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IMPROVED transporter cathartic MACHINES ABC 1.5

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In the article the way of improvement transportera- feeder nasinnyeochysnoyi machines and calculated its basic parameters and modes, to improve the quality of fixed point by ensuring uniformity filing heap.

Foddermo herbs, seeds, Woroch, fixed point, conveyor-feeder, feed uniformity.

Resolutionska problem. Dll solving the problem collecting seeds of forage grasses developed and put into practice technologies that limit the impact of weather conditions on the build process for transferring operations threshing and separation on a stationary point. These technologies include the collection in the field only seed heap with subsequent transport to the stationary point for further cultivation. This method of collection can be considered the most promising, but its practical implementation is constrained by the lack of specialized machinery for harvesting a field of seed heap and its processing into a stationary point.

AnaLiz recent research. In theB-known assembly technology seeds of forage grasses can be grouped into two main groups: the collection of threshing and separation of seeds in the field and harvesting crops cultivation followed by a stationary point in [3,6]. In practice, the most widely used technologies that provide operations threshing and separation of seeds in the field, or so-called "Combine" assembly technology. But Combine harvesting methods, even under favorable weather conditions do not provide sufficient completeness collecting seeds of forage grasses, which are losing 30 ... 40% of the crop grown, and under adverse weather conditions up to 60 ... 70% [3].

This is because the design of modern combine harvesters ignores significant differences
seed crops of forage grasses and cereal crops by physical
mechanical and agrobiological properties.

Essentialmo disadvantages technologies combine harvesting seeds of forage grasses necessitated the search of innovative

pYisheng this problem. One way to reduce seed loss during harvesting - and energy-transfer complex operations threshing and separating the harvest in a hospital. In this case, the field skoshuyetsya and partially separated from the straw and loaded into sealed vehicles only seed of plant matter that is high humidity during storage can pidsushuvatysya. Threshing and separation of seeds in a hospital is not limited by time and weather conditions in the presence of facilities for storage allows you to perform these operations with high quality [3, 5, 6].

AboutPowered by analysis of stationary equipment item shown that to improve its efficiency necessary to develop a conveyor-feeder that will meet the required uniformity of seed feeder heap to the working of the clearing
maus. After analyzing the existing types of conveyors, found that most of these requirements scraper [1, 3, 5].

Metand lit.idzhen. Noiseth daboutslidzhennya there is inperfection stationary machines for cultivation of seed heap of forage grasses by ensuring uniform treatment of its submission to the working bodies.

Rezultaty research. Byment assembly technology BoboClosed on grass seed harvest processing of inpatient point increases harvest seed by 15 ... 20% or more compared to traditional methods of collection, reducing collection terms, allowing harvest in extreme weather conditions using dryers [3, 6].

Dayb technonology onfalls to Categoriesandfeet. ToHaymarket onSiwa skoshuyutsya and invested in rolls similar to traditional methods of cleaning. For matching rolls used combine harvesters after appropriate regulation [3]. As a consequence of that bunker combine seed going Woroch, which periodically discharged in sealed vehicles from cars and threshed straw is loaded into trailers. Straw zvozytsya the edge of the field or on the feed yard where skyrduyetsya for long-term storage. If necessary, the straw can be immediately used for animal feed, it has not been treated with desiccant. Seed Woroch transported in open storage platform, which is stored awaiting processing. If the moisture content of the grain heap more than 25%, it should be pre-dry at temperatures above 49 ° C, so as not to reduce seed germination [3]. As needed Woroch loaded into vehicles and transported to a stationary point for further processing.

As already noted, the efficiency of the fixed point depends essentially on the uniform supply of seed heap to the work of purifying machines ABC 1.5 (development IMESH UAAN). The existing conveyor dispenser does not provide the necessary uniformity that affects the quality of the item as a whole. In this regard, the need to improve the dosing device. Large group handling machines make continuous conveyors, in which the movement of goods is done through working body moving. The most common belt conveyors, scraper, rod, bucket, screw and pneumatic type. There transporter general and special purpose: The first widely used in various sectors of the economy, the second - are of limited use. In agriculture, due to the diversity of agricultural production processes and species specificity properties and agricultural goods transporters used a significant number of special agricultural purposes. Working bodies conveyors often are part of complex agricultural machines, where they provide material moving workers to other agencies that significantly affect their properties. In our case, to the carrier nominated the following requirements: transportation should be dosed; height cargo transportation - 1770 mm at 45 ° to the horizontal, ie, the length of the conveyor is *L*= 2500 mm; width flow heap at his uniform distribution - 1200 mm.

DTo guarantee the feeder-dispenser make it with oblique cameras combine "Lan", cut it into two parts at the point where its size in depth is 390 mm. The plane of the cut should be perpendicular to the plane of the lower chamber. These two combine insert with length of 700 mm. The receiving conveyor drum zhyvylnyka- dispenser must be floating to the possible increase in the flow of seed mass was not driving and injury seeds. If dosing feeder to get objects and it is driving, the work overload clutch. To ensure uniform supply heap in width rozrivnyuyuchyy camera set screw.

AboutThiss of the conveyor is as follows. Seed Woroch loaded into the hopper feeder, feeder,
fromexploration he gets on the conveyor, rozpodilyayuchys evenly
across its width, and submitted to the working of hospital
clearing airsnoyi machines ABC 1.5.

Whatwould provide an effective process of stationary machines for cultivation of seed heap choose scraper sloping cameras combine "Lan" that meets the requirements. Scraper consists of a chain traction body with attached scrapers that when you move pushed Woroch the chute from the place of loading in the direction of the discharge device. Effective process of the machine conveyor dispenser will provide in productivity Q= 2.5 t / h. (0.69 kg / sec.). The optimal velocity of the chain is V_t= 0.4 m / s. Volumetric mass heap to accept payments = 60 m3. Determine the size strips the known expression [5]:

$$Q = k_D k_w k\ in\ BhV_T \gamma ,$$

where k_G – geometric factor productivity, which takes into account that Chastyna groove volume occupied traction body $k_D = 0.95$; k_w - wvydkisnyy factor productivity, which establishes the relationship average speed cargo V_{Wed} to wvydkosti conveyor V_T, of $k_w = V_{Wed} / V_T = 0.9$; k_{in} – coefficientitsiyent decisionhave UBilnennya bulk cargo, $k_{in} = 0.7$; *In the*- The width of the groove, *In the*= 1.2 m; *h*- layer heap height, m.

EIDNacha height of the layer heap on the conveyor by the expression:

$$h = \frac{0.69}{0.95 \cdot 0.9 \cdot 0.7 \cdot 1.2 \cdot 0.4 \cdot 60} = 0.040 m.$$

Welcomehave toysotin Sectionlink Maynsportera h_{with} = 30 mm [5].

EIDNacha the resistance movement of cargo at boot:

$$F_1 = \frac{QV_T}{3.6 \psi \cdot C_0} = \frac{2.5 \cdot 04}{3,6 \cdot 07 \cdot 0.97} = .4092 H.$$

EIDNacha othersthatnsyvnist CategoriesAvantazhennya Sectionabout length Maynsportuvannya by the formula:

$$q_g = \frac{Qg}{3.6 V_T} = \frac{2.5 \cdot 98}{3,6 \cdot 04} = 17.02 H/m.$$

Onhonna traction body weight is determined by the formula:

$$q_T = k \cdot q_g = 0.8 \cdot 17.02 = 13.62 H/m,$$

where *k*- Coefficient of proportionality, *k*= 0.8.

Power supportsin Gilforand peresuvannyu conveyor frominvention of the workingth

formula:

$F_2 = (Qg + q_T)(\omega_S \cos\beta + \sin\beta)L = (17.02 + 13.62)(4.8 \cdot 0.707 + 0.707)2{,}5 = 314.06H$

where ω_S - Coefficient of resistance movements, taking ω_S = 4.8.

Power supportsin Movablebathtub Holostand Guyluxand Maynsportera is:

$$F_3 = q_T(\omega_S \cos\beta - \sin\beta)L = 13.62\,(4.8 \cdot 0.707 - 0.707)\,2{,}5 = 91{,}5H.$$

Chahova force is determined by the formula:

$$P_0 = (F_1 + F_2 + F_3) \cdot c_1 = (0,\ 4092 + 314.06 + 91.5) \cdot 1{,}1 = 446.54H.$$

where *c1* - Factor for the friction in bearings and chain rigidity resistance at its excesses Tension on the star icon in guide rollers *c1*= 1.1.

Find shaft horsepower driving sprocket:

$$N_T = \frac{P_0 \cdot V_T \cdot c_0}{102} = \frac{446.54 \cdot 04}{102} \cdot 1{,}2 = 2.1kVt.$$

where *C0* - Drag coefficient of stiffness of the chain, *C0* = 1.2.

Potzhnist motor is determined by the formula [5]:

$$N_d = k \cdot \frac{N_T}{\eta_T} = 1{,}2 \cdot \frac{2{,}1}{0.85} = 2.96kVt.$$

where *k*- Factor for the overload at the time of starting the conveyor load, *k*= 1.25; η_T- Transmission efficiency, □ 0.85.

From daboutLeaders toybyrayemabout motor-reduktop IHP-40 sweatzhnistyu *Nd*= 3.0 kVt and the number of revolutions per minute n_d= 112 rev / sin [5].

Pidbyrayemo chain (conveyor double-stranded), defining static tension in the incident on the drive sprocket thread:

$$S_{Article} = 1{,}5P_0 = 1{,}5 \cdot 446.54 = 669.81H.$$

tand destroying the value of the load:

$$Q_{RuiCategories} = k \cdot S_{Article} = 0.8 \cdot 669.81 = 535848H.$$

where *k*- Safety factor, *k*= 0.8.

Welcomehave Sectionabout DOST 4267-56 lantsyug block, dll even asth Breakinge load $Q_{puyn.}$= 6860 N; t_1= 29 mm; t_2= 25 mm.

OrArctic Ocean tooth sprocket accept *z*= 6. Find the dynamic load chain:

$$P_d = m\left(\frac{\pi \cdot V_T}{z}\right)^2 \frac{t_1}{(t_1 + t_2)^2} = 6 \left(\frac{3{,}14 \cdot 18{,}04}{6}\right)^2 \frac{29}{(29+25)^2} = 0.047H.$$

where *m* - masa remischuvanoho vantazhu tand lantsyuha, to Wormsanddevicvsyudzhuyetsya uneven movement:

$$m = \frac{(q_g + 2q_T)}{g} = \frac{(17.02 + 2 \cdot 13.62)}{98} = 4.51kg.$$

Dynenomic burden slight, as the speed traction body is small. The actual margin of one chain is determined by the formula:

$$K = \frac{2 \cdot 6860}{3Q_{RuiCategories}} = \frac{}{(669.81 + 0.047)} = 20.48 > [K] = 0.5k = 4.$$

Φ (Article + P_d)

We find [5] initial diameter circle driving sprocket:

$$D_0 = \frac{t_c}{2\sin\frac{0}{z}} = \frac{25 + 29}{2\sin\frac{}{6}} = 115mm.$$

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Calculate the speed driving sprocket:

$$n_{fromIr} = \frac{60V_T}{\pi \cdot D_0} = \frac{60 \cdot 04}{3.14 \cdot 0{,}115} = 66.5 about to / xto.$$

Transmissionth of transmission calculate the formula:

$$i = \frac{n_d}{n_{fro\ mIr}} = \frac{112}{66.5} = 1.68.$$

Tension in the branches of chain drive sprockets run on and run down with them,

$$S_{NB} = Ss_t + P_d = 669.81 + 0.047 \qquad H \approx 669{,}857$$

$$S_S = Ss_t - P_0 = 669.81 - 446.54 = 22327H.$$

at.

Strain S_0tan d S_0' suspended in the branches near the stars:

$$S_0 = Ss_b + F_3 = 22327 + 91{,}5 = 314.77H. \quad S_0' = S_0 c_1 = 314.77 \cdot 1{,}1 = 346.25H.$$

where *c1* - Coefficient of chain tensioning, *c1* = 1.1.

Due to the fact that the speed of the conveyor blade is small, dynamic force in the calculations was not included.

Conclusion. Therefore, dll Providetion Effectsvnoyi robotandfixed point on clearing seed heap feed

Mayshould be improved in conveyor-feeder that will significantly increase productivity and reduce equipment

loss of seeds in the process of cleaning due to heap uniform supply of stationary machines ABC 1.5. This can be

achieved by upgrading scraper sloping cameras combine harvesters "Lan" with the corresponding

Calculationsof its basic parameters and modes.

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In Article rassmotren usovershenstvovanyya method of carrier-pytatelya semyaochystytelnoy mashiny rasschytanы ego and Basic Settings and work regimes, something pozvoljaet uluchshyt Quality work statsyonarnoho points putem Provision ravnomernosty entries heap.

Foddervыe travы, seeds, Woroch, stationary point, conveyor-pytatel, ravnomernost entries.

In paper the method of improvement of load conveyer of purifier of seed machine is considered and it is expected basic parameters and office hours, that allows to improve quality of work of stationary point by providing of evenness of serve lots.

Forage herbares, seed, lots, stationary point, load conveyer, evenness of serve.

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DOSLIDZHENNYA traction motor blocks INDICATORS FOR CONCRETE

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Statementbut research results traction for heavy motor-block on concrete.

Motorcyclesblock, tYahovah effortsla,Betodistrict, experimentsmental research.

Resolutionska problem. Hand the end of 2011 production of 48.2% of gross agricultural farms provided [1]. In a prominent place in the group of mobile energy resources (MEW) for these farms go tillers (mobile energy vehicles with axle