ANNOTATIONS - / - АННОТАЦИИ

V. Abramova, O. Vasylkovskyi, K. Vasylkovska. Study of construction of pneumomassage seedmeter with the accessory disk

The article is devoted the problem of the onecorn sowing of seed of the cultivated cultures pneumomassage seedmeters. During experimental researches influence of optimum parameters of work of pneumomassage seedmeters and construction parameters of additional disk is set on high-quality implementation of technological process. The use of additional sowing disk gives possibility correctly to send of seed on the stage of its capture to the center of cell and removes possibility of capture of "twins", supporting of seed in the process of transporting to the place of upcast. Researches, conducted in this direction, settle this problem not fully, but only confirm a hypothesis about possibility of upgrading dosage of pneumomassage seedmeter by establishment of additional disk. Actual are research-and-developments structural elements of pneumomassage seedmeter, which considerably improve his productivity and substantially influence on exactness of sowing of seed of the cultivated cultures.

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В.В. Абрамова, Е.В. Васильковская, А.М Васильковский. Исследование пневмомеханического высевающего аппарата с дополнительным диском

Статья посвящена проблеме однозернового высева семян пропашных культур пневмомеханическими высевающими аппаратами. В ходе экспериментальных исследований установлено влияние оптимальных параметров работы сеялки и конструктивных параметров дополнительного диска на качественное выполнение технологического процесса.

N.Artiomov, A. Kot. Agricultural soil tillage implement traction dynamics

Researchers face a number of problems in dynamic and qualimetric tests of mobile machines. It depends on the imperfection of existing methods of these tests.The special difficulties in tests of agricultural machinery occur a measure parameters such as engine power, traction, traction efficiency, speed and force onhook. Certain interest in the motion tillage machines cause linear and angular velocity, the drag force etc..The method of partial acceleration is encouraged to determine the power characteristics of mobile agricultural units. This method developed to simplify the pilottests and calculation of dynamic parameters of the unit. Parameters control is conducted by measuring and detecting complex, which is equipped with three-component accelerometer sensors. The simulation results of the partial accelerations shown that the approximated results confirm the reduction of traction unit when the engine is running at rated speed and serviceable and in case of the engine with a broken nozzle. The obtained results for the transient operation of the unit can be used in the simulation loads tillage machines for various purposes.

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Н.П. Артёмов, А.В. Кот. Тяговая динамика сельскохозяйственных почвообрабатывающих агрегатов

В статье проведен аналитический расчет, по результатам измерения компонент ускорений, влияния на тяговую динамику мобильного сельскохозяйственного агрегата изменений его технического состояния в целом, а также отдельных деталей и

узлов. Использован анализ и моделирование парциальных ускорений в процессе выполнения агротехнических операций по обработке почвы.

R. Barabash. The effect of increasing the number of posts on the performance indicators of technological processes of maintenance of tractors KhTZ-150K-09

Investigational, got by a design results of researches on influence increase amount of posts brand name points of technical service on the indexes efficiency technological processes of technical maintenance tractors KhTZ–150K–09.

For the analysis TP TS tractors of KhTZ–150K–09 was the accepted technology recommended by a plant-producer. Repair–technological equipment (RTE) got out from catalogues by value coefficients of technical level. Setting norms operations conducted on the basis operating norms and time–keeping.

Modeling TP TS consisted in distribution after the heuristic algorithms for scheduling theory eventual array operations of certain duration this TS between workers, and also in the simultaneous forming of schedules work of every piece of equipment all types. The aim of distribution operations was an achievement for the set amount of workers u and set amount equipment of every type K_r of minimum duration of the technological process $T_{T.P.}$ The increase in the number of posts RTS (front of technical maintenance f) consistent with the introduction to review of the next array operations, similar to the original, however with the increasing number of work zones.

To the results of model for each TS and every correlation sense f, u and K_r were determined: duration of the technological process $T_{T.P.}$ and technological cycle T_C; coefficient use of funds time workers η_u and main RTE η_r every type.

It was established that in addition to changes the number of workers and basic repair of technological equipment all types, additional resource impact on the indicators efficiency technological processes of maintenance is to increase the number of posts (front maintenance). 2. Regarding the investigated technological maintenance processes tractor KhTZ–150K–09 that run on the stationary points were confirmed fundamental provisions that the increase in the number of any resource does not improve indexes its use, however, does not degrade the indexes efficiency use other resources. 3. The obtained results are the basis for the formation of parametric series production structures branded items of maintenance tractor KhTZ–150K–09 different productivity.

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Р. И. Барабаш. Влияние увеличения количества постов на показатели эффективности технологических процессов технического обслуживания тракторов ХТЗ-150К-09

Изложены, полученные путем моделирования, результаты исследований влияния увеличения количества постов фирменных пунктов технического обслуживания на показатели эффективности технологических процессов технического обслуживания тракторов ХТЗ-150К-09.

S. Berezoveckiy. Constituents concordance of technological harvesting system of winter crop ripaku

The importance of the timely harvesting of winter rape is accented. That's needs to make the tasks decision in relation to the concordance of technical equipment of the mechanized processes of plant sprinkling (for bringing of stikers) and harvest of seed rape. The importance of biological processes influencing of ripening a winter rape and agricultural meteorology terms on time limitations of technique functioning is accented. It is marked that such influence predetermines changeability of works beginning terms, and also to their duration and affects on functional indexes of the corresponding technical rigging for the technological systems of harvest rape. The necessity of these features account for the statistical simulation model of the technological system of harvest rape processes is proved. The computer experiments are executed with the simulation model of corresponding technological processes with the set initial data in relation to the technical rigging (sprinkler – Mekosan Tecnoma Laser 4240-30, and combine – CLAAS Mega 360), sort of culture and limits of their area. The features of constituents influencing of the technological system of harvest rape processes on the indexes of its efficiency are outlined. The results of computer experiments with a statistical imitation modeling of plant sprinkling processes and harvest of rape seed are presented

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С. А. Березовецкий. Согласование составляющих технологической системы уборки озимого рапса

В статье раскрыты особенности влияния составляющих технологической системы уборки озимого рапса на показатели ее эффективности. Представлены результаты компьютерных экспериментов со статистической имитационной моделирую процессов опрыскивания растений (для внесения стикеров) и комбайновой уборки семян озимого рапса.

K. Vasylkovska, O. Vasylkovskyi, S. Moroz. Field tests used pneumomassage drills to the proposed sowing device

The article dealing with the efficiency increase of sowing seed of the cultivated crops by way of application of a new pneumomassage seed distribution vehicle with the peripheral location of barns on a sowing disk and a passive device for the delete of superfluous seed by a centrifugal method.

As a result of the theoretical and experimental researches performed a section of sowing machine for planting seed of the cultivated crops is developed, in the construction of which the proposed pneumomassage seed distribution vehicle is used with the structural parameters grounded in-process.

Tests were carried out on sugar beet seed varieties "Yaltushkivskyy 72" soybean variety "Jubilee" and maize varieties "Orzhitsa 237."

The results of the tests of experimental sowing section with the proposed pneumomassage seed. The use of new pneumomassage seed distribution vehicle allows to reduce the use of seed and high quality accommodation seeds in a row. Also new pneumomassage seed distribution vehicle for more uniform seed placement on the feeding area.

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Е.В. Васильковская, А.М Васильковский, С.Н Мороз. Полевые испытания секции пневмомеханической сеялки с предложенным высевающим апаратом

Предложена новая конструкция пневмомеханического высевающего аппарата для точного посева семян просыпных культур с периферийным расположением ячеек на высевающем диске та пассивным удалением лишних семян инерционным способом. Приведены результаты испытаний экспериментальной посевной секции с предложенным пневмомеханическим аппаратом. Наведені результати випробувань експериментальної посівної секції із запропонованим пневмомеханічним апаратом.

B. Hevko, R. Chvartatskyy, I. Chvartatskyy, A. Grabar. Researching of technological processes grinding tubers in fodder production

Development and efficiency of livestock predetermined level of implementation of the system related to rational principles that cover the entire production cycle and estimated costs especially forage and other resources per unit of output. Fodder productions require a systematic analysis and decision-making, and solve mechanical-technological and engineering problems. Measures aimed at accelerating the development of animal husbandry and scientific progress includes:

- *Maintenance and implementation of highly efficient type of feeding and feed rations structure;*
- *A fundamentally new highly efficient machinery and equipment, as well as many new modern organizational and technological and economic decisions;*
- *The process of preparation of food is to implement technological measures to the specific raw material feed in order to provide new features.*

For the use of feed highly important to ensure a rational feed particle size, depending on the species and age of animals and the type of feed raw materials and the nature of the feed. For this purpose, feed raw materials before feeding crushed. The new designs devices for grinding feed and reasonably analytical dependence for determining performance settings were resulted, average speed shredding power drive design parameters of loading and crushing mechanisms

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Б. Гевко , А.Л. Ляшук , Р.И. Чвартацький ,. И.И. Чвартацький , А. Грабар. Исследование технологических процессов измельчения клубнеплодов в кормопроизводстве

Развитие и эффективность животноводства зависит от уровня реализации системы взаимосвязанных рациональных принципов, которые охватывают весь производственный цикл и оцениваются затратами кормовых и других ресурсов на единицу продукции. Кормопроизводство требует системного анализа и принятия соответствующих решений, а также решения механико-технологических и инженерно-технических задач. Приведены новые конструкции устройств для измельчения кормов и обоснованно аналитические зависимости для определения производительности установки, средней скорости измельчения, мощности привода, конструктивных параметров загрузочных и измельчая механизмов.

B. Hevko, N. Marchuk. Background of setting devices thread cutting taps in nuts and machine parts

Intensive development of engineering is closely linked to the development of advanced technological equipment designs. Especially in the construction of modern machines and mechanisms in which more than 60% of the parts have threaded holes, cutting where the cutting tool is quite complex technological problems in processing highly ductile steel, nonferrous metals and alloys. This is particularly of great importance in the manufacture of precision threaded holes.

The widespread use of threaded connections in machinery due to their simple design, high load capacity connection and disconnection of parts using various threaded connections, also contributes to the presence of a large range of special threaded parts, their wide standardization and low cost in conditions of mass production.

Reversing cartridge design is presented with a defence mechanism for cutting taps. The device provides cutting left and right thread into nuts and other details with high productivity.

Analytical dependence for determination of cutting speed, torque values, stability threading tools and standard time were resulted.

The advantages of the device include expansion of technological capabilities, to protect it against overload and increase productivity.

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Б.М. Гевко, Н.Н. Марчук. Обоснование параметров устройств для нарезания резьбы метчиком в гайках и деталях машин

Интенсивное развитие машиностроения тесно связан с разработкой прогрессивных конструкций технологической оснастки. Известно, что более 60 % деталей большинства современных машин и механизмов имеют резьбовые отверстия , обработка которых режущими инструментами в деталях из цветных металлов, сплавов, а также с высокопластичных сталей представляет собой достаточно сложную технологическую задачу. Это имеет особенное значение при изготовлении точных резьбовых отверстий .

A.Herasymchuk, O.Tkachuk. Systems of transformation of flax

The efficiency of cultivation of flax and the manufacture of its products is determined by the application of energy efficient technologies and technical systems. On the basis of the system approach is necessary to develop and improve technologies and technical systems. The aim of this work is to develop a concept of formation of systems models of flax transformation.

The processes of cultivation, processing of flax and the manufacture of products are known as transformations. Depending on the desired end state of the operand (products of flax) you can create different conversion systems. The state of the operand is determined by a set (vector) properties. The main characteristics of this transformation are the initial and final state of the operand. Transformations are performed on the basis of certain technologies. Transformations are made by three types of systems-operators – people, technical systems and the real environment through material, energy and information influence on the operand.

The construction and subsequent preorganize systems convert of flax will lead to a series of system effects and will increase the efficiency of the industry.

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А.П.Герасимчук, О.Л.Ткачук. Системы преобразования льна

В статье обосновано целесообразность формирования систем преобразования льна, определено их структуру, направления анализа и переорганизации с целью повышения эффективности отрасли.

O. Govorov. Determination of power at disk drive working organ grinder-distributor of plant residues

The analysis of process-shredder plant residues distributor of rotary disk working body articulated fixing blades, causing revealed that energy to drive the cutting machine and spent pererizuvannya stems of plants, depending on the crop, plant density on the field and working speed shredding aggregates, providing energy to speed stems crushed particles of equal angular velocity knives and energy to move particles of crushed stalks of plants on the side of the inner casing, which depends on the mass of fine particles that move around on top of the enclosure alone time, centrifugal force, which particles are transported to the surface casing and the coefficient of friction stems particles on the surface of the housing, and developed analytical dependence for determination of pererizuvannya on the stems of plants, moving fine particles on the working surface of the lateral portion of the housing and the provision of crushed particles speed and total power wasted to drive cutting machine Cutter-distributor of plant residues.

Key words: chopper-distribution, disk worker organ, vertical axis, shrouding, obychayka, cutter, wattage, divided particles, rubbing, running speed.

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А.Ф. Говоров. Определение мощности на привод дискового рабочего органа измельчителя-распределителя растительных остатков

Приведен анализ технологического процесса измельчителя-распределителя растительных остатков с дисковым рабочим органом, в результате которого было установлено, что энергия на его привод израсходуется на перерезание стеблей растений, перемещение измельченных частиц стеблей по внутренней поверхности обычайки кожуха режущего органа, а также придания измельченным частицам стеблей обусловленной технологическим процессом скорости, а также разработаны аналитические завысимости для определения мощности на перерезание стеблей растений, перемещение измельченных частиц стеблей растений по рабочей поверхности обычайки, а также придания измельченным частицам скорости.

Ключевые слова: измельчитель-распределитель, дисковый рабочий орган, вертикальная ось, кожух, обычайка, нож, мощность, измельченные частицы, трение, скорость движения.

V.Gud, A.Dychun, A. Hupka. Research technological process boring of profile of screw workpieces cleaners of disk digger root crop machines

Experimental study of the process of screw blanks boring core cleaners. A mathematical model based on experimental studies. The influence of parameters on the surface roughness. The current state of engineering in a market economy requires new ways to improve operational and technological parameters of machine parts, technological equipment, which will help improve quality and make

production flexible and fast perenalahodzhuvanym for different sizes of machine parts, the amount of which is determined by market needs.

For the current domestic and foreign engineering characteristic of expanding the range of machine parts different classes, including the screw. Among these screw machine parts important element profile winding workpiece (PHZ). Proof of this is noticeable upward trend in the volume and range of such parts in the food, chemical, manufacturing, agriculture, etc.

Keywords: Screw blanks, boring, wheels archeologists.

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В.З Гудь, А.Е Дячун, А.Б Гупка. Исследование технологического процесса расточки профильных винтовых заготовок очистителей дисковых копателей коренеуборочных машин

Проведены экспериментальные исследования процесса расточка профильных винтовых заготовок очистителей. Разработана математическая модель на основе экспериментальных исследований. Проанализировано влияние параметров на шероховатость поверхности.

V. Didukh, R. Hlopetskyi, S. Babaryka. The research of interaction curved surface with the sealing sapropel layer

In the article the results of a investigation determining the forward movement speed the extractive module considering to the features process of separating the layer of lake sapropel middle layer by the curved surfaces of intake milling device is given. Whereas the proposed extractive module is designed as a front blade cutters, the blades of which are designed as a sector of Archimedean spiral, there is a need to consider the workflow of the milling working body. This investigation is made to explore the process of moving extractive mills combined with rotational movement to the specific of the front blade cutters in the use of it for extraction lake sapropel of the middle layer from under the water. The main objective of this is to ensure that extractive cutter translational movement extractive module is made by cutting blades cutters in the middle layer of sapropel. Thus Mining cutter rotates clockwise direction and production, which usually does not apply. The trajectory that describes the cutter blade edge is Trochoid. This trajectory provides rotation extractive milling with simultaneous translational movement. The rate of rotation is greater than the speed of forward movement. Thus the resulting kinematic parameters is a key in the research and development process and means for extraction lake layer from the water layer.

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ıмодействия криволинейной поверхности з плотным слоем сапропеля

В статье приведены результаты исследования по определению скорости поступательного движения модуля для добычи среднего слоя озёрного сапропеля с учётом процесса отделения пласта криволинейными поверхностями заборного устройства фрезерного типа.

operation parameters of flax thresher

Problematic issue of oil flax harvesting technology in the conditions of the Western Polesie of Ukraine is separated seed from the stems without damage and loss. Scientific studies indicate the possibility of the use of flax fiber for the production of twisted products, non-woven fabrics and other. Substantiation of the operation parameters of flax thresher was studied by many scientists. Most of the research concerns on substantiation of the operation parameters for stripping and threshing fiber flax. Oil flax has anatomical and morphological features that distinguish it from fiber flax. This makes it necessary to take them into account when developing the design of oil flax thresher. Design of oil flax thresher was proposed by authors. The design of oil flax thresher requires a substantiation of the operation parameters. Operation parameters would ensure a quality execution of the process of threshing and agronomic requirements. Optimization of the two regression equations was carried out using a numerical method with construction of the Pareto set. Method allowed determining the rational parameters oil flax thresher. Minimal damage of seeds and stems are achieved by operation parameters of oil flax thresher.

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И.Н. Дударев, Т.П. Герасымык, А.В. Хомыч, О.Г. Мэкуш. Обоснование режима работы устройства для обмолота ленты льна

Проблемным вопросом технологии уборки льна масличного, который выращивается в условиях Западного Полесья Украины, является отделение от стеблей семенной части урожая без их повреждения и потери. Проведенные учеными исследования указывают на возможность использования волокна льна масличного для производства крученых изделий, нетканых материалов и др. Обоснованию конструкций и режимов работы устройств для отделения семенной части урожая льна посвящены работы многих ученых. Большинство научных исследований касается обоснования параметров устройств для очеса и обмолота льна-долгунца. Лен масличный имеет анатомические и морфологические особенности, которые отличают его от льна-долгунца. Это вызывает необходимость их учета при разработке конструкций устройств для отделения от стеблей семенной части урожая. Авторами предложена конструкция устройства для обмолота ленты льна масличного. Конструкция устройства требует обоснования рационального режима работы. Этот режим должен обеспечить качественное выполнение технологического процесса обмолота с учетом агротехнических требований. По результатам оптимизации двух уравнений регрессии с помощью численного метода с построением множества Парето обоснованно рациональный режим работы устройства для обмолота ленты стеблей льна масличного. При этом режиме достигается минимальное повреждение семян и попадание стеблей в льняной ворох.

I. Dudarev. Substantiation of the kinematic parameters of the flax heap separator

Flax heap contains a significant amount of flax refuse. That's why flax heap must be separated before drying to reduce energy consumption. During the separation flax heap divided into two components: flax seed heap and flax refuse. Drying only flax seed heap reduces energy consumption in the process. The method of separation of flax heap depends on the composition of the heap. The design of the flax heap separator is proposed, which shares a flax heap on flax refuse and flax seed heap. The separator produces stretching of flax heap layer. This separation method permits to separate loose seeds and flax capsule without damage. The efficiency of the flax heap separator depends on the mode of its operation. Damage of flax seed during separation is insignificantly, if rational modes of operation of the separator are selected. The results of theoretical researches of the kinematic parameters of the flax heap separator are presented in the article. Reasoned mode of operation of the separator provides the necessary value of stretching a layer of flax heap. The total amount of stretching of flax heap at all stages of the separator does not lead to its rupture. Substantiation of the kinematic parameters of the flax heap separator ensure its effective operation.

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И.Н. Дударев. Обоснование кинематических параметров сепаратора льняного вороха

Льняной ворох включает большое количество путанины. Поэтому, льняной ворох перед сушкой для уменьшения энергетических затрат на процесс необходимо сепарировать. Во время сепарации льняной ворох разделяют на путанину и семенной ворох льна. Сушка только семенного вороха льна снижает затраты энергии на процесс. Способ сепарации льняного вороха зависит от состава вороха. Сепарацию льняного вороха предлагается осуществлять путем растягивания слоя вороха. Такой способ позволяет отделить свободные семена и семенные коробочки без повреждения. Предложена конструкция сепаратора льняного вороха, которая позволяет реализовать такой способ сепарации. Эффективность работы сепаратора льняного вороха зависит от режимов его работы. Если выбраны рациональные режимы работы сепаратора, тогда повреждения семян льна во время сепарации минимальное. В статье представлены результаты теоретических исследований, в результате которых получены зависимости для обоснования кинематических параметров растягивающих секций сепаратора льняного вороха. Режим работы сепаратора, который обоснован, обеспечивает необходимую величину растягивания слоя льняного вороха. Суммарная величина растягивания льняного вороха на всех этапах работы сепаратора не приводит к его разрыву. Обоснованные кинематические параметры сепаратора льняного вороха обеспечивают его эффективную работу

V. Kovbasa, V. Kurka, A. Kadem. About overcoming difficulties in solving problems of elasticity contact

The disadvantage of known solutions contact problems is the extreme complexity and in many cases, the inability to integrate potential harmonic functions with nonlinearity function contact surface. It is such problems are most common. The solution of this task is to optimize surface and kinematics modes of action to ensure the desired properties of the medium changes with minimal energy. Finding possible movements within the environment, deformation, and the application of physical strain due equations with stresses which include mechanical properties of the medium - components and stress distribution of forces on the surface. The way of solving the problems of interaction of a surface arbitrary geometric shape with

deformation of the medium, which allows to determine the stress or strain (depending on the given conditions) on the contact surface.

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В.П. Ковбаса, В.П. Курка, Али Ахмед Кадем. О преодолении трудностей при решении контактных задач упругости

Представлен способ решения задач взаимодействия абсолютно жесткого деформатора произвольной геометрической формы с деформированной средой, что позволяет определять напряжения или деформации (в зависимости от заданных условий) на поверхности контакта.

V. Kovbasa, L. Matyushenko, V. Grabovtc, V. Deikyn. The problem of contact force than-wedge for prestressing rod section.

In this paper we set out the results of solving the problem of a prestressed stick destruction by its flexure; we determined the harmonic potential functions and their meaning considering projections of a knife speed by its effects on a stick, tension components in a stick thro the knife actions and full of tension because of a flexure and occurrence of a knife. Theoretical bases of a wedge-knife's interaction with a pre-pressed growing rod are insufficiently investigated and studied, and they are required for solving a contact problem "hammer-rod" till a plant's rod would be totally smashed. Under the terms of the problem formulation the well-known kinematic characteristics of the load, kinematic initial conditions, which lead us to the solution of a direct problem. It should also be noted that the solution of a given problem is carried out by the methods of the theory of elasticity, since this is the easiest way to solve the problem analytically. Herewith it should be noted that prior to plastic flow and in most cases before the destruction of the integrity, the methods of the theory of elasticity give us sufficient preciseness which is more than enough for a practical use. The shifts, deformations and tension in a intersection of a rod, which are specified in the present study, in general case give us a better understanding of the interaction theory of a wedge-knife with a pre-pressed growing rod, which are necessary to solve the contact problem "hammer-rod" till a plant's rod would be totally smashed.

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В. П. Ковбаса; Л. Н. Матюшенко, В. Грабовец, В.А. Дейкун. Задача о контактном действии клинового ножа на предварительно напряженное сечение прутка.

В статье изложены результаты решения задачи о разрушении предварительно напряженного изгибом прутка, определены гармонические потенциальные функции и их значение с учетом проекций скорости ножа при его действии на пруток, компоненты напряжений в прутке от действия ножа и полные напряжения от изгиба и вхождения ножа.

Разрушение стержня, гармоничные потенциальные функции, компоненты напряжений.

S. Kotenko, O. Kalinin. By the method of calculating the coefficient of restitution plowshares

During operation of agricultural machinery the most frequently replaced parts, which operate in abrasive environments, which includes the soil. Such items, in particular, are ploughshare plows. Tillage is one of the most energy-intensive

agro-technology operations, which starts the whole cycle of operations to mechanized harvesting. Therefore, the refusal tillage machines and units leads to disruption of the cycle. Changing the timing of agrotechnological operations outside agrotechnological optimal timing can lead to significant losses of agricultural enterprises.

Late replacement plowshares through blunted blade makes it necessary to increase the traction of the tractor, overspending of fuel and lubricants. The vast majority of plowshares has the defects that can be eliminated with the help of modern technologies of details.

The article deals proposes a method of determining the coefficient of recovery Ploughshares, when worn in soils with different physical and mechanical properties. Character wear, the value of use and repeatability defects plowshares differ significantly on sandy and clay soils. The basic characteristic defects and differences in the processes of wear on sandy and clay soils.

In determining and reporting defects and the coefficients of repeatability and coefficient of recovery of these items is necessary to specify in what circumstances and on what types of soil obtained research results.

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С.С. Котенко, А.Е. Калинин. К методике расчёта коэффициентов восстановления плужных лемехов

В статье дополнена методика расчёта коэффициентов восстановления плужных лемехов при износе в почвах с разными физико-механическими свойствами. Изложены основные характерные дефекты и отличия в процессах изнашивания на песчаных и глинистых почвах.

R. Kuz'minskyj, V. Vasylkevych, R. Sheremeta. Determination of the sliding friction coefficient of oilseed meal flax over surfaces of various metals.

In order to ensure proper oil yield of linseed is used double or triple extraction particularly by screw presses. If the first pass raw material for oil is flax seeds of oil varieties, during the second and third passes - oil cakes. That is why the technique and results of studies of the sliding friction coefficient of oilseed meal flax over surfaces of various metals on the device RST-01.PC are presented. Relative humidity of material was determined by thermo gravimetric moisture analyzer Mettler Toledo HG 6. For measurements of three samples relative humidity cake was 10...13 %. Before each experiment the cake weight was determined using e-Axis weight in accurate to 0.01 gr. Related shear stress was determined for five different values of normal pressure 1000 Pa, 2000 Pa 4000 Pa 8000 Pa, 16000 Pa. Results of measurements were worked out by the software of the device. Established that the coefficient of sliding friction flax seed meal varies significantly depending on which material surfaces is sliding that should be considered during the design calculations machinery and equipment: lowest value of the coefficient friction of flaxseed meal is on the galvanized steel surface (0.21), middle value – on aluminum surface (0,36), while the highest - on crude steel surface (0.47).

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Р.Д Кузьминский, В.О Василькевич, Р.Б. Шеремета Определение коэффициента трения скольжения жмыха семян масленичного льна по поверхностям различных металлов

Изложена методика и результаты исследований коэффициента трения скольжения жмыха семян льна масленичных сортов по поверхностям различных металлов на приборе RST-01.PC.

A. Lebedev, Y. Kalinin, M. Shulyak. Wheel resistance rolling force, which working with slipping

In the article investigated the formation of the pneumatic resistance rolling force whish moving on the deformable bearing surface.

The presence of ground formations can not be processed, determines the conditions for strengthening the power of the influence of soil on a running system and forms the interaction of tires with a support surface, a shock with all the negative phenomena that cause a rise in energy costs self-moving MTU (power and kinematics). Therefore there is a need of forming interaction with soil tractor engines as a functional unit of speed – power pulse characteristics of the interaction of tires and soil.

On the constructed mathematical model can be formulated to stabilize the common modes of tractors in the composition of the MTU in order to improve their operational performance. These areas may contain design activities carried out to reduce the dynamism of the work performed by the MTU, and operating limitations mode of operation, excluding the impact of increased dynamic loading on the output performance of MTU.

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А.Т. Лебедев, Е.И. Калинин, М.Л Шуляк. Сопротивление перекатыванию колеса, работающего с буксованием

В работе исследовано формирование силы сопротивления перекатывания эластичного пневматика по деформируемой несущей поверхности, с учетом буксования первого, и влияния данного фактора на процесс образования тягового момента.

N. Mittsel. Investigation of non-simultaneous change modes volume hydraulic machines

The paper proposes a method of determining the boundary points "special zones" by double-split hydrostatic mechanical transmission. Experimental studies of hydrostatic transmission, which is part of hydrostatic-mechanical transmission. Obtain the basic parameters characterizing the efficiency of its work. The experiment confirmed the effectiveness of a continuously variable hydrostatic-mechanical transmission and the feasibility of its use in various wheeled tractors drawbar category. A comparative analysis of the results of the method of matrix analysis and advanced techniques Kistochkina E. Volumetric and mechanical losses at the same time were given analytic equations. Investigation of non-simultaneous change modes volume hydraulic machines and "special zones" allows you to identify the most rational modes of operation of the tractor. Improving the technical and economic parameters is possible due to the implementation of energy-intensive agricultural operations in stop motor shaft. Hydraulic machine in this mode work as pumps to compensate its own volume and mechanical losses. In this mode, the

minimum of heat generation in the hydraulic system, which was confirmed experimentally on a laboratory bench and natural samples.

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Н.А. Митцель. Исследование явления неодновременного обращения режимов работы объемных гідромашин

Явление неодновременного обращения режимов работы объемных гидромашин в составе двухпоточных гидрообъемно-механических трансмиссий (ГОМТ) требует подробного исследования. В статье представлена методика расчета "особых зон" работы ГОМТ с дифференциалом "на выходе" с использованием математической модели потерь К. И. Городецкого.

Y. Muravynets. Improved processing technologies linen trust by upgrading the MTA

The paper analyzed the factors that determine the quality of manufacturing operations in the course of primary processing of trusts and causes loss of fiber. The theoretical basis of improving the technology of primary processing of flax trusts. It involves improving manufacturing operations unwinding rolls, crumpling, clamping and transporting strands of beating the field by changing the design of work equipment for their implementation. Grounded mathematical formulas for selecting rational parameters grooved breaking rollers and determination ditch clamping pressure conveyor breaking-threshing units. Using the proposed technology enhances quality linen trusts and fibers, namely reduction of defects by 2,5% and increase the yield of long fiber to16,73 14,36%.

It was established experimentally that the separation layer stems during uncoiling rolls using basic equipment extends not across its width, which leads to an increase in the offset angle relative to the axis of the stems of the roll. In addition, during the unwinding process rolls increases stretched ribbons and the number of damaged stems. In order to improve quality indicators of unwinding rolls in the proposed improved design decoiler roll flax stock.

During experimental studies also found that the increase in density tape linen trusts that comes to treatment, leads to reduced strength fibers. The results indicate the need to adapt the value of the upper roller presses the efforts manufacturing equipment to tape density parameter.

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Ю.В. Муравинец. Усовершенствованная технология переработки льняной тресты за счет модернизации МТА

В статье приведены результаты исследований работы мяльно-трепального агрегата, предложенного для использования при переработке льняной тресты по усовершенствованной технологии, которая заключается в модернизации конструкции размотчика рулонов и зажимного транспортера.

L. Nazarchuk. Features use linen raw materals in the production of child clothing

The aim of this work is to study wider use of flax fibers to expand the range of products baby supplies, increasing reliability in operation and providing them with appropriate functionality according to the properties of flax. Designed children's product must be constructive and rational technological solutions and be made of material with optimal parameters properties. Future product options can vary and stored optimal properties for a period specified forecast (time spent on the

design, construction, implementation and operation of a given period). Therefore, the quality of children's clothes are put forward higher requirements. This is a high perception of the child's body sensuality external influences and specific conditions of products related to the dynamic lifestyle of children and transient fashion. Properties linen provided functional properties of textile materials on flax.

Fibrous tissue composition should be taken into account when simulating, designing, Cutting and sewing. From fiber of fabric depends on their appearance, elasticity, resistance to cutting, extensibility, and the ability prasuvatys, stretch, mode selection wet-heat processing. When removing stains from fabrics also remember fibrous tissue composition and chemical properties of fibers that are part of the fabric.

Therefore, in order to produce quality children's clothing advisable to take into account the peculiarities of production and use of flax raw material in the manufacture of children's clothing.

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Л.В. Назарчук. Особенности применения льняного сырья в производстве детской одежды

Определены потребительские свойства льна. Намечено пути усовершенствования технологии прядения и обработки льняных волокон и материалов, а также особенности использования льняного сырья в производстве детской одежды.

O. Nalobina, M. Grushetska, A. Shymko. Systematic analysis of undermining working bodies of potato harvesting machines

The article considers constructions of undermining working bodies of potato harvesting machines. Modern development of potato harvesting techniques is characterized by constant increasing the productivity of machines. This is connected with the reduction of time to perform of harvesting. Ensure implementation of this requirement can be due with the design of new and modernization existing designs of undermining working bodies of potato harvesting machines. Analysis of the known structures found their main drawbacks: the destruction of potato tubers; adhering of the soil. There are also losses of tubers due to poor transportation. Authors analyzed constructions of passive undermining working bodies. Active undermining working bodies, which are also widely used, practically don't analyzed. Variations of these structures is the purpose of the further work. Authors made recommendations for processes of designing (upgrading) working bodies. Concluded on the necessary to incorporate physical - mechanical properties of soils during designing (upgrade).

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Е.А. Налобина, М.Г. Грушецкая, А.В. Шимко. Системный анализ подкапывающих рабочих органов картофелеубочорных машин

В статье рассмотрены конструкции подкапывающих рабочих органов, проанализированы закономерности их взаимовоздействия с картофелем, выявлены недостатки работы и обоснованы направления их усовершенствования.

O. Nalobina, L. Polishyk. Formation methodical approach to the justification directions of improvement Flax harvesting

The article reviews the questions, which is associated with the formation of the working mechanisms of flax machines. In order to study techniques formed a

formal model of perfection flax harvesting. The proposed scheme of forming a plurality of variants of technical solutions working for flax harvesting. Choosing the authors suggest rational decision to carry out the function of utility. This function allows you to evaluate each proposed option complex. Utility - integral index, which combines the quality and technical level of the object. This article is the first stage of the authors towards solving scientific and practical problem of improving working flax harvesting. The peculiarity of this work is to try a combination of practical research processes harvesting and primary processing of flax to increase output of long fibre.

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Е.А. Налобина, Л.М, Полищук. Формирование методические подходы к обоснование направлений совершенствования льноуборочные комбайна

В статье рассмотрен вопрос, связанный с формированием методики поиска направлений совершенствования рабочих органов льноуборочного комбайна с целью уменьшения растянутости ленты льна-долгунца.

A. Nesterenko, S. Leschenko, D. Petrenko. Analysis of qualitative factors of pneumatic separation at multilevel introduction of grain

One of the main reasons of decreasing of pneumatic separation specific capacity is absence of the conditions for the effective interconnection of an air flow with the grain material in the working area of the aspirating channel. As a result the cleaning quality is lower, and it greatly decreases the general technological effectiveness of the grain-cleaning machine work.

The present analysis of the researches shows that for improving of the velocity profile of the air flow as a rule the corresponding technical means are used, which greatly decrease the grain mixture components interaction and increase the effectiveness of the air flow influence.

But usage of such means leads to the power consumption increase of the pneumatic separation process.

For this problem solving we suggested a new construction of the pneumatic separator with the feeding device for the multilevel introduction of the grain into the aspiration channel.

Such a construction provides separation of the grain material into several limited flows according to productivity, which go to different working areas along the height of the air separating channel. At that the removal of the cleaned grain happens through the deflector blades in the opposite wall, which helps to decrease the resistance to the air flow and leveling of the velocity profile.

For defining main constructive and technological parameters of the air separation channel and receiving their rational values we used the methodology of the mathematical planning of the experiment.

As a result of experimental researches we received statistical mathematical models of the separation completeness and full value grain amount regularity in run-off depending on constructive parameters and operating modes of the pneumatic separator feeding device.

Besides, by means of experiments we defined the sphere of rational values of the parameters and operating modes of the air separation channel, and received maximum values of the quality indicators.

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А.В. Нестеренко, С.Н. Лещенко, Д.И. Петренко. Исследование качественных показателей пневмосепарации при многоуровневом введении зерна

В статье приведены результаты экспериментальных исследований качественных показателей пневмосепарации в вертикальном пневмосепарирующем канале (ПСК) с питательным устройством для многоуровневого введения зернового материала. Получены статистические математические модели зависимости полноты разделения и количества полноценного зерна в отходах от конструктивных параметров и режимов работы питательного устройства пневмосепаратора.

A. Prilutsky. Ways to improve technological efficiency air-sieve pneumatic vibration centrifugal grain cleaning machines

Postharvest grain purification from impurities of organic and inorganic origin significantly increases its commodity value and stability during storage.

Further improvement process separation grain material was achieved through a combination of vibration and rotational movement of workers. This led to the creation of universal grain separators of type BCS

The study of such separators companies under production conditions to determine the key design flaws separators of type BCS and identify ways to improve their technological efficiency.

Set removal of structural and technological shortcomings of known separators of type BCS, will significantly increase their technological efficiency, improve the quality of separation, reduce injury grain sieves and increase the longevity of the drive mechanism of vibrational motion, reduce dust emissions into the environment.

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А.Н. Прилуцкий. Пути повышения технологической эффективности воздушно-решетчатых пневмовиброцентробежных зерноочистительных машин

В статье определены пути повышения технологической эффективности воздушно-решетчатых пневмоцентробежных зерноочистительных машин.

M. Podryhalo, A. Polianskyi, Ye. Dubinin, D. Klets, M. Skorik, V. Zadorozhniaya. Definition of wheeled vehicles position stability

A definition of the concept of wheeled vehicles stability taking into account the interaction with major factors of impact when moving under real operation conditions is offered. Position stability can be estimated quantitatively according to the maximum value of external or internal disturbance at which the vehicle position is stable, and it can also be estimated according the size of the resultant parameter due to such influence. The angular speed of the vehicle in the cross or longitudinal plane and the perpendicular basic surface can be one of such estimated parameters. It is established that position stability is a necessary condition for providing the stability of movement. The option of structure formation of wheeled vehicles stability provision as a complex operational property is presented. Loss of position stability depends on the action of the following factors or their combinations: design features of the vehicle and availability of elements and systems preventing capsizing; operating impacts of the driver; parameters of vehicle movement (speed, mode of movement and direction); technical condition of systems influencing the traffic safety (suspension, brakes, steering); the nature of wheels interaction with the basic surface; interaction with hook-on or hinged elements; weather conditions.

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М.А. Подригало, О.С. Полянський, Є.О. Дубінін, Д.М. Клец, М.О. Скорик, В.В. Задорожня. Визначення поняття стійкості положення колісних машин

Запропоновано визначення поняття стійкості положення колісних машин з урахуванням взаємодії з основними факторами впливу при русі в умовах реальної експлуатації. Представлений варіант структури формування стійкості положення колісних машин як складної експлуатаційної властивості.

N.Ponomarenko. Rationale for the construction of centrifugal spreader of mineral fertilizers

The program, methodology and got results of experimental researches of centrifugal working organ, is worked out for bringing of mineral fertilizers. Investigational construction features of rotor working organ and their influence on the high-quality indexes of work of throwing about of mineral fertilizers.

Laboratory and field studies were carried out using the most common granular fertilizer, namely ammonium nitrate, superphosphate, mix NPK (complex fertilizers). Given the large impact mechanical and technological properties of the materials involved in the experiment on the final distribution of the soil surface before starting work their fundamental properties determined in accordance with the methodology.

These data suggest that the air flow adversely affects uniformity. The direction of flow is also an important factor determining uniformity.

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Н.О. Пономаренко. Результати исследований рабочего органа машины для внесения удобрений

Разработано програмуму, методику и получены результаты экспериментальных исследований центробежного рабочего органа для внесения минеральных удобрений. Предложен роторный рабочий орган, конструкционные особенности которого позволяют улучшить равномерность рассеивания минеральных удобрений.

V. Puts', O. Klymenko, V. Martyniuk. Modeling of process tearing of stems from the belt

Analysis of scientific and methodological foundations of flax ribbons trimming process and means for its implementation are showed their low efficiency.

The tape has a high degree of skewness, damaged stems and a slight decrease in prolixity. It is proved that the decrease in prolixity and skewness stems is possible through using of multioperational process of trimming strips. This process involves the simultaneous operations of transportation, loosening and trimming the stems of flax.

In the device, installed on pickup of flax, constructive scheme and basic kinematic parameters of mechanisms are theoretically and experimentally grounded. The investigation of process of transportation, tossing and trimming the stems are conducted. However, theoretical and experimental research in order to agree the parameters and modes of operation of these mechanisms made not enough.

The purpose of this article is a theoretical justification of conditions of effective loosening of stem tape by double action cam mechanism when driving on an inclined conveyor. This loosening is necessary for further trimming the stems by the relevant working body .

The main results of these studies are modeling of process of stems avulsion from the belt surface using a special computer program. Also the condition of stems separation from belt and a formula for determining of the angular velocity of rotation cams to effective work of loosening mechanism is defined.

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В.С. Пуць, А.Д. Клименко, В.Л. Мартынюк. Моделирование процесса отрыва стеблей от ремня

В статье приведены результаты теоретических исследований процесса рыхления ленты льна с целью эффективного ее подравнивания.

Ключевые слова: Лен-долгунец, пас, транспортер, кулачковый механизм, моделирование, подравнивание

V. Satsyuk, N. Polishchuk, I. Teplov. Study of grinding particles sapropelevyh fertilizers

Lake sapropels capable of stopping a bound moisture. As part of the water is a significant amount of useful compounds for plant nutrition, trace elements. Too big chamtynky under temperature parameters are able to harden, becoming the soil for inclusion which are not good for plants. Therefore, a rational fraction should be considered sapropel fraction of 5 ... 25 mm. Particles of this size sapropel can create optimum conditions the power plant crops.

Difficulty grinding particles sapropel in preparing sapropelevyh fertilizer does not fully determine the rational design parameters and optimal modes of the device analytically. Therefore, to determine the impact properties sapropelevyh fertilizers, geometric, kinematic parameters and performance grinding device for grinding particles sapropelevyh degree fertilizers, it is necessary to conduct laboratory and production testing.

This paper describes a scheme Cutter particles sapropelevyh fertilizers. The regression equation describing the degree of grinding particles sapropel. The article includes a surface response. Analysis of all investigated factors affecting the degree of grinding particles sapropel.

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В.В. Сацюк; Н.Н. Полищук; И.А.Теплов. Исследование процесса измельчения частиц сапропелевых удобрений

В статье описано функциональную схему измельчающего устройства частиц сапропелевых удобрений. Приведены результаты исследования влияния кинематических, геометрических параметров, производительности устройства и влажности сапропеля на степень измельчения частиц сапропелевых удобрений.

D. Seleznev.To the question of the usage the improved technology of obtaining of flax straw

The article raises the question of the need for improvements in machinery and equipment of obtaining of flax straw. The analysis of works devoted to the stripping operation is present. The improved technology of primary processing of flax straw using the developed rolling-stripper unit for its implementation is offered. This allows destroy the seed-boxes before they reach the zone with teeth of striping drum. The separation of stripping process to subsequent stages provides, at first, the complete removal of seeds; secondly, reduces damage stems due to high deviation of teeth in stripping drum.

The results of researches on the effectiveness rolling-stripper unit in comparison with the base stripper unit of flax harvester ЛК-4А are presented.

According to research, the use of an improved unit allowed: increase the purity of stripping to 2.4%; reduce the damage of stems by 25.1%; reduce the loss stems by 41.1%.

Also, the following changes were observed for flax heap: reducing the output in mix from 0.84% to 0.53%; reducing the output of not-disclosed boxes in mix with 41.3% to 16.5%; reducing the loss of seeds by 41.1%.

Such a positive change parameters obtained through the destruction of the seed boxes before joining strip of linen in the zone of the teeth of the drum. So therefore we recommend to implement the improved technology of obtaining of flax straw using the developed rolling-stripper unit.

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Д.Э. Селезнев. К вопросу использования усовершенствованной технологии получения льняной соломы

В статье поднимается вопрос необходимости усовершенствования машин и оборудования для получения соломы льна-долгунца, а также анализ работ посвященных операции очеса. Предложена усовершенствованная технология получения соломы с использованием разработанного плющильно-очесывающего аппарата для ее исполнения. Также представлены результаты исследований эффективности работы данного усовершенствованного аппарата, за результатами которых было рекомендовано его использование.

S. Synii, M. Vargolyak. Evaluating mechanical damage value of root and tuber by using simulator device

The present article deals with the new portable device called "root and tuber simulator" and method by measurement. We have also described construction basic structure and principle of work and developed technical value by the root and tuber simulator.

Simulator of root and tuber consist of mechanical and electrical components. It's allows in one device effectively collide and use advantages of these two parts. Simulator of root and tuber designed for monitoring mechanical damage of root and tuber vegetable during separation flow of material.

This simulator of root and tuber can measure the force on root and tuber by harvester equipment separation, can measure the frequency and intensity of such action. This allows to objectively identify causes damage of root and tuber. Simulator of root and tuber is designed for multiple measurements. After each measurement device makes record on usb–flash drive. From usb–flash-drive results of measurement data can be transported on a personal computer or tablet device.

Microcontroller program code orders device to sends data to Microsoft Office Word file with filename extension – Rich Text Format (.rtf). It's allows to transform the data in tabular or graphical form. Simulator of root and tuber has personal power supply (battery), which ensures it's work offline for 2-3 days.

Such use of the root and tuber simulator helps to quickly and correctly identify part of the harvester equipment elements that lead to losses. This allows you to adjust settings and modes machinery. The point of research is achieved reduction

mechanical damage of root and tuber by harvester equipment elements in result. The result obtained minimum loss during storage and processing.

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С.В. Синий, Я. Варголяк. Определение показателей повреждения корнеклубнеплодов с использованием их имитатора.

В статье рассмотрено новое портативное устройство (имитатор корнеклубнеплода) и методика его применения. Устройство разработано для оперативного контроля показателей повреждения корнеклубнеплодов при сепарации вороха рабочими органами техники для уборки и послеуборочной обработки корнеклубнеплодов.

M. Smal', A. Gerasimchuk. Research work rotary hychkoriza

The article is devoted toof scientific problem of improving of the quality indicators of gathering sugar beet tops by substantiation of parameters and operating modes of haulm gatherer, which is designed as a series set of rotor haulm cutter and cutters of haulm remains of "passive top feeler – passive knife topper" type on the frame.

The results of experimental studies of the technological process of picking haulms of beets by rotary haulm cutter are given. Regression equations were obtained which describe the change of size of chopped stems of haulm depending on parameters of haulm cutter.

Rotary haulm gatherer is designed as a horizontal drum on which on helicoidally line handedly are installed L -shaped blades, sections of which are divided by fixed dividing plates. Each cutter of haulm remains is a parallelogram hinge suspension, on the stand of which is installed cribriform feeler unit and spring-loaded knife, designed as double-arm lever which is pivotally installed on its vertical finger. Turning of the knife horizontally is limited by pawl. On the basis of theoretical and experimental studies the main operating parameters of rational haulm gatherer were proved. The research results are used by design organizations in drafting of haulm gatherers.

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М.В. Смаль, А.А. Герасимчук. Исследование работы роторного ботвореза

Приведены результаты экспериментальных исследований технологического процесса уборки ботвы корнеплодов роторным ботворезом. Получены уравнения регрессии, характеризующие изменение размерных частей измельченных стеблей ботвы в зависимости от параметров роторного ботвореза.

I. Stukalets. Dynamic changes of the repair programs heads cylinder block engines of different types

The dynamics of change in annual programs repair heads cylinder blocks motors of different brands in terms of technical service companies in Lviv. The nature of the changes of partial programs repair heads cylinder blocks in total annual programs over the past decade.

It was found that for the effective functioning of the enterprise, specializing in the repair heads cylinder blocks engine, developing multi-disciplinary specialization programs involving repair cylinder head engines of different brands.

Revealed that over a prolonged time overall program repair heads cylinder blocks increases. In some years, and for different brands of engines ratio of partial programs repair heads cylinder blocks for a total annual program differ significantly.

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И.Г. Стукалец. Динамика изменения программ ремонта головок блоков цилиндров двигателей различных марок

Проанализирована динамика изменения годовых программ ремонта головок блоков цилиндров двигателей различных марок в условиях предприятий технического сервиса г. Львова. Исследован характер изменения частичных программ ремонта головок блоков цилиндров в общих годовых программах за последние десять лет.

Y .Tarasyk. Results of experimental investigations of bulk materials transporting process by screw loaders

The current development level of all sectors of the Ukraine economy requires a significant increase of technical and economic parameters of technological processes mechanization and automation, especially increasing their carrying capacity and expanding technological capabilities. Productivity is one of the most important operative criteria of screw conveyors (SC), which should provide both the highest at minimum energy consumption. Therefore, for the implementation of effective overload process of materials using SC should ensure their optimal loading. It should be taking into account that downloading of SC may occur through the hoppers, nozzles and loading devices.

A full factor experiment for homogeneous bulk cargos transportation using screw loaders was conducted. The equations of regression dependence of performance and torque depending on the internal diameter of the tube, fill factor and transporting speed, were selected. Two series of experimental investigations of screw loaders performance, horizontal and vertical sections with materials corn, wheat and bran, were conducted. Graphic dependences of performance value and torque depending to casing fill factor, screw operative member rotational speed and tube diameter for determining the torque and performance using various bulk materials and determining regression coefficient, were built.

Based on the complex of experimental researches regression dependencies for determining screw loader transport performance with materials wheat, corn, and bran, were selected and regression equation coefficients of transportation performance, was detected. Is established that significantly at the transportation torque and performance affects the internal tube diameter, fill factor and rotational speed in the horizontal transport.

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Ю.М. Тарасюк. Результаты экспериментальных исследований транспортировка сыпучих материалов винтовыми загрузчик

Проведен полный факторный эксперимент ПФЭ 33 для транспортировки однородных сыпучих грузов с помощью винтового загрузчика . Выведены уравнения регрессионных зависимостей производительности и момента в зависимости от внутреннего диаметра трубы, коэффициента заполнения и скорости транспортировки. Построенные графические зависимости величины производительности и момента от выше приведенных факторов для определения производительности и момента с различного сыпучего материала и определении коэффициенты регрессии .

O.Tkachuk. Features of finishing of linen textile materials

Specificity finishing textile materials from of linen due to several factors: chemical structure and supramolecular structures, a large number of related substances such as lignin, type and quality of fiber preparation. Most difficulties of chemical processing of flax fibers associated with the presence of lignin in the fiber. Since flax fibers have a darker natural color and contain more impurities, it is necessary to process under mild conditions, repeating the operation several times. High quality linen is achieved if cleaning carry out the first yarn or roving and then cloth. Selection of process operations finishing of linen fibers and fabrics and quality of the final product is largely determined by the type and quality of raw materials. The high quality of linen is achieved if cleaning is performed first fiber yarn or roving, and then in the fabric. One of the promising ways to create environmentally clean technologies of finishing of linen textile materials is to exclude processes based on the use of substances containing chlorine. Recently, much attention is paid to the development of technologies which are based on biochemical processes.

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А.Л.Ткачук. Особенности отделки лляных текстильных материалов

В статье охарактеризовано особенности подготовки, колорирования и заключительной отделки льняных текстильных материалов

Yu. Feshchuk. Study of elastic-plastic equilibrium cylindrical shell elements construction of agricultural machinery

The thin-walled elements of constructions of agricultural technique, that work under intrinsic pressure, are considered, for that task about the maximum equilibrium of resiliently-plastic shells with cracks used for research of izotropic cylindrical shells with interactive through cracks.

For realization the method of erection of tasks about the maximum equilibrium of resiliently-plastic shells with cracks is used for research of izotropic cylindrical shells with interactive through cracks.

Influence of curvature of shell, parameter of thin-walled, amount of cracks is studied, them mutual placing and other geometrical and physical and mechanical parameters on opening of banks of cracks and sizes of plastic zones near their tops in the thin-walled elements of constructions.

Plastic zones, that arise up in the process of loading on continuation of crack in accordance with suppositions of the accepted analogue of δ_c -model it is transferable a cut on the banks of that additional balanced efforts and moments are added equivalent reactions of material of plastic zone on a resilient volume.

On the example of task about the tense state of the reserved cylindrical shell methodology of erection of resiliently-plastic task is approved to the system of four nonlinear singular integral equalizations. In the got system of integral equalizations the unknown borders of integration, and right parts are bursting functions, that contain unknown sizes of efforts and moments that operate in plastic zones. The algorithm of the numerical untiing of such systems of integral equalizations is built consonant with the terms of plasticity of Tresk or Mizes, terms

of unambiguity of moving and terms of limit nature of efforts and moments near the tops of cracks.

Cases are considered: a shell is under the action of intrinsic pressure; shell to simultaneously operate the internal pressure and longitudinal tensile.

Numerical analysis showed that stretching along the crack may affect its opening and, accordingly, the strength shell construction

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Ю.П. Фещук. Исследование упруго-пластических равновесия цилиндрических оболочечных элементов конструкций сельскохозяйственной техники

Рассмотрены тонкостенные элементы конструкций сельскохозяйственной техники, работающих под внутренним давлением, для которых задача о предельной равновесие упруго-пластических оболочек с трещинами используется для исследования изотропных цилиндрических оболочек с взаимодействующими сквозными трещинами. Численный анализ показал, что растяжение вдоль трещины может влиять на ее раскрытие и, соответственно, на прочность оболочечной конструкции

R. Chvartats'kiy , I. Chvartats'kiy , A. Grabar'. New designs of screw shredders and mixers

The processes of feed production in agriculture related root grinding and mixing, as well as developing and manufacturing facilities for their preparation.

Therefore, the study of parameters screw grinding and mixing operative members of devices that manufacture feeding for animals is a hot topic and has great economic importance.

An important condition for reducing the cost of competitive livestock production is feeding livestock and poultry feed full, balanced and nutrients, vitamins and minerals. A special place is occupied with enrichment feed bioactive feed additives, which allow to increase the digestibility of feed by 20-25%, reduce their unit costs to 20%, realize the genetic potential of species of animals and birds.

The aim is to develop new designs of screw mixers with advanced technological capabilities and development of theoretical assumptions to determine the process parameters.

As a result of researches new designs of screw shredders and mixers developed, formed methods for solving problems, providing options to improve processes and improve the design of mixing equipment.

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Р.И. Чвартацький , И.И. Чвартацький , А.В. Грабарь. Новые конструкции шнековых измельчителем и смесители

Приведены новые конструкции смесителей сыпучих материалов и кормовых смесей в агропромышленном комплексе с расширенными технологическими возможностями. Представленные аналитические зависимости для определения конструктивных и технологических параметров .

M. Shvedik, A. Zagvozdin. Results of experimental researches of separation to lots are in conically-spiral settler of potatoes dig

In the article description over of conically-spiral separator of potatoes dig, methods of determination of coefficient of separation to the lots and his numerical values, is brought for sandy loam soil and black earth.

The analysis of modern technologies and charts of machines

shows for collection of potato, that the most perspective direction of their perfection are a synthesis of traditional operations of undermining of layer with the untraditional operations of separation to the lots and corresponding application of working organs for their realization.

Analysis of literary sources, timed to the questions of excavation of potato shows a machines is for digging of potato, that they are studied enough. On the basis of results of researches corresponding recommendations are worked out and offered. They found the practical application during development of modern a machines is for digging of potato.

However, questions which touch determination of coefficient of separation to the lots in a conically-spiral separator in literary sources were not illuminated. It creates certain difficulties during the ground of him structural and technological parameters.

A research purpose is a receipt of numerical values of coefficient of separation to the lots in a spiral separator.

The value of coefficient of sifting can be defined in accordance with the methods worked out by us by means of the laboratory setting.

Setting includes spiral separator. He is made as a cylindrical spring which has a diameter of 0,5м and length of 1m. The coils of spiral are made at intervals a 0,02 m from a small twig the diameter of which presents a 8 mm Separator it is set on two sending oilstones. On the top of oilstones a tarpaulin is spread. From exteriority along an oilstone a collapsible tray is set.

Researches conducted on two types of soil - to the sandy loam and black earth at humidity of 18% with triple repetition as follows.

Portia of soil was inlaid inward separator and rolled him on oilstones until lots fully kept indoors outside a separator in a tray. After it from oilstones took off separator, and from tarpaulin poured in a box the sifted lots and weighed. Acted an analogical method with lots which was in a tray.

An analysis the got results of researches shows that the coefficient of separation to the lots changes for sandy loam soil.

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Н.С.Шведик, А.Б.Загвоздин. Результаты экспериментальных исследований сепарации вороха в коническо-спиральном сепараторе картофелекопателя

В статье приведено описание коническо-спирального сепаратора картофелекопателя, методику определения коэффициента сепарации вороха и численные его значения для супесчаного грунта и чернозема.

M.Shvedik. Results of research of pneumatic catcher of grain which beaten out by slats of reel but determination of his parameters

The results of experimental researches of pneumatic catcher of grain which beaten out by the slats of reel from an ear layer and analytical dependences for determination of diameters of the suction union coupling of contractor and main pipeline, and also results of their calculation, are pointed in the article.

Results over of experimental researches of pneumatic catcher grain which beaten out by the slats of reel from an ear layer and methods of determination of

diameter of the suction union coupling of contractor and main pipeline of pneumatic catcher are brought in the article.

Basic material which was investigated in this work was стеблостій of winter-annual barley of Gelose and his grains. Researches were conducted in the field terms in triple repeated in accordance with the worked out methods from the use of the experimental setting.

Setting consists of pneumatic catcher and cyclone, which are set on a self-propelled light cart. Moving of setting is carried out by means of winch, which over is brought from an electric motor which feeds from an accumulator. For this purpose a rope by hand unwinds from the drum of winch a free end with superfluous fastened for a metallic bar which hides in earth. The occasion of reel and ventilator of cyclone is carried out by a by a wedge pass transmission from separate electric motors.

After passing of test length of even a light cart a 12,5 m electric motors disconnected and from cyclone grain was poured out in a tray. Then this grain was poured in a polyethylene sac, inlaid for him label, on which marked a sort, experience and repeated. Mass of grain was weighed in stationary terms.

The results of researches showed that as a result of shots of slats of reel there are considerable losses of grain. The only way of their shutting out is setting on every combine harvester of pneumatic catcher. Efficiency of his work first of all depends on the productivity of the pneumatic catching setting, expense of air of necessary for transporting grain and diameter of the suction union coupling of contractor and main pipeline.

The analytical dependences over brought in the article enabled to define the productivity of setting and expense of air, and also diameter of the suction union coupling of contractor and main pipeline of pneumatic catcher.

Such by character, on the basis of analysis of results of researches it is possible to do next conclusions:

1. With the increase of frequency of rotation of reel from 50 turns/min to 75 turns/min mass of the knocked out grain of barley of Gelose is from an ear layer, placed on every area by an area 10 m2, at moving of light cart with speed a 1,5 m/sec grows from 262gr to 318 gr, and at speed a 2,5 m/sec - from 305 gr to 384 gr.

2. Losses are grains, caused by the shots of slats of reel in the real terms of work of combine harvester, 262…384 kg/hect arrive at and.

3. For providing of the 100% catching of grain which beaten out by the slats of reel, a combine must be completed by the pneumatic catching setting with the productivity less not $Q_{ГЗ} = 0,672$ *kg/sec, the expense of air of which must present not less than* $Q_{Пов} = 0,119$ *m3/ sec, but diameter of her suction to the union coupling contractor and main pipeline - according to* $D_K = 0,078$ *m and* $D_M = 0,156$ *m.*

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Н.С.Шведик. Результаты исследования пневмоулавливателя зерна, что вибивается планками мотовила и определение его параметров

В статье наведены результаты экспериментальных исследований пневмоулавливателя зерна, которое выбивается планками мотовила из колосового слоя и аналитические зависимости для определения диаметров всасывающего патрубка конфузора и магистрального трубопровода, а также результаты их расчета.

M. Shvedik, A. Zagvozdin. Graphic-analyticalmethod of ground of basic parameters of conically-spiral separator of potatoes dig

A ground over of basic parameters of conically-spiral separator of a machine is for digging of potato and results of determination of rational values of his diameter are brought in the article, and also to the mode of digging of potato.

For excavation of tubers of potato use a machines is for digging of potato a machines is for digging of potato. However, all of them not in a complete measure satisfy agrotechnical requirements which behave to a machines is for digging of potato. Their basic defect is propensity to sealing, sprinkling of the dug up tubers soil by lots and their injuring.

To remove noted defects it is possible by application of new construction of separator of drum type executed as a cone with spiral coil. Such separator provides moving of the undermined layer both on a circuitous trajectory and in axial direction. Thus, during falling of layer there is his destruction. The ground up particles of soil are sifted between coils. Large lumps together with tubers again addict to the coils and goes up to the certain height, whereupon fall downward on the surface of spiral. It creates favourable terms for intensive destruction of large lumps and they are freely sifted between the coils of spiral.

Analysis of literary sources, timed to the questions of excavation of potato shows a machines is for digging of potato, that they are studied enough. On the basis of results of researches corresponding recommendations are worked out and offered. They found the practical application during development of modern a machines is for digging of potato. However questions which touch development of construction of spiral separator and his placing in relation to a ploughshare, in literary sources were not illuminated. It creates certain difficulties during the choice of rational values of his diameter.

A ground over of basic parameters of conically-spiral separator of a machine is for digging of potato and results of determination of rational values of his diameter are brought in the article, and also to the mode of digging of potato.

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Н.С.Шведик, А.Б.Загвоздин. Графо-аналитический метод обоснования основных параметров коническо-спирального сепаратора картофелекопателя

В статье приведено обоснования основных параметров коническо-спирального сепаратора картофелекопателя и результаты определения рациональных значений его диаметра, а также режима выкапывания картофеля.

Sheichenko V.A., Limont A.S., Rudenko V.G., Polishuk A.S. The fiber loss in lodged haulm stand and the preparation of dew retted flax stra

The results of the scientific research are generalized concerning the influence of fiber content in fiber flax stalks on their liability to lodging. The fiber loss is spotlighted according to its outcome from the lodged haulm stand of fiber flax straw using the criterion of the plant's resistance to lodging. The model equations and linear regressions are suggested taking into the consideration the resulted and the factorial features researched. The positive correlative relationship is discovered between the flexion of the stalks of different fiber flax breeds and their fiber content and the correlation coefficient constitutes + 0.308, and the relationship between the number of plants with straight stalks that were grown in Mitscherlich vessels and the same factorial feature is degenerative with the correlation coefficient – 0.370. The increase of fiber content in stalks from 23.3 to 33.9% leads to the flexion of plants with the exponential dependence, and the number of plants with straight stalks decreases according to the equation of a straight line with the degenerative angle coefficient. 9.5% variation of fiber content causes stalks flexion variation and 12.3% one causes the variation of the number of plants with straight stalks. The increase in the resistance to lodging of different fiber flax breeds causes the tendency to the increase in the outcome of the fiber obtained from straw. This is proved by unessential but regenerative indices of correlation coefficients between the total outcome of fiber and the decrease in haulm stand lodging. Herewith the indices of correlation coefficient differ depending on the resistance to lodging of particular fiber flax breeds. The more the resistance to lodging of particular fiber flax breeds the less the correlation relationship between the total fiber outcome and the factorial feature researched. The correlation coefficients calculated according to the lodging resistance of different fiber flax breeds are: 0.059 – for the most resistant one, 0.176 – for the resistant one, and 0.416 and 0.524 – for the less resistant ones.

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Шейченко В.А., Лимонт А.С., Руденко В.Г., Полищук А.С. Потери волокна в полеглом стеблестое и приготовление стланцевой льнотресты.

Обобщены результаты научных исследований о влиянии содержания волокна в стеблях льна-долгунца на склонность их к полеганию. Освещены потери волокна по его выходу из соломы льна-долгунца в полеглом стеблестое по устойчивости растений против полегания. Приведены модельные уравнения и линии регрессии результативных признаков на факториальные.