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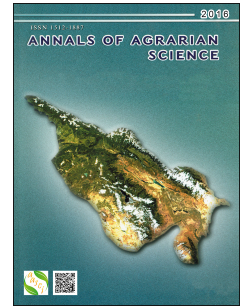
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Dynamics calculation with variable mass of mountain self-propelled chassis**R.M. Makharoblidze, I.M. Lagvilava, B.B. Basilashvili, R.M. Khazhomia***Agricultural University of Georgia**240, David Aghmashenebeli Ave., Tbilisi, 0131 Georgia**r.makharoblidze@agruni.edu.ge; lagviigor@mail.ru; b.basilashvili@agruni.edu.ge;**mishka_khazhomia@mail.ru*

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Abstract

Many technological processes in the field of agricultural production mechanization, such as a grain crop, planting root-tuber fruits, fertilizing, spraying and dusting, pressing feed materials, harvesting of various cultures, etc. are performed by the machine-tractor units with variable mass of links or processed media and materials. In recent years, are also developing the systems of automatic control, adjusting and control of technological processes and working members in agriculture production. Is studied the dynamics of transition processes of mountain self-propelled chassis with variable mass at real change disconnect or joining masses that is most often used in the function of movement ($m(t) = ct$) $m(t) = ct$. Are derived the formulas of change of velocity of movement on displacement of unit and is defined the dependence of this velocity on the tractor and technological machine performance, with taking into account the gradual increase or removing of agricultural materials masses. According to the equation is possible to define a linear movement of machine-tractor unit. According to the obtained expressions we can define the basic operating parameters of machine-tractor unit with variable mass. The results of research would be applied at definition of characteristics of units, at development of new agricultural tractors.

Keywords: Dynamics, Unit, Variable mass, Resistance force, Driving force, Nominal torque.**1. Introduction**

Academician V.P. Goryachkin, developing the problems of agricultural machinery theory, has been formulated the mechanics of working environment as the mechanics of bodies and variable mass media, but the relevant mathematical apparatus is not proposed and is not developed by them. Later, the problem of the dynamics of mechanisms with variable masses of

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