

On May 17-19, 2011, the 7th International Scientific and Practical Conference “Ecology and Farming Technologies: Agro-Engineering Approaches” was held in the North-West Research Institute of Agricultural Engineering and Electrification (SZNIIMESH), St-Petersburg, Russia. The conference was organized under the auspices of Russian Academy of Agricultural Sciences and its North-West Regional Scientific Center, Russian Federation National Committee on Agricultural Engineering and sponsored by Euro-Asian Association of Agricultural Engineering (EAAAE).

Around a hundred presentations of agricultural researchers and engineers from ten countries (Belarus, Czech Republic, Estonia, Finland, Germany, Latvia, Russia, and Ukraine – face-to-face participation; Bulgaria, Lithuania – virtual participation) were included in the conference program.

At the Opening Plenary Session the conference participants were welcomed by academician Yury Lachuga, Vice-President of the Russian Academy of Agricultural Sciences, Prof. Veronica Tarbajeva from the Committee of Natural Resources of Leningrad Region and Mr. Igor Prokhorov from the Committee for Agro-Industrial and Fishery Complex of Leningrad Region.

Recent scientific and practical developments and achievements of agricultural engineering aimed at reducing the adverse environmental effects of farming practices and machinery were presented and discussed on the Plenary Session and Parallel Sessions of three Conference Sections.

Veritable refrain of the conference presentations was the need for research aimed at innovative sustainable agriculture development, which would contribute to higher life quality of rural population and better conditions for its activity under preservation of reproduction potential of nature.

After the presentations and discussion the participants approved the conference resolution, where they pointed to the efforts of agricultural engineers worldwide to implement environment enhancement measures, to expand international cooperation aimed at mitigating environment pollution from farm sources, decreasing farm waste amounts and their efficient recycling.

The future agricultural engineering research in this sphere is advised to employ the principles of engineering ecology, which investigates the interaction of man, machines and natural environment with the aim to create sustainable natural/man-made systems. The key tasks in this respect are to monitor, forecast and assess the possible negative consequences of existing, upgraded and newly designed farming practices, machines and equipment for human and ecosystem health; to identify and improve the practices, which have an adverse effect on man and nature; to optimized technological, engineering and designing solutions by the criterion of minimal environmental damage.

The conference program included one professional visit to a dairy farm in Leningrad Region, several barns of which have been reconstructed according to the design of SZNIIMESH. Here the conference participants could see updated production practices and recent developments of the institute, which reduce negative environmental effect of machine-based technologies, namely, the barns are equipped with state-of-the-art equipment for loose housing of cows and milking with special robot (made by De Laval company); the calves are kept in the houses manufactured by IGLOOS Company, Russia; manure with straw bedding is composted on a special site.

The conference activities also included negotiations with the Finnish partners from Seinajoki University of Applied Sciences and MTT concerning the joint project aimed at improving the efficiency of large-scale livestock farms through integrated system of BAT techniques. Scientific cooperation potential was discussed with the colleagues from Belarus, Czech Republic, Estonia, Latvia, and Ukraine.

The conference participants also had an opportunity to go for sightseeing – tours to Alexander Palace in Tsarskoje Selo and parks of Petergoff were organized.

The conference participants highly appreciated the scientific importance of such a forum and its organization and decided to hold the next one in May, 2013, in SZNIIMESH, Saint-Petersburg, Russia.