Джетписбаева Б.Ш, Кузембаева Г.К, Матибаева А.И

РАЗРАБОТКА РЕЦЕПТУРЫ ПЕЧЕНЬЯ ИСПОЛЬЗУЯ НЕТРАДИЦИОННЫЕ МУЧНЫЕ КОМПОЗИЦИИ

В данной статье приведены результаты применения не традиционного сырья в мучных кондитерских изделиях, также расширение ассортимента и обеспечение населения продуктами повышенной пищевой ценности.

Ключевые слова: сахарное печенье, рисовая мука, соевая мука, соевый белок, соевое молоко

Jetpisbaeva B.Sh., Kuzembaeva G.K., Matibaeva A.I.

DEVELOPMENT OF COMPOUNDING OF COOKIE USING UNCONVENTIONAL FLOUR COMPOSITIONS

To this article the results of application of not traditional raw material are driven in flour pastry shops wares, also expansion of assortment and providing of population the products of enhanceable food value.

Keywords: saccharine cookie, rice flour, soya meal, soy-bean albumen, soya milk.

UDC 631.453

B.K. Yelikbayev[1], K.O. Musabekova[2], D. Dalen[1]

[1]Kazakh National Agrarian University,
[2]Kazakh National Technical University after K.I.Satpayev
Almaty, Republic of Kazakhstan

TECHNOGENIC POLLUTION OF SOILS OF KAZAKHSTAN

In the article results of theoretical investigation of the anthropogenic pollution of soils in Kazakhstan.

*Keywords:*Technogenic pollution of soils, landfill, land disturbance

Desertification process is extremely complicated and ambiguous, it affects both natural geographic and social and economic aspects. Causes of desertification in Kazakhstan are both natural and anthropogenic factors. Anthropogenic factors which are leading to the occurrence and development of desertification processes in Kazakhstan, should be identified such as: the development of mineral resources; construction and operation of industrial, military and civilian facilities, irrigation and linear constructions; destruction of vegetation and soil during road construction and industrial construction of settlements, and irrigation facilities; organizing of dumps and landfills around settlements; tonnage accumulation of waste production contributes to anthropogenic pollution of the environment and, in particular, soil; contamination of the environment with toxic substances.

The goal of research was to study the dynamics of anthropogenic soil pollution in space and time.

According to the Land Code of the Republic of Kazakhstan land reserves of the country are divided into categories in accordance with the purpose. Improvement of land reforms caused by the

change of the economic situation in the country, promotes constant reallocation of the land fund of the republic by land categories (Table 1) [1].

Table 1 - Allocaton of the Land Fund of the RK [2 – 5]

Allocation	1990	1995	2000	2005	2010
RK, thous. ha	272490,2	272490,2	272490,2	272490,2	272490, 2
Lands for industry, transport, communication, defense and other than agriculturalpurpose, thous. ha	19772,6	17374,7	11131,4	13753,1	13981,1
Density, in percent	7,3	6,4	4,2	5	5,1
Industrial land, thous. ha	475,6	574,4*	576,0	702,5	877,1

Table 2 - Disturbed lands of the RK (thousandsha) by provincesfor 1990, 2000 and 2010 years [2 – 6]

Provinces	Year		
	1990	2000	2010
TheRepublicofKazakhstan	166,2	178,0	180,2
Akmola	16,7	16,5	17,1
Aktobe	19,1	12,9	13,1
Almaty	1,9	3,3	4,2
Atyrau	1,1	1,6	2,9
EastKazakhstan	7,8	11,6	13,9
Jambul	2,7	6,4	6,4
WestKazakhstan	1,7	1,0	1,0
Karaganda	38,7	44,8	42,0
Kostanay	24,4	29,6	35,2
Kyzylorda	4,4	3,4	2,0
Mangistau	24,8	21,2	21,2
Pavlodar	22,1	15,9	12,2
NorthKazakhstan	0,6	7,6	6,8
SouthKzakhstan	0,2	1,7	2,0

AsTable 1 shows, 5.1% of the Land Fund of the Republic in 2011 is composed of lands of industry, transport, communication, defense and other nonagricultural. The area of land for industrial use increases year to year, so 0.17% of the land was a part of industrial purpose in 1990, it was 0.21% in 2000 and 0.33% in 2011 [2 – 6].

For industrial purposes 122.5 hectares of land has been taken out of productive handle in the past five years, including 37.2in 2007; 28.3 in 2008; 38.9 in 2009; 35.2 in 2010and 20.1 ha in 2011 [5].

The main violations in the industrial use of land resources (Table 2): irrational use of land, waste pollution of land (industrial, consumer, radioactive), petroleum products, etc.;land disturbance during the development and exploitation of commonly occurring and non-renewal minerals; land disturbance during construction work; littering by landfills of municipal, industrial and other waste.

Damage from pasture degradation is 963 million dollars (144,5bln. tenge), loss of income because of erosion of plough land is 779 million dollars(116,9 bln.tenge), due to secondary salinization and swamping –375 million dollars (56,3 bln.tenge). The total damage from the loss of humus in Kazakhstan is assessed by international experts at the 2.5 billion dollars (375 bln.tenge) [7].

The main qualitative indicators are values of maximum allowable concentration (MAC) of pollutants in soil. The most contaminated landsare East Kazakhstan, Karaganda and Pavlodar provinces. Most contaminated with heavy metals cities are[8 – 14]: cadmium and lead - Ust-Kamenogorsk, Ridder, Balkhash, Shymkent (22,2; 31; 32,2 and 45,4 MAC,respectively);copper -

Aktau, Ust-Kamenogorsk, Uralsk, Ridder, Aktobe, Balkhash (12; 14,2; 17,7; 19,1; 31 and 153,4 MAC, respectively); zinc - Ust-Kamenogorsk, Reeder, Balkhash (4,9; 7,1 and 11,1 MAC,respectively);chrome - Aktau, Uralsk, Reeder, Atyrau(4; 5,4; 7,1 and 20 MAC,respectively).

One of the main environmental problems of the East Kazakhstan and Karaganda provinces is the contamination of soil with arsenic waste dumps and tailings of industrial enterprises of "Kazzinc"JSC.In the East Kazakhstan province, lands are contaminated with toxic compounds of copper, zinc, cadmium, lead and arsenic. Sources of pollution are non-ferrous smelters. One of the most important problems of the Semipalatinsk Test Site (STS) is the soil contamination withradionuclidesthat requires the development of high technology of purification of polluted areas.In Karaganda province, land contamination mainly occurs due to mining and metallurgical industries waste (coal dust and heavy metals).In Pavlodar province, land contamination mainly occurs due to heat power, ferrous and nonferrous metallurgy waste, petrochemical industry waste and surface coal mines. In a number of locations,soils are contaminated with lead, copper, barium, and mercury[1].

Soil contamination by toxic substances and heavy metals is observed in the area of Balkhash. In addition, the processes of soil salinization and land desertification continues. The largest environmental pollutant of Balkhash region is Balkhash Mining and Metallurgical Combine (BGMC) with its ore base (Kounrad and Sayak mines).In the Caspian areas, the area of land, which is disturbed by anthropogenic and transport loads and oil bituminous products, is estimated at 4-5 million hectares [1].The highest soil contamination with oil and oil products was registered in West Kazakhstan, Atyrau and Mangistau provinces[10].

From the above it follows that:

1) The land area for industrial use increases from year to year: from0,17% in 1990 to 0,33% in 2011;

2) Only for the last five years 122.5 hectares of land has been taken out of productive handle, which includes 37,2 ha in 2007;28,3 ha in 2008; 38,9 ha in 2009; 35,2 ha in 2010 and 20,1 ha in 2011;

3) Most contaminated with heavy metals cities are:

- cadmium and lead - Ust-Kamenogorsk, Ridder, Balkhash, Shymkent (22,2; 31; 32,2 and 45,4 MAC,respectively);
- copper - Aktau, Ust-Kamenogorsk, Uralsk, Ridder, Aktobe, Balkhash (12; 14,2; 17,7; 19,1; 31 and 153,4 MAC, respectively);
- zinc - Ust-Kamenogorsk, Reeder, Balkhash (4,9; 7,1 and 11,1 MAC,respectively);
- chrome - Aktau, Uralsk, Reeder, Atyrau(4; 5,4; 7,1 and 20 MAC,respectively);

5) the most contaminated lands are the East Kazakhstan, Karaganda and Pavlodar (heavy metals), West Kazakhstan, Atyrau and Mangistau (oil and oil products) provinces.

References

1 State of the Environment of the Republic of Kazakhstan 2010. Astana. 2011. 241 p. Available at: http://www.eco.gov.kz/.

2Environmental statistics. Statistical Compendium. Almaty, 2001. 104 p. Available at: http://www.stat.kz.

3 Environmental protection and sustainable development of Kazakhstan. Statistical Compendium. Almaty, 2004. 104 p. Available at: http://www.stat.kz.

4 Environmental protection and sustainable development of Kazakhstan. Statistical Compendium. Astana, 2008. 270 p. Available at: http://www.stat.kz.

5 Environmental protection and sustainable development of Kazakhstan. Statistical Compendium. Astana, 2012. 180 p. Available at: http://www.stat.kz.

6 Desertification - a major economic, social and environmental problem. Available at: http://www.ukrgazeta.kz/archive/2007/June_2007/25_632_2007/pustynya25_632.htm.

7 State of the Environment of the Republic of Kazakhstan 2004. Available at: http://www.eco.gov.kz/.

8 State of the Environment of the Republic of Kazakhstan 2005. Available at:

http://www.eco.gov.kz/.
9 State of the Environment of the Republic of Kazakhstan 2006. Available at: http://www.eco.gov.kz/.
10 State of the Environment of the Republic of Kazakhstan 2007. Available at: http://www.eco.gov.kz/.
11 State of the Environment of the Republic of Kazakhstan 2008. Available at: http://www.eco.gov.kz/.
12 State of the Environment of the Republic of Kazakhstan 2009. Available at: http://www.eco.gov.kz/.
13 Overview "Water Resources of the RK in the new millennium". Available at: http://www.undp.kz/library_of_publications/files/2496-23653.pdf.
14Newsletter about the environment 2010. Astana, RSE «Kazgidromet» Ministry of Environmental Protection of RK, 2011.

Елікбаев Б.К, Мұсабекова К.О, Дален Д.

ҚАЗАҚСТАН ТОПЫРАҚТАРЫНЫҢ ТЕХНОГЕНДІ ЛАСТАНУЫ

Мақалада Қазақстан топырақтарының антропогенді ластануының теориялық зерттеулері келтірілген.

Еликбаев Б.К, Мусабекова К.О, Дален Д,

ТЕХНОГЕННОЕ ЗАГРЯЗНЕНИЕ ПОЧВ КАЗАХСТАНА

В статье представлены результаты теоретического исследования по антропогенному загрязнению почв в Казахстане.

ӘОЖ 338.43.556.1

Қ. Жанымхан, Б. Мамадияров, С. Тынышбеков

Қазақ ұлттық аграрлық университеті

КӨП ЖЫЛДЫҚ АҒЫНДЫ РЕТТЕУДЕГІ СУ ҚОЙМАСЫНАН ТИІМДІ СУ БЕРУДІҢ КӨЛЕМІН БАҒАЛАУДЫҢ ӘДІС-ТӘСІЛДЕРІ

Андатпа. Қазақстан Республикасы территориясының басым жер жайдайының шөлді және ауарайы-климаттық жағдайының контигенттігіне байланысты су қоры жеткіліксіз. Қазіргі жағдайда мемлекетімізде өнеркәсіп орындарының қарқындап дамуы, ауыл шаруашылық, егістік суландыру, қалалық инфрақұрлымдардың кеңеюі және т.б. салалардың өркендеп дамуына байланысты суға деген сұраныс артып келеді. Су қоймасындағы ағынды реттеудің жұмыс режимі су ресурстарын тиімді пайдалану мен шығыннан тұратын көлемді анықтауға байланысты.

Кілт сөздер: Топографиялық, морфометриялық, бірқалыпсыздығының, сызықтық, гидрологиялық, күтуінің.

Кіріспе. Судың шығыны ағынды реттеу процестері мен кездейсоқ табиғи процестерге тәуелді болатын күрделі функция болып табылады. Су қоймасынан судың шығындалуы оның толуына байланысты, себебі деңгейдің орны анықталады. Осыдан құрылымдармен