

International Congress in Kazakhstan 2018

International Congress of the Eurasian Federation of Soil Resources and Environment Conservation Society was held in Almaty from 17th to 19th October 2018 with the participation of scientists from 27 countries from leading universities, research centers, research institutes and representatives of the FAO, Eurasian Soil Partnerships (EAPP).

The congress was organized by the Eurasian Federation of Societies of Soil Scientists, Kazakh Society of Soil Scientists and U. Uspanov Kazakh Research Institute of Soil Science and Agrochemistry.

176 scientists from the countries of the near and far abroad took part in the work of the Congress: Azerbaijan, Armenia, Belarus, Iran, Finland, Italy, Kazakhstan, Kenya, Kyrgyzstan, China, Lithuania, Moldova, Nigeria, Pakistan, Poland, Ukraine, Georgia, Russia, Slovakia, Serbia, Turkey, Germany, Chile, the USA, Russia, the Czech Republic and Japan, 77 of them with the presentation of scientific reports. Such a great interest in the work of the International Soil Congress was caused by the current state of the soil cover and its ecology, since these problems are of concern to the entire global community. The fertility of the soil, its ecology are the guarantors of the food security of all mankind. In this regard, at present the scientific search for innovative ways to solve fundamental, applied, methodological directions in soil science and environmental protection are priorities all over the world.

The results of basic and applied research, and methodological issues of soil, agrochemical and allied sciences with presentations of reports were discussed at the plenary and sectional meetings of the congress.

The plenary session of the congress was opened by Abdulla Saparov, Chairman of the organizing committee, President of Kazakh Society of Soil Scientists, and General Director of U. Uspanov Kazakh Research Institute for Soil Science and Agrochemistry.

Following scientists addressed their welcoming words to all participants of the Congress:

Takashi Kosaki – Elected President, International Union of Soil Scientists, Japan

Ahmet Mermut – Saskatchewan University, Saskatoon, Canada

Ridvan Kizilkay – General Director of Eurasian Soil Federation, Vice-President of Turkish Soil Sciences Society

Evgenij Shein - a member of Russian Soil Sciences Society, Russia

Tlektes Espolov – Academy Fellow of National Academy of Sciences of the Republic of Kazakhstan, Rector of NJSC Kazakh National Agrarian University, Kazakhstan

Mi Gujsyun – Science and Technology Consul, Consulate General of China in Almaty

Representatives of the media, such as TV channels “Kazakhstan” and “STV”, newspaper “Egemen Kazakhstan” attended the opening of the Congress.

(17.10.2018 “Ekologialyq aqal”

https://www.facebook.com/www.soil.kz/videos/2057408117905469/?modal=admin_todo_tour
news complete version https://kaztrk.kz/news/zholdau-2019/songy-200-zhylda-zherdegi-atmosfera-zharty-gradusqa-zhylygan-120049?fbclid=IwAR0xVUZenzT0SjSrQfvuWJLBWGtNNSLpTtvBjjRy2OC8RZ9HLhngxlfYu_o

18.10.2018 Congress of Soil Scientists

[/ https://www.facebook.com/www.soil.kz/videos/1378917168908930/?modal=admin_todo_tour](https://www.facebook.com/www.soil.kz/videos/1378917168908930/?modal=admin_todo_tour)
news complete version https://www.youtube.com/watch?time_continue=664&v=DHF1T5srF1c).

5 reports were made at the plenary session (Japan, Russia, Germany, Canada, EAPP).

Leading scientists, representatives of different countries of the World shared their opinions and new views on the current state of the soil cover, environment and their development in the future, and on the rational use of soil and land resources and agricultural lands, the preservation of soil fertility to ensure the food security of the congress participants' countries. The materials of the reports cited the development of innovative methodologies based on modern methods of analysis using the latest ultra-sensitive electronic equipment. Scientists paid special attention to

innovative technologies to prevent the influence of negative factors on the soil cover - anthropogenic, man-made and natural.

The leading scientists also presented their speeches on the current state of soil resources, degradation, desertification, disturbance, pollution, salinization, soil protection and the environment at thematic sections of the congress.

14 reports with the presentation of materials and main results were presented in the section "Soil science, classification and cartography, geostatistics, remote sensing and GIS". Important questions were discussed on the genesis and classification of soils, the ecological assessment of the current state of ecosystems, soil, ecological mapping of soils using remote and computer technologies, and geostatistics.

16 reports were presented at the section "Soil Ecology, Soil Pollution and Restoration". All reports were accompanied by a presentation of the main scientific results and conclusions. The active participation of scientists and discussion on important problems of soil ecology and their improvement were noted. It was stated that the food and environmental safety of each country primarily depends on the state of the soil cover. To improve the ecological situation and reduce the effects of degradation processes, an important role is played by the rational and efficient use of soil and land resources, the development of measures to reduce and improve ecological situation of soil cover and the recultivation of polluted and disturbed lands.

14 reports were presented at the section "Biology and Soil Biochemistry, Soil Health and Quality", which were accompanied by the presentation of the most important and interesting materials of the report. The section worked actively. There was a business scientific discussion, and different opinions of scientists were discussed there. The concept of "soil health" in the 21st century has been introduced throughout the world. The soil as an ecosystem is a subsystem of a more complex community of biota — a terrestrial-soil ecosystem. Without vegetable components-autotrophs (producers), without fauna (consuments) and, of course, without microorganisms-heterotrophs (decomposers) there is no natural soil. The problem of rapid soil rehabilitation is difficult to solve, but the solution requires an integrated approach and joint efforts of scientists.

23 reports with presentations of important scientific results and conclusions were given at the section "Soil Physics and Chemistry". The main topic is soil physics (air in the soil, water content in the soil, the influence of heavy metals (copper, mercury). Scientists actively participated in the work of the section, asked interesting questions about the reports and entered into discussions. Scientists from Russia, Turkey, the Czech Republic presented really good reports.

In the section "Fertility and soil fertility management; Fertilizers and Plant Nutrition" 18 reports were submitted. All reports were accompanied by a presentation. After the completion of each report, a lot of questions were asked, then scientists entered into discussions. The level of development of the agricultural sector has always acted and continues to be a determining factor in the economic stability of the country. Plant growth requires water, light and nutrients that are in the soil, but often these nutrients are not enough and require the use of different types of mineral fertilizers. As evidenced by the data of the rapid growth in the use of fertilizers in the world, over the past 50 years, the world market of mineral fertilizers has increased almost 5 times and its volume reaches more than \$ 70 billion. In recent decades, farmers in many countries with intensive farming have re-evaluated the value of organic fertilizers. About 25 billion tons of organic fertilizer (calculated on standard manure), or about 15 tons per 1 ha of arable land, are applied to the soil per year on the planet as a whole. Most of them are used in the Netherlands - about 70 t/ha, in England 25 t/ha and in the USA 14 t/ha. On average nutrients are supplied to the soil more with organic fertilizers than with minerals in all countries of the world (with the exception of European and US states). It is necessary, taking into account the characteristics of the soil and cultivated crops, to correctly apply both mineral and organic fertilizers.

In general, the section moderators issued the following:

- high-quality reports were presented, there was little time for 15 minutes, since after each presentation there were a lot of questions and discussions, therefore the regulations were not met in many sections;

- high-level reports were presented by young scientists from Russia and Turkey. “It is necessary to support young people by reducing the registration fee of international conferences and congresses, this is our future, we must build a bridge between young and adult scientists”;

- Congress participants highly appreciate the new initiatives of scientists in the field of soil science, and the use of research results that can be more effective and contribute to the restoration of soil resources in general.

Each of the moderators thanked Professor, Dr. A.S. Saparov for the high organizational level of the International Congress.

The results of the discussion and general discussion of the work of the 10th International Congress on “The Soil Resources and Environment Conservation” identified the most urgent problems that need to be solved in the near future. Therefore, congress participants from different countries urge to take the necessary steps in the relevant areas with serious responsibility through the following measures:

- Attract the attention of government agencies to the problems of soil protection from degradation.

- Adopt a law on soil conservation.

- The agrarian sector as a basic sector of the national economy should be intensively developed taking into account world experience in using and preserving the main means of production - the soil.

- It is necessary to intensify ties with soil scientists of all countries in the field of the exchange of new methods and methodology in theoretical and practical areas of soil science, protection of soil and its biodiversity.

- Caring for people is at the centre to ensure the sustainable development of life on earth in harmony with nature. It is necessary to preserve the soil, as the main component of biogeocoenosis, which is like the “governing system” of the biosphere.

The Congress participants call on the governments of the countries to give priority attention to the solution of the problems of soil degradation and desertification.

- To popularize the topic of soil science, ordinary people, and not only scientists and state bodies should know our problem, it is necessary to include environmental protection and soil science issues in the educational program.

- When organizing the next congress, it is necessary to cover the topics under discussion, to include urban soil; the topic of soils should be expanded in all aspects.

- Expand cooperation of the International Society of Soil Science and the Global Soil Partnership in the field of land and water management.

- Provide the International Society of Soil Scientists with information on the results of the congress with a view to widely discussing and making decisions in the field of soil protection and environment, preservation and reproduction of soil fertility, as well as increasing crop productivity, in general, ensuring food and national security of countries.

Within the framework of the congress, a field excursion was conducted with a visit to the fields of the Kaskelen Agropark and the Ile-Alatau National Park, and soil cuts were laid to demonstrate the nature of the soil-forming processes of light chestnut foothill and mountain soils.

After the completion of the field trip, the participants of the Congress were shown the sights of Almaty.