компаний пересмотрели свое количество судов из Азии (некоторые из них даже остановили свои отправки из Азии). Результат – немного судов, меньше мест, увеличение тарифов (даже по объемам по-прежнему меньше по сравнению с прошлым годом). Транспортные перевозки также имеют свои преимущества: например, можно принимать крупнотоннажные контейнера 26 тонн по железной дороге или для организации контейнерных поездов с более быстрым транзитным временем. Транспортные перевозки также являются экологическими по показателям по сравнению с судами/грузовиками, и это станет более важным фактором в будущем.

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## ЕВРОПА-АЗИЯ БАҒЫТЫНДАҒЫ КӨЛІКТІК-ТРАНЗИТТІК ЖҮК ТАСЫМАЛЫНЫҢ ДАМУ АНАЛИЗІ

Мақалада Еуропа-Азия бағытындағы көліктік-транзиттік жүк тасымалының дамуы анализі қарастырылған. Транзит көліктегі экспорт секілді барлық уақытта ұлттық экономикада басты элемент және мемлекет арасындағы жүк тасымалы бәсекелестігін ұйымдастырады.

#### E.S. Kulshykova, A.D. Sagyndykova.

# ANALYSIS OF THE DEVELOPMENT OF FREIGHT TRAFFIC IN THE DIRECTION OF EUROPA-ASIA

Analysis of the development of freight traffic in the direction of Europe and Asia. Transit as exports of transportation services at all times was an important element of national economies, and competition for freight traffic between the two countries have repeatedly led to the disappearance from the political map of some states and the emergence of others, to the prosperity of some countries and to the ruin of others.

UTC 631.354:633.1

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## NEW TECHNOLOGICAL AND TECHNICAL SOLUTIONS FOR HARVESTING GRAIN AND OILSEEDS

Abstract. Authors in order to reduce the quantity and quality losses during harvesting of grains and oilseeds proposed new technical and technological solutions for harvesters. A number of technical solutions for manufactured as a prototype and production tested with positive results.

*Keywords:* conference, combine, drum-type smaller grains, biomass, machine-building factories, optical method, agricultural crops, Science Research Works.

In SRI agroengineering problems and new technologies KazNAU new theory provided a framework thrashing of biomass, according to which the practice of introducing complex mathematical models of innovative agricultural technologies and equipment that make up the scientific basis for a new generation of cleaning machines. Obtained a number of parametric mathematical models of innovative new work cleaning machines.

In agricultural production the most of the capital-intensive are mobile machines (tractors, combines, cars) and the stationary equipments for processing of a crop and animal industry complexes. With reference to them the problem of increase of their efficiency always somehow chose, but now it has got a special sharpness. As a business not only in the market economy. In many directions of a technical policy the human has faced a threshold reasonable irreducibility machine and the equipments on dimensional-mass and to cost indexes. For example, for last sixty years the weight of combine harvesters of the most widespread models has increased from 3-3,5 t till 13-15 t (almost at 5 times), capacity of established engines from 50 to 350horse power (at 7 times), throughput about 2-2,5 kg from to 12-14 kg from (six times). The working mass of a combine with refueling and the full bunker makes 18-22 t, and combines of a class of 10-12 kg from to 25 t. From here the big fuel consumption, destroying influence on soil, excessive inclusion with long times of returned of investment. Question - where next to go? Growth single power of cars any more doesn't give due effect [1]. I A lot of countries find different ways of exit from this situation though in parallel still continue a dimensional and power tendency of escalating their machines. But nevertheless the most effective such directions admit: technification manufactures, perfections to recovery machine, introduction of principles of exact agriculture, differentiate decisions with reference to concrete working conditions of reception of agricultural products, cars on the basis of the unified base of cars and their updating, working out of new technologies and ways of influence on agricultural raw materials, intellectualization of cars, increase of operational reliability of techniques.

In many cases these directions give the most notable effect exceeding effect from simple escalating of weight and capacity of machine.

In KazNAU (Kazakh National Agrarian University) together with the largest combine builder factories of Russia develop perspective grain technology and modification seed-rice grain harvests go of a combine of "Kazakstandyk-1" which has taken place the state tests and recommended for release of industrial party. It can form a basis domestic combine builder that coincides from the country offered by the President strategy of reforming of agriculture of Kazakhstan, corresponds to Law Republic of Kazakhstan «About Grain», to the bill «About Seed-growing», and a governmental order Republic of Kazakhstan about manufacture in Kazakhstan of combine harvesters and their further realization.

In KazNAU research on theoretical, methodological and practical aspects of creation perspectives competitive domestic of grain technology adapted for specificity local a condition [3-13] proceeds. Results

of tests of a unique design seed-rice grain harvest a combine of "Kazakstandyk-1", have confirmed economic feasibility of their introduction not only in Republic of Kazakhstan, but also abroad.

Advantage of a design of harvest techniques of new generation "Kazakstandyk-1" [14]:

- Installation perfections knot doesn'tprevent to use effectively a combine on direct services;

- Use of constructional schemes of the serial inclined chamber. The bottom of the inclined chamber serves;

- Sufficient reliability and working capacity constructions;

- The grain which has passed in a zone of the inclined chamber surpasses in quality grain after drum-type smaller grains (micro damage and crushing); high energy of germination; the greatest weight of 1000 grains;

- Maintenance of unloading of a drum to 8,4 % from the general technological weight, and completeness of allocation of grain the punched surface of the inclined chamber, under

corresponding conditions, can reach 10 % and more;

- Conditional, expected economic efficiency: from change of quality of the production (wheat "Saratov-29") with application of the modified combine of "Kazakstandyk-1" 670716 tg on annual standard hard can be equal; from change of quantity of production (rice "Cuban") efficiency on annual standard hard can reach 1410000 tg.

- Safety and conformity of the tested Jknot to requirements occupational safety standards system.

In scientific research institute of agroengineering problems and KazNAU new to technology the basis of the new theory a biomass is formulated, complex mathematical models under his supervision take root into practice innovative agro technology and the means, making scientific bases of creation of harvesters of new generation. Are received a number of parametrical models of new working bodies of harvesters.

Introduction of advanced domestic grain technology is supposed to be carried out in following stages: manufacturing and demonstration of new combines in work; the organization of study-educational trainings and seminars in regions and preparation of corresponding experts; distribution of advertising materials and marketing\* researches. For formation and modernization of machine-building manufactures, release of competitive "Kazakstandyk-1" the big means for purchase of the equipment, the patented technologies and be required. On these purposes the part of means forced industrially-innovative developments which it is necessary to give to factories of mastering "Kazakstandyk-1" - in the form of long-term credits on favorable terms should be directed. At the first stage it is necessary to promote creation in republic of co productions on release of "Kazakstandyk-1" with gradual increase in a share of domestic components in let out "Kazakstandyk-1" to 60-80 percents.

Results of the spent researches and research and developmental works to be used at universities, in design offices of machine-building factories and multipurpose information system in scientific research institute for carrying out of researches on resource-saving technology and the harvest techniques at creation new and perfection of old designs, at institutes of improvement of professional skill. Work will help experts ministry of agriculture to workers of a private sector, small and average business; to the businessmen who are engaged in maintenance of process of cleaning and processing of grain - to improve an agro technology grain manufactures, to improve use of available cars at cleaning seed and grain crops, to increase an export potential grain and to raise their quality. All it will give the chance to our republic to find the niche in the modern market, to have quality production, to let out it with smaller industrial costs, than at competitors; Who will help those works in sphere of agro business and everything, wishing to familiarize with a modern view on the theory and agricultural mechanical engineering practice in Republic of Kazakhstan.

And new technologies also are conducted in scientific research institute of agro engineering problems research on a theme «Working out of a design of the optical device for optimization of parameters of the agro machine production technology of agricultural production on a minimum of losses» - channelized is proved by that as Kazakhstan is at an agrarianindustrial stage of technological development, the key factors influencing technological development, production efficiency and modernization, speed of development of new kinds of production and attraction of the newest of the production technology are. Gathering of biologically high-grade grain and seeds by more exact recognition of harvest ripeness of agricultural crops promotes a solution of problem maintenance of food safety and can be solved in the presence of effective remedies of mechanization of harvest works which would allow cleaning them on seeds and commodity grain with the least losses and high quality.

Therefore working out of an optical method and the device for recognition of the harvest ripeness of the agricultural crops providing decrease of quantitative and qualitative losses in comparison with analogs on 20-30 % and gathering of biologically high-grade grain providing qualitative foodstuff and the best sowing qualities of seeds, is an actual problem [15].

Manufacture of grain crops has entered that stage when the further expansion of the areas became economically inexpedient. Escalating grain manufacture should be ieached at the expense of growth of productivity and decrease in losses at cleaning. There upon perspective directions Science Research Works in agro engineering branch is the new way of agricultural crops by magnetic processing fresh the threshed seeds for change of its biophysical, biochemical, physical and chemical properties which it will be used in agriculture for seeds of different kinds of agricultural crops at and harvesting.

Perspective direction Science Research Works is working out of a new way seed and grain crops and is constructive-technological scheme of the combine harvester, allowing, realizing magnetic stimulation of grain in process. Authors on the basis of process studying grain and seed cultures the new technological decision with application of magnetic stimulation is offered. Realization of the results received during' executed Science Research Works in the given direction will be allow to increase productivity of grain and seed cultures, and also to cut down expenses on their storage. The offered technical decision has following advantages: simplicity is reached at the expense of use of traditional processes thresh fruitful weight, and processing improvement of quality fresh the threshed seeds - at the expense of processing of all grains in a magnetic field and etc.

#### Conclusion

Agricultural science in Kazakhstan provided and provides a variety of effective scientific research, the implementation of which in agricultural production can take it to a new level. The degree of implementation of innovations agricultural producers has been and remains very low. Moreover, in the "vaults" agricultural science and research services focused KazNAU huge array of unique scientific developments that are not in demand in the agricultural sector. Over time, they lose their consumer properties, their parameters are no longer meet modern requirements \* and without the improvements to implement many of them impossible.

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## АСТЫҚ ЖӘНЕ МАЙ ДАҚЫЛДАРЫНЫҢ ДӘНІН САПАЛЫ ЖИНАУ ҮШІН ЖАҢА ТЕХНОЛОГИЯЛЫҚ ЖӘНЕ ТЕХНИКАЛЫҚ ШЕШІМДЕР

Мақалада астық және май дақылдарының дәнін сапалы жинауға арналған өнертабыс деңгейіндегі ізденіс нәтижелері мен бірқатар жаңа технологиялық және техникалық шешімдер көрсетілген.

#### Ж.С. Садыков, Ш.А. Альпейсов

# НОВЫЕ ТЕХНОЛОГИЧЕСКИЕ И ТЕХНИЧЕСКИЕ РЕШЕНИЯ ДЛЯ КАЧЕСТВЕННОЙ УБОРКИ МАСЛИЧНЫХ И ЗЕРНОВЫХ КУЛЬТУР

В статье показаны результаты исследований и освещены ряд новых технологических и технических решении, выполненных на уровне изобретений для качественной уборки семян масличных и зерновых культур.

УДК 631.632

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## О КОМПЛЕКСНОЙ ОЦЕНКЕ КАЧЕСТВА РАБОТ ПО ТЕХНИЧЕСКОМУ ОБСЛУЖИВАНИЮ ЭЛЕКТРООБОРУДОВАНИЯ СЕЛЬСКОХОЗЯЙСТВЕННЫХ ПРЕДПРИЯТИЙ

Аннотация. Для всесторонней характеристики выполненной электротехнической службой работы по обслуживанию, ремонту электрооборудования необходим показатель комплексной оценки качества, который характеризует не только выполнение эксплуатационных требований, но и затраты денежных средств.

*Ключевые слова:* Электротехническая служба, производственная программа, условных единиц электрооборудования.

Для комплексной оценки качества технического обслуживания (TO) электроборудования наиболее удобным является показатель, выраженный в относительных величинах. В качестве такого показателя для комплексной оценки наработки (по обобщенным показателям качества и денежных средств) применили величину,