhmat Mominovich

Basic doctoral student, Andijan Institute of Agriculture and Agrotechnology mirzoo.00007@mail.com

Received: 2024, 15, Jan **Accepted:** 2025, 21, Feb **Published:** 2025, 29, Mar

Copyright © 2025 by author(s) and Bio Science Academic Publishing. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0). http://creativecommons.org/licenses/by/4.0/





Annotation: Agricultural machinery and their economic importance. In agriculture, the technique automates and intensifies production processes, which contributes to increasing labor productivity, reducing production costs and improving the quality of products. Agricultural machinery and autotractors and other agricultural machinery are necessary for the productive production process.

Keywords: Stabilization grilles, welding, transmission, engine, torque, friction, resistance, recovery, wearing, exploitation, grinding, polishing, strength.

Introduction. Agricultural machinery today is one of the necessary tools to achieve high efficiency in farming and animal husbandry. It is difficult to imagine modern agriculture without them. One of the important mechanical parts in their structure is the stseplenia grids (porridges).

Paws are paws. Their efficient operation plays an important role in ensuring the quality of crops. However, over time, the porridges are eaten, which requires their recovery. The article analyzes the cost-effectiveness of the recovery process, considers the main methods of restoration and the economic benefits of this process in agriculture.

The role and performance features of the stsepleniya grids (porridge). They are one of the basic mechanical components of the agricultural machinery and autotractors, which are directly involved in the process of plowing the land, seeding, cultivation and harvesting of crops. And their effective uptime directly affects the overall processing efficiency of the machinery. Any malfunction or erosion makes it necessary to restore the paws (porridge). By restoring the grids (shovels), they are brought back to the correct working condition, which will ensure the long-

Volume: 2 | Number: 3 (2025) March

term operation of the equipment.

Technologies for the restoration of strepleniva lattices (lapka). The process of restoring streplenic grilles is one of the most important parts of maintenance. There are several effective ways to restore stupendum ridges. Here is a summary of the most common of them.

Mechanical processing: It is the most common method of restoring streplenic grilles (porridge). In this method, abrasions and deformations on the surface of the pores are mechanically corrected. For this purpose, mechanical methods such as grinding, milling or similar are used.

Soldering processing: Bites and marks on the surface of the soldering grilles (soldering) can be filled in with a solder. In the process of soldering, the eaten parts of the grid with hard material are filled and they are strengthened.

Naplavka technology: In this way, the eaten Naplavka grids (porridge) are filled with metal at high temperatures. With the help of naplavka, the strength of the grid (porridge) and the working time is increased. In the process of restoring grids, the naplavka method is used in more heavily loaded techniques.

3D Printing Technology: With new technologies, grid restoration is more efficient and cheaper, lmogda. 3D grid restoration techniques with printing can help ensure efficient operation.

The grid restoration process consists of the following steps:

Grid analysis: Before the restoration process begins, the grids will be fully inspected. Whether they have been eaten, deformed, or have some other type of malfunction – all this is fixed.

Mechanical processing: Abrasion and deformed parts from the surface of the grids, mechanically remove. In this method, mainly the grinding and milling is performed.

Naplava and soldering processing: When grills are eaten, the methods of sowing or naping with hard materials are applied to their surface. In this way, the grid restores its original shape.

Testing: Recovered porridges are tested and their performance is checked. If it meets all the norms, then they are ready for use again.

Cost-Effectiveness Assessment The following factors are taken into account when evaluating the cost-effectiveness of the recovery process:

Reduce costs: The restoration process is much cheaper than buying new grids. For example, if buying a new grid costs 200,000 UZS, the cost of restoring a grid can be only 20,000 UZS. And that means huge savings for agriculture.

Extend the life of the technique: Restored grills provide longer performance. This increases the overall efficiency of agricultural machinery and prolongs the working life of the machinery.

Improve Production Efficiency: The remanufacturing process improves the processing efficiency of the technique. This, in turn, ensures efficient work in the processes of plowing, sowing, cultivation and harvesting of crops.

Benefits of the remediation process.

Reduce costs: The restoration process significantly reduces costs compared to purchasing new lodges. This is especially useful for large Agricultural enterprises since they use lots of techniques.

Ensure Sustainability of Production: Restoration of grids ensures long term operation of machinery, which increases the sustainability of production processes in Agriculture.

Increased productivity: Sewn grids have high efficiency, increasing the performance efficiency of the technique when harvesting cotton or other crops.

Economic analysis of the recovery process and examples. We give an example in the

economic analysis of the process of restoring the grids. Suppose buying a new grid costs 200,000 UZS. If it costs 20,000 soums to restore the grid, then by each technique you can save about 180,000 soums. If during the year 100 agricultural and auto tractors are restored, the total amount of savings will be 18,000,000 UZS.

For example, Large Agricultural enterprises operate an average of 500 Agricultural and autotractors. 3 grids are needed for each machine, that is 1,500 grids in total. If 180,000 UZS is saved for each restoration of agricultural equipment, the total amount of savings will be 90,000,000 UZS.

Conclusion. The process of barbed straightening is an important mechanical service that increases the cost efficiency of agricultural machinery. This process not only reduces the cost of purchasing new grids, but also extends the life of the equipment and increases production efficiency. In agriculture, the role of grid restoration is great in ensuring the long-term operation of machinery, as a consequence, sustainable production. Therefore, perfecting and widening the process will help improve the efficiency of agricultural production.

LIST OF REFERENCES

- 1. https://www.fao.org/3/ca8753ru/CA8753RU.pdf;
- 2. Decree of the President of the Republic of Uzbekistan No. UP-60 of January 28, 2022 "Development Strategy of New Uzbekistan for 2022-2026"²
- 3. Decree of the President of the Republic of Uzbekistan No. UP-5853 dated October 23, 2019 "On approval of the Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020-2030"
- 4. Resolution of the President of the Republic of Uzbekistan dated July 31, 2019, No PP-4410 "On measures for the accelerated development of agricultural machinery, state support of the agrarian sector with agricultural machinery"
- 5. Collection of Laws of the Republic of Uzbekistan, 2017, No. 6, Art. 70, No. 20, Art. 354, No. 23, Art. 448.
- 6. K.Z.Kasymov "Restoration and improvement of eaten parts". Monograph./ Edited by T.S.Khudoyberdiev.-Tashkent: 2006.- 86 p
- 7. T.S.Khudoyberdiev, K.Z.Kasymov "Scientific foundations of increasing the resource of machine parts". Monograph./-Andijan,2020.-165 p.
- 8. Gost 5640-68.Stal.Metallograficheskiy metod osenki mikrostrukturi listov I lenti: -Moskva Izdatelstvo standartov.-1988.
- 9. UzDSt 3412:2019 "Testing of agricultural machinery. Machines and weapons for tilling the surface of the soil. Testing Program and Methods". – Tashkent, 2019. – 53 b.
- 10. RD Uz 63.03-98 «Ispыtaniya selskoxozyaystvennoy texniki. Metodы rascheta ekonomicheskoy effektivnosti ispытыvaemoy selskoxozyaystvennoy
- 11. texniki». Tashkent, 1998. 49 s.
- www.yahoo.som,www.tsau.ru 12. Internet saytlari: www.rambler.ru, http://www.mssa.as.ru,http://pharmasognoz.ru/tehnologiya-proizvodstva-lrs/posevlekarstvennyih - rasteniy/navesnyiye-seyalki-tipa-so.html.
- 13. K.Z.Kasimov, M.MMirzaahmedov, M.Sayfutdinova "Increasing the resource of detailing by ensuring the strength of the surface". Collection of materials of scientific practical conferences of Respyblika, AQXI.-Andijan, 2016. B-248-251.

14. K.Z.Qosimov,P.S.Mamadjonov,B.T.Xidirova,MMirzaahmedov. "Mexanizm iznosa naplavnenix pokritiy iz tverdosplavnix kompozisionnix materialov".Rossiyskix Nauchnix jurnal .Vestnik. BGAU-Rossiya,2015 s-90-93.

15. Dospexov B.A. Metodika polevogo орыtа. – Moskva: Kolos, 1973. – 335 s.