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Principles of calculation methods Rassmotrenы balance power machinery digesters. Proanalyzyrovanы factors, kotorыe uchastvuyut Formation methods in calculating power machinery balance digesters.

Methods, energetika, balance digesters.

Principles of method of calculation of energy balance digesters. Factors that are involved in shaping methodology of calculation of energy balance digesters.

Methods, energy balance, digesters.

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FEATURES formation of biological yield WINTER WHEAT

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The article is devoted to the issue of increasing the yield of winter wheat by effective use of agricultural machinery, which have a significant impact on the efficiency of growing crops.

Winter wheat, biological characteristics of agricultural machinery, conservation of biological productivity.

Problem. The problem is that the unjustified use of power tools and agricultural machines in growing and harvesting winter wheat crop is accompanied by high losses, leading to an increase in the cost of production, increase in debris field volunteer and as a result, to increase the cost of its post-harvest soil.

Analysis of recent research. Analyzing the history of the last century - revolutions, famines, two world wars, the ongoing restructuring took the highest number of people in Ukraine. At the same time, the population of the globe is increasing in a few decades will be about nine billion people, and is the critical number that can feed the earth. If in 1950 in the world 1 ha land accounted for less than 2 people in 2000 - more than 4, whereas in 2030 there will be more than 7 people. It is obvious that the most profitable business is crop production [1].

When growing crops always identified two components of the crop: the main products - grain and sideline - straw. Harvested grain is the main source of food for humanity and high-productive forage for different farm animals,

used as raw materials for industry and for bioenergy.

Cereals in the world occupy about 35% of the land used in crop production. The use of many types, shapes and varieties of spring and winter crops obtained by breeding, rearing them is possible with different soil and climatic conditions. Therefore, the share of cereals in arable land for light and heavy soils, as well as in arid and humid zones of relatively uniform, although the yield varies in a fairly large range. The share of cereals in arable land strongly affected by economic conditions [2].

In the production technology of agricultural crop mechanization processes stands out. In scientific studies Pogorelogo LV [3] Natanzon IY [4] Finn EA [5,6] Didenko MK [7] Miller II [8] And others have been deeply studied the question of acquisition of machine units for rational justification complex machinery and tractor fleet, the technique of rational justification of the complex machinery for agricultural cultures under various optimization criteria.

According to research Yakov Mikhailovich viable number of tractors in 2003 declined by one third and now stands at almost 100 thousand. Units. Also found that existing farms in agricultural machines have optimal storage conditions, which reduces their lifetime [9].

A. Research Demo found that the number of harvesters is not well suited, and available - very old and worn, leading to a reduction in yield when harvesting crops [10]. So today, more than ever, the question is relevant updates tractor fleet sector. From that, how much "right" are selected power tool and agricultural machine depends on the efficiency of management, and environmental impact, and legacy future generations.

The purpose of research is to investigate the structure of the "loss" of grain in growing and harvesting of winter wheat.

Results. Cereal crops are important for maintaining the ecological balance as well as produce a lot of oxygen. One hectare of crops during

the growing season allocates about 10.6 million. Liters of oxygen, which is almost two times more than one hectare of forest [2].

Growing crops in crop rotations reduce soil erosion provide. The degree of protective action against soil erosion are second only to perennial grasses only during fully used. It should be borne in mind that the effectiveness of winter are generally better than spring cereals.

Share grains that grow in temperate climates (wheat, barley, oats and rye), a global grain production is about 40%. Dominated by wheat. Its cultivation is widespread throughout the world. She - the staple food for about 35% of the world population and accounts for about 20% of energy needs of the population. The world wheat harvesting process takes place throughout the year [2].

Refining of not for the food industry or feed purposes (non food) while negligible. Most of it is used for starch.

Most grains consisting of starch, protein and fat small portion. Moreover, their content varies by species. It depends on the genotype (varieties), and the growing conditions [2].

When growing grain must clearly understand for what purpose grown crops. In practice, the growing intensity of specific production (use of nitrogen fertilizers, fungicides, growth regulators), an increasing proportion of protein, but at a lower intensity of cultivation and with a sufficient supply of water - starch.

Decisive for the formation yield is the growth and development of plants. Growth - a premium dry weight. The basis for it - assimilation. Development - is the formation of specialized organs and parts of the plant to perform its primary biological function: to preserve their species. When growing cereals particular importance are the growth and development processes that underlie the formation of grains and thus yield [2].

A key role for the formation of the crop has a "switch" cone growth stems from vegetative to generative phase of growth and yield formation components. The yield of grain crops is formed of the following components: number of ears per 1 m2; number of grains per spike; 1 grain mass spike; weight of 1000 grains.

Grain yield component is formed as follows: the number of ears / m2 → number of grains / spike → mass of 1000 seeds. Between them there are close links that lead to these conditions their optimal development. Laid the first component yields more or less impact on those structures that are placed later. Yes, there is a negative correlation between the number of ears / m2 and the number of grains / spike and weight of 1000 seeds. Excessive stand density also undesirable because can cause a decrease in grains / spike and grain weight of 1 spike and weight of 1000 seeds [2].

The final yield of the process of forming and reduction of shoots, ears, flowers and bulk grains.

1. Formation of a crop of winter wheat in steblostiy (rough estimates). Phases of development.

Phases of Development	The development of grain yield components	The potential yield and grain yield, kg / ha
Bookmark steblostoyu		
• Seeding	Planting density, the number of similar seeds / m2	350
• Ladders	Field germination,%	90
	Stand density, the number of plants / m2	315
System growth Bookmark and differentiation of yields from early tillering to early exit in the tube	The number of lateral shoots / plant	2
	The number of shoots, total / plant	3
	→ The density of shoots, number of shoots / m2	945
	• Bookmarks grains / main shoots	70
	• Bookmarks grains / 1st side shoots	65
	• Bookmarks grains / 2nd side shoots	60
	• Bookmarks grains / plant	195
	→ The number of potential grains / m2	61 425
	Potential thousand seed weight, g	40
	The potential yield of grains / plant, g	7.8
	→ The potential yield of seeds / ha ts	245.7 (100%)
• reduction and stabilization of yields of early exit in up to flowering	Reduction of the number of shoots / plant (main shoots 0.5 x 1 side shoots)	1.5
	→ stand density, the number of ears / m2	472.5
	→ The potential number of grains / m2	32287.5
	Potential thousand seed weight, g	40
	The potential yield of grains / plant, g	4.1
	→ The potential yield of seeds / ha ts	129.15 (32%)
	Reduction bookmark / shoots in%	60
	• The number of seeds / head shoots	42
	• The number of seeds / 0.5 x 1 side shoots	19.5
	The number of seeds / plant	61.5
	→ The number of seeds / m2	19372.5
	Potential thousand seed weight, g	40
	The potential yield of grains / plant, g	2.46
	→ The potential yield of seeds / ha ts	77.49
Growth Product		
• Production and filling of reserve substances after flowering to full maturity	Part poured thousand grains weight of seeds, g	35
	The resulting yield / plant, g	2.15
	→ The resulting yield / ha, u	67.8 (28%)
• Loss of grain before and during harvesting	The loss of grain before and during harvesting,%	3
	The loss of grain / ha ts	2.03

→ harvested / ha ts	65.77 (27%)

When growing grain sold today is more or less a small part of the initial potential productivity. This is due to the fact that the individual components of productivity during growth is influenced by various negative factors.

Based on studies of German, Russian scientists, researchers of the Institute of Agriculture Northeast NAAS Ukraine, Sumy National Agrarian University and based on our own research conducted in the farms Sumy region, we can conclude that the average yield of winter wheat 60 ... 70 kg / ha sold an average of only 20 ... 35% of the potentially laid the initial yield. To explain, due to which there is a decrease in Table 1, the approximate calculation of the reduction in the yield of winter wheat during development [2].

From the analysis of the data presented in Table. 1 shows that in each phase of growth and development of winter wheat yield potential decrease in yield and grain. This trend is explained by insufficient and untimely mechanized manufacturing operations, wrong choice of agricultural machines, namely the combination of working machines.

Conclusions

On the basis of research on the needs of the world population, found that the need for crop production, especially grain growing rapidly. This is due to the rapid population growth and the changing patterns of food (use more animal products). Also, production of cereals is used not only for food but also for alternative energy production of starch for the food and chemical industries. It is reasonable to growing crops and to improve the environmental component of human life. All these factors increase every year and the importance of expanding the area under cereals.

Literature and from our own research proved that today the effectiveness of grain crops is very low. Large grain losses accompanying low profitability and further clogging fields vegetation. The current yield at 60-80 kg / ha is about 30% of the biological plant yield. Research phases of winter wheat makes it possible to establish the control points where we get lost, so their further studies not only provide storage of crops to date but also a chance to raise it by ahropryyomiv and more effective use of technology.

The results of studies to lead to a decrease in grain yield, make it possible to increase the yield and grain quality materials and by-products in growing winter wheat.

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Article posvyaschena question Increase productivity of winter wheat, putem эffektyvnoho-hozyaystvennыh Using agricultural machines, okazыvayuschyh suschestvennoe Effect on the Level of the effectiveness vыraschyvanyya selskohozyaystvennыh cultures.

Ozymaya wheat byolohycheskye Features, village-hozyaystvennыe Machines, Saving Biology yield.

Paper is devoted to issue of increasing yield of winter wheat by effective use of agricultural machines that have significant impact on efficiency of growing crops.

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MONITORING TECHNOLOGY - INNOVATIVE POWER POLICY IN UKRAINE APC WITHIN LEGAL REGULATION