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**СОВРЕМЕННОЕ СОСТОЯНИЕ ЭКОЛОГИЧЕСКИХ АСПЕКТОВ
СЕЛЬСКОХОЗЯЙСТВЕННОГО ПРОИЗВОДСТВА
В УСЛОВИЯХ ИННОВАЦИИ****Г. Скабаева, Д. Адизбаева, Н. Толеу, Н. Пушанова, С. Карибаяев, А. Самултыров**

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Ключевые слова: технология, экология, сельскохозяйственное производство, сельскохозяйственное производство.

Аннотация. Авторы рассматривают проблему экологических аспектов производства сельскохозяйственных продуктов в Казахстане и за границей, новых инновационных методов производства животноводческой, растениеводческой продукции, производства и современного сельскохозяйственного оборудования для производства безвредных для окружающей среды продуктов. Воздействие на окружающую среду сельского хозяйства основано на большом разнообразии сельскохозяйственных методов, используемых во всем мире. В конечном счете, воздействие на окружающую среду зависит от производственных методов системы, используемой фермерами. Связь между эмиссией в окружающей средой и системой сельского хозяйства косвенная, поскольку это также зависит от других переменных климата, таких как ливень и температура.

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**FEATURING ECOLOGICAL ASPECTS
OF AGRICULTURAL PRODUCTION****G. Skabayeva, D. Adizbayeva, N. Toleu, N. Pushanova, S. Karibayev, A. Samylytyrov**

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Keywords: technology, ecology, agricultural production, agricultural production.

Abstract. The steppe, agriculture - a profession and existence remains to one of a main type of agriculture. The environmental impact of agriculture varies based on the wide variety of agricultural practices employed around the world. Ultimately, the environmental impact depends on the production practices of the system used by farmers. The connection between emissions into the environment and the farming system is indirect, as it also depends on other climate variables such as rainfall and temperature.

The authors consider the problem of environmental aspects of production of agricultural products in Kazakhstan and abroad. New innovative methods of livestock production, crop production and modern agricultural machinery for the production of environmentally friendly products.

Among the countries of the world there is Kazakhstan on the area on the ninth place. Till this time formation of tradition, a steppe factor life, immeasurably will promote still development to prospects of Kazakhstan. The steppe, agriculture - a profession and existence remains to one of a main type of agriculture[1].

Production ecological aspect undergraduate of ecology to specialties, open letters of bacteria. The module with drawing up communication ecological aspect of agricultural goods considers four a subject intersubject.

Basis of contents of the law of the Republic of Kazakhstan "about standards" its role and importance. Concept about standards and normative and technical documents.

There are two types of indicators of environmental impact: "means-based", which is based on the farmer's production methods, and "effect-based", which is the impact that farming methods have on the farming system or on emissions to the environment. An example of a means-based indicator would be the quality of groundwater, that is effected by the amount of nitrogen applied to the soil. An indicator reflecting the loss of nitrate to groundwater would be effect-based.

Agriculture is the cultivation of animals, plants, fungi, and other life forms for food, fiber, biofuel, medicinal and other products used to sustain and enhance human life.^[1] Agriculture was the key development in the rise of sedentary human civilization, whereby farming of domesticated species created food surpluses that nurtured the development of civilization. The study of agriculture is known as agricultural science. The history of agriculture dates back thousands of years, and its development has been driven and defined by greatly different climates, cultures, and technologies. In the civilized world, industrial agriculture based on large-scale monoculture farming has become the dominant agricultural methodology.

Animal husbandry. Dairy and meat production technology of products. Description of a technology farm and complexes of cattle production [2].

Modern agronomy, plant breeding, agrochemicals such as pesticides and fertilizers, and technological developments have in many cases sharply increased yields from cultivation, but at the same time have caused widespread ecological damage and negative human health effects. Selective breeding and modern practices in animal husbandry have similarly increased the output of meat, but have raised concerns about animal welfare and the health effects of the antibiotics, growth hormones, and other chemicals commonly used in industrial meat production. Genetically modified organisms are an increasing component of agriculture, although they are banned in several countries. Agricultural food production and water management are increasingly becoming global issues that are fostering debate on a number of fronts. Significant degradation of land and water resources, including the depletion of aquifers, has been observed in recent decades, and the effects of global warming on agriculture and of agriculture on global warming are still not fully understood.

Plant growing - branch of agricultural production. Cars for processing of the soil. For sowing of agricultural crops, the seed car. Cars for processing of the soil. Grain harvesters are considered. Taking cars for collecting grain are considered.

Main part. The major agricultural products can be broadly grouped into foods, fibers, fuels, and raw materials. Specific foods include cereals (grains), vegetables, fruits, oils, meats and spices. Fibers include cotton, wool, hemp, silk and flax. Raw materials include lumber and bamboo. Other useful materials are produced by plants, such as resins, dyes, drugs, perfumes, biofuels and ornamental products such as cut flowers and nursery plants. Over one third of the world's workers are employed in agriculture, second only to the services' sector, although the percentages of agricultural workers in developed countries has decreased significantly over the past several centuries.

The evolution of animal agriculture is focusing increased attention on its impacts on water and air quality. The adoption of new technologies and the restructuring of the food and agricultural system are generating new economic and environmental impacts and influencing public perception about animal agriculture. The expansion of livestock and poultry production, particularly larger confined animal operations, is increasingly leading to private disputes and public issues concerning agricultural production and the environment. These disputes are leading to new patterns of costs and benefits and, in some cases, public policies that are affecting competitiveness of this sector. The issues and options to resolve them are complex and require increased understanding and involvement by all stakeholders. While new technologies to improve environmental performance and monitor progress will be developed, constraints on resources may limit implementation[3].

Livestock and poultry farms generate manure, bedding, milk-house wash water, spilled feed and dead animals that, if not properly managed, can impact water quality. Animal manure and related byproducts contain elements that, under certain circumstances, might reach surface or ground water and cause pollution. The location of an animal operation plays a role in how pollutants may reach water and the magnitude of environmental damage. Animal production in grain deficient regions may generate manure nitrogen or manure phosphorus in excess of the assimilative ability of nearby land for manure application.

In our university we attended of the new course. The reference, understanding, and also in preparation of production of agricultural production of aspects of ecology significant a subject and tasks for training of ecologists.

Purposes of discipline is – explain for students meat and meat products, milk and dairy products, sanitation and a vetsan examination of acquaintance and works with salty students, not familiarizing with technology. To mechanize animal husbandry. Explain about meaning of agriculture cars.

Productions of institutions meat-and-milk on realization, developments and a duty. A contribution to others objects domestic and foreign sciences in improvement of quality of communication and meat and dairy production. Quality production on environment protection, health protection of the person and occupied a role.

Expansion into areas with existing nutrient surpluses may exacerbate the region's water quality pressures and possibly other environmental problems. Where contracting has become prevalent, producers have been responsible for manure management and dead animal disposal since these activities are not typically covered by the contract. Thus, contracting has raised questions about producers' ability to afford and be rewarded for good environmental management and what role integrators should play in helping with such management and its costs.

New and improved technologies have historically generated tools to mitigate environmental problems in the animal agriculture industry. New treatments for manure can help reduce the loss of nutrients to the environment. Animal-feeding strategies have been developed to reduce nutrient excretions, emissions and odor from manure. Attention is being turned toward economically viable uses for manure that reduce the environmental impact. New methods have learning and adjustment costs, as well as some risks. Without a focused strategy for implementing new technologies, adoption may be slow[4].

Information technologies have allowed neighbors of proposed large animal operations to communicate effectively. The Internet allows local groups to communicate, obtain information about issues and legal or political strategies, form alliances with groups across longer distances, and select their own sources of information to use in discussions and debates. In the United States, these developments add to the challenges of public policy decision-making and increase the potential for decision-making gridlock and delay.

Farmers are traditionally viewed as good stewards of the land and the environment, and enjoy a large amount of good will among the public. The public may be less tolerant of environmental and nuisance impacts of animal agriculture, especially larger units. Improved scientific understanding of the impacts certain management practices have on the environment and human health may change public perceptions.

It is often difficult to attribute specific efforts of farms implementing BMPs to environmental outcomes. Measurement challenges include time delays, influences of weather, and difficulties measuring and monitoring smaller and diffuse sources of pollution. Advances in measurement technology have the potential to drastically change our understanding of pollution sources and to create new systems of accountability. Such advances will reduce monitoring costs and likely make resulting information accessible to watershed and/or other groups concerned about the environment. Bacterial source tracking has been proposed as a method to determine not only the species, but also to pinpoint the specific flock, herd or community causing any contamination. These developments can help inform the debate about the relative contributions of farming or other land uses (e.g., lawn fertilization or septic tanks) to pollution. Increased requirements for monitoring, along with decreased costs of doing so, will likely be a major driver of environmental policy for animal agriculture in the future.

Five potential options for addressing environmental issues are discussed below. When making choices involving the five options below, it is important to recognize that none alone offer a single solution to address all environmental issues. The best choice may not be between different options, but deciding on the right mix of policy options[4].

Strengthen the public-sector roles are first option is establishing stronger federal, state or provincial policies to encourage responsible growth of the animal industry in locations with less environmental risk. A uniform regulatory playing field across countries, states and provinces could reduce overall environmental risk. This option could include increasing commitment to implementing regulatory and incentive programs, including adequate funding for staff.

Expand systems researches there is a need for more systems-oriented research by the public and private sectors on the environmental impacts of agriculture. Increased public funding for this type of research would give decision-makers better information about the interrelationships of environmental/health, social, economic and legal/policy implications of animal agriculture. Results could identify solutions for different scales of farming and regional environments that take social/behavioral

factors into consideration. There should be an emphasis on performance-based solutions to assure accountability. This research should be regional, national and global in scope, future-oriented and anticipatory of emerging challenges, multidisciplinary, and include agricultural universities, medical schools, and public and private partnerships. There is a need for information to reduce uncertainty concerning the relationship between animal agriculture and human health. Private research, with appropriate oversight to ensure objectivity, would be one way to fill this critical information gap[5].

Target best management practices to the highest priority environmental concerns approach would target efforts to areas and farms with the greatest water or air quality problems. Some types of animal agriculture provide a flow of goods or services that society values, including ecological services and possibly amenities. Payments from government to producers to provide ecological services—known as "green payments"—have been suggested as a major new direction for farm policy. This targeted policy option could utilize the green payments idea to integrate ecological goods and services into agri-environmental policy to reach desired broader environmental outcomes. Because the focus is on implementation, this option would use existing social and economic research knowledge on implementation and adoption, including incentive-based tools. It would require improved coordination among agencies and possibly other water or air quality monitoring groups, and development of information systems to assure cross-compliance with existing farm programs.

Use market-like mechanisms to "get the prices right": This option involves public and private cooperation to explore and foster promising innovative arrangements that internalize external costs of the farm, i.e., off-farm impacts on neighbors, communities and the environment. Such arrangements could more accurately reflect the off-farm costs of animal production in market prices, providing incentives to better manage manure and animal byproducts. Changes in government policies, such as new regulations or clarification of property rights, may be needed to help start a market in which the prices of agricultural commodities reflect true costs to the environment incurred in their production. This might provide an incentive for producers and processors to adopt systems that maximize profits while being environmentally friendly. This option could benefit from the trend among consumers and food retailers to demand products that are environmentally friendly. Public and private efforts to inform producers, agribusinesses, food wholesalers and retailers, and consumers about products produced in such a manner would complement such policy changes[6].

Legal reform: Many legal reform proposals have been put forward to provide the industry with some certainty or a "safe harbor." These reform efforts generally fail because they are perceived as taking rights from one group and giving them to another without compensation or required action by the industry. The crux of this policy approach is the need for multiple parties—industry, scientists and the public through government—to act together. In exchange for some protection against complex and costly litigation, the industry supply chain would take specific responsibility for the handling of animal manure and other environmental impacts using recognized science-based methods.

A second opportunity area for legal reform relates to the division of responsibility for manure management and dead animal disposal between the integrator and producer. Research indicates that the social benefits of greater sharing in responsibility of environmental management by the integrator depends on the relative bargaining power of the two parties.

The expansion of animal production is increasingly leading to public policy issues concerning the environment. The options to resolve these issues are complex and require understanding and involvement by all stakeholders. While new technologies to reduce or eliminate the environmental impacts of animal agriculture will be developed, resource constraints of government agencies or producers may limit successful implementation of these technologies.

As animal agriculture evolves, it faces new challenges and opportunities. Uncertainty in the face of possible regulation at the national, state/province or local level may hinder new developments or cause the industry to seek to locate in areas where environmental regulations are less stringent. New policies can create financial and technical burdens for producers and other firms and increase uncertainty. At the same time, successful policies will create benefits to farmers, neighbors and more broadly, those in the community and society who benefit from improved water or air quality. It will be necessary to address environmental issues related to animal agriculture in a way which promotes stewardship of the environment and the well-being of the industry.

Agricultural engineering incorporates many science disciplines and technology practices to the efficient production and processing of food, feed, fiber and fuels. It involves disciplines like mechanical engineering (agricultural machinery and automated machine systems), soil science (crop nutrient and

fertilization, etc.), environmental sciences (drainage and irrigation), plant biology (seeding and plant growth management), animal science (farm animals and housing) and much more.

Areas of interest to Agricultural Engineers

- Design of ag. machinery, equipment, and structures
- Environmental control systems, cooling and ventilation
- Energy Conservation
- Crop production-seeding, tillage and irrigation practices
- Soil&waterconservation
- Animalproductionandcare
- Biofuel production and utilization on the farm
- Post harvest processing, handling and storage
- Precision farming technologies, machine vision, gps
- Farmoperationsandmanagement
- Farmsafety, securityandergonomics

Agricultural engineers must have a wealth of knowledge and skills to function effectively in the diverse agricultural and agribusiness industries. The agricultural engineer obtains training in design and engineering problem solving based on an understanding of engineering sciences including mathematics, physics and biology. They must also have skills in computers, communication, teamwork and instrumentation. The feature distinguishing agricultural engineers from other engineers is their interest and commitment to solving agricultural problems.

Conclusions

In conclusion big production of domestic agricultural producers of competitiveness in market conditions has to take out. For him the advanced equipment and technologies in production and country farms, labor, fuel, energy and farms and other material stocks that will lower expenses of system of obtaining the income.

ЛИТЕРАТУРА

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ИННОВАЦИОННО-ЭКОЛОГИЧЕСКИЕ АСПЕКТЫ СОВРЕМЕННОГО СЕЛЬСКОГО ХОЗЯЙСТВА

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Түйін сөздер: технология, экология, ауыл шаруашылық өндірісі.

Аннотация. Дала, ауыл шаруашылық – мамандық пен тіршілік ауыл шаруашылығының негізгі түрлерінің бірі болып табылады. Ауыл шаруашылығының қоршаған ортаға әсері бүкіл әлемде пайдаланылатын ауыл шаруашылық техникасының әртүрлілігінде негізделген. Ақыр соңында қоршаған ортада жүйенің өндірістік әдістері пайдаланады. Қоршаған ортаны және жүйені ауыл шаруашылығымен байланыстыруы сыртқы әсерлер мен табиғат заңдылықтарына тәуелді.

Авторлар ауыл шаруашылығының азық-түлік өндірісінің экологиялық аспекті мәселесін Қазақстанда қарастырады. Мал шаруашылығын, өсімдік шаруашылығын өнім өндірісінің жаңа инновациялық әдістері, өндірісті және қазіргі ауыл шаруашылық жабдықтары қоршаған ортада зардапсыз пайдаланады.

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