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**“YASHIL ENERGETIKA VA UNING QISHLOQ VA SUV XO‘JALIGIDAGI
O‘RNI” MAVZUSIDAGI XALQARO ILMIY VA ILMIY-TEXNIKAVIY
ANJUMANI**

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Foydalanilgan adabiyotlar ro'yxati.

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FEATURES OF A GEOMETRIC COMBINATION PLUG THAT TWISTS IN THE HORIZONTAL

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Annotation. The article is devoted to the problems of designing housings with double-sided dumps for rotary plows, using geometric modeling methods. A brief analysis of the designs of double-sided drop-off housings for rotary plows from a geometric point of view is considered. Some disadvantages of the double-sided fall-off body designs that prevent the widespread use of rotary plows have been identified. The results of research on the design of two double-acting dump housings for rotary plows using geometrically combined working surfaces are presented. The developed models of body designs with double-sided blades for rotary plows have a number of advantages, simplifying the rotary mechanism, improving the manufacturability of the blade and using additional field boards.

Keywords: geometric modeling, two-shaft housing, rotary mechanism, rotary plow, double-acting housing.

Аннотация. Статья посвящена проблемам проектирования корпусов с двухсторонними отвалами для ротационных плугов с использованием методов геометрического моделирования. Рассмотрен краткий анализ конструкций двухсторонних отвальных корпусов для ротационных плугов с геометрической точки зрения. Выявлены

некоторые недостатки конструкций с двусторонним откидным корпусом, которые препятствуют широкому использованию роторных плугов. Представлены результаты исследований по проектированию двух отвальных корпусов двойного действия для роторных плугов с геометрически совмещенными рабочими поверхностями. Разработанные модели корпусных конструкций с двусторонними отвалами для ротационных плугов обладают рядом преимуществ, упрощающих поворотный механизм, улучшающих технологичность отвала и использующих дополнительные полевые доски.

Ключевые слова: геометрическое моделирование, двухвальный корпус, поворотный механизм, роторный плуг, корпус двойного действия.

Introduction. In the tasks of energy conservation and resource conservation, as well as increasing labor productivity, the quality of agricultural work and economic efficiency in agriculture, such tasks as improving the existing and developing a new design of agricultural machinery and their working bodies, as well as their introduction into production, are of scientific importance [1]. Today, analytical and experimental methods of designing agricultural machinery, like traditional ones, require the introduction of geometric modeling methods into this process [4,6,10]. This is especially important in the process of designing dump-type working bodies, in which geometric parameters play a crucial role. As you know, dump-type working bodies, as the most widespread in agriculture, are also the most complex from a geometric point of view. This means that the development of a new design of such working bodies has its own complexity, and the process of their development has its own importance. Consequently, the use of geometric modeling in solving these problems will be effective. This is also confirmed by the fact that in developed countries, geometric modeling methods and tools are widely used in solving such problems. Therefore, the dump-type working bodies used today in agriculture in our country are mainly developed and manufactured in developed countries [7-9].

Research methods. As one of the ways to solve this problem, scientists have proposed the creation of a design of plows with double-acting housings. The purpose of the research conducted on this solution is to avoid the disadvantages, but at the same time to gain the advantages of both ploughs with single-sided bodies and ploughs with double bodies. Such plows can turn over the soil in both directions of the tractor's movement, as double-body plows do. They have the same number of housings as ploughs with single-sided bodies, and do not require high tractor power. There are many scientific developments on this issue, and they can be classified into two areas, namely, the development of the design of plows with double-sided bodies and the development of the double-sided body itself. At the same time, we note that the design of the body, as the main working body, also determines the design of the plough itself, i.e. the design of the body is primary in relation to the plough design. Therefore, we will consider these developments based on the design of the plough body, then we will divide these developments into two categories: single-dump and two-dump double-acting housings [14,17]. It is also necessary to note the research carried out on the development of single-sided dump hulls, in which, by improving the design of the dump, two different designs were obtained, one double-sided dump hulls without wings and having wings [17]. At the same time, it is necessary to note the studies conducted to evaluate the performance of a plow with double-acting housings with wings. They compare the test results of a double-acting body with two different models of single-acting plows in a soil channel [18]. In the experimental model, the weight was reduced by 32%, parts subject to high wear were eliminated, and it also had the lowest specific thrust of 32.73 kNm⁻², compared to other models with specific thrust of 44.45 kNm⁻² and 43.37 kNm⁻², respectively. However, despite such a backlog of work on the development of structures and the research results obtained, plows with double-acting housings have not yet become widespread.

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TAKOMILLASHGAN CHOPIQ KULTIVATORINING O‘TOQLOVCHI ISHCHI ORGANINI TADQIQOTI

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Annotatsiya: Maqolada ekin yerlarning tuproq strukturasini yaxchilash, hosildorlikni oshirish orqali resurs tejamkorlikka erishish borasida olib borilayotgan ilmiy tadqiqot ishlari va qo‘llaniladigan texnika va texnologiyalar, yangi qurilma, uni qo‘llashda olinadigan ijobiy natijalar, shuningdek bu muammo echimini topish borasida ilmiy tadqiqot ishlari to‘g‘risida ma‘lumotlar keltirilgan

Kalit so‘zlar: Tuproq strukturasini, qumli tuproq, sho‘rlangan tuproq, organik o‘g‘it, chorvo chiqindisi, gumus, microelement, ildiz morfologiyasi, oziqlanish radiusi.

Respublikamiz qishloq xo‘jaligi ishlab chiqarishida mehnat va energiya sarfini kamaytirish, resurslarni tejash, qishloq xo‘jalik ekinlarini ilg‘or texnologiyalar asosida yetishtirish va yuqori unumli qishloq xo‘jalik mashinalarini ishlab chiqarishga alohida e‘tibor qaratilmoqda. O‘zbekiston Respublikasi prezidentining “O‘zbekiston Respublikasi qishloq xo‘jaligini rivojlantirishning 2020-2030 yillarga mo‘ljallangan strategiyasini tasdiqlash to‘g‘risida” PF-5853-son farmoniga asosan qishloq xo‘jaligi va oziq-ovqat havfsizligi sohasida ko‘plab islohotlarni amalga oshirish belgilandi. O‘zbekiston Respublikasini yanada rivojlantirish bo‘yicha Harakatlar strategiyasida, jumladan, «...qishloq xo‘jaligini modernizatsiya qilish va jadal rivojlantirish uchun sug‘oriladigan yerlarning meliorativ holatini yanada yaxshilash, melioratsiya va irrigatsiya ob‘ektlari tarmoqlarini rivojlantirish, qishloq xo‘jaligi ishlab chiqarishi sohasiga intensiv usullarni, eng avvalo, suv va resurslarni tejaydigan zamonaviy agrotexnologiyalarni joriy etish, ish unumi yuqori bo‘lgan qishloq xo‘jaligi texnikalaridan keng foydalanish» vazifalari belgilab berilgan. Ushbu vazifalarni bajarishda, jumladan mavjud kultivatorlarning agrotexnik ish ko‘rsatkichlarini oshirish, material va energiyahajmdorligini kamaytirish, ularni texnik va texnologik jihatdan modernizatsiyalash hisobiga resurstejamkorlikni ta‘minlash, ish sifati va unumini oshirish yechilishi zarur bo‘lgan masalalardan hisoblanadi.