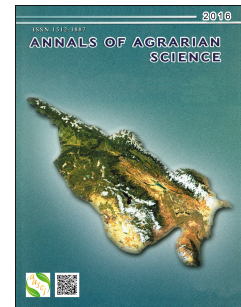# Accepted Manuscript

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The grass mowing machines' operational reliability and its raising methods in mountainous hayfields

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ABSTRACT

In Armenia the mountainous natural hayfields are the best fodder base for cattle breeding. However they are covered with superficial and slim stones, straw, bushes, located on curve surfaces and in that conditions the operational results of feed harvest machines are low. In mountainous hayfields based on KC-2.1 grass mowing machine statistical data results were created their uninterrupted work duration probability density's statistical diagram, reliability's, statistical and probable function's modification graphs. The durability's dispersal hysteresis of eliminating failures, statistical and theoretical functions' modification graphs. The analysis result of researches shows that the operational reliability of grass mowing machine is very low. The results are shown in table. The failures' reasons are clarified. The goal is to raise the grass mowing machine operational reliability with two ways simultaneously – to improve the landscape surface areas and make durability calculation for finger and finger beam and process rational methods of repairing them for raising their firmness.

Keywords: Maintenance, Recovery, Reliability, Exploitation, Machine, Firmness.

INTRODUCTION

The mountainous natural hayfields are the base of manufacturing forage in Republic of Armenia. However the hayfields are covered with superficial and slim stones slopes and bushes the surface is curved and located at different angle of sloping [1]. All this have their negative effect on grass mowing machine operational process, disruptions are many because of that machines' operational reliability is low. The goal is to raise the KC-2.1 mowing machine productivity and reduce their operational expenses with raising machine parts' durability and the whole machine operational reliability.

Therefore currently KC-2.1's modifications – КСФ-2.1, КСФ-2.1Б4, КСФ-2,1В are used, however researches are done for KC-2.1 because in the Republic of Armenia there are thousands that kind of mowing machines that works under very heavy conditions and there is need to apply more rational methods for operational and recovery.

The KC-2.1 grass mowing machine working average speed is 9-12km/hour and productivity is 1.8-2.4hec/hour. However, according to our research results these indexes are very low in