The Chairman introduced the report by noting that this is an exciting time for grain storage engineers in China, with the recent announcement of the Central Government’s plan to construct 25 million tonnes of storage in the next 2 years in addition to the 5 million tonnes of storage being constructed under the World Bank’s GDMP project. It was therefore disappointing that so few papers were offered for the Storage Engineering Session. Engineers must keep themselves aware of the work of research scientists in developing knowledge about stored product protection, since engineers are often responsible for implementing the results of the scientists. Conference organisers should encourage greater participation of engineers in future conferences, particularly to share their experiences in the implementation of technologies for the control of insect pests, temperature and moisture content of stored products.

Of the seven general papers offered, only four authors presented their papers. The first paper was by Ron Noyes, Professor of Agricultural Engineering at the University of Oklahoma. Professor Noyes described recent experimental work that he has undertaken in the sealing of bolted steel silos in America. His experiments were conducted on 12 small 1.8m diameter bins, using closed cell adhesive foam to seal the bolted joints in the silos, and silicone sealant to seal other gaps. Pressure decay half-life of better than 1 minute had been achieved, which professor Noyes considered satisfactory as an initial standard for the US based on the rates of gas loss that had been measured in the experimental silos. He foresaw increased use of sealed storage in the USA using techniques similar to those used in his experiment.

The second paper was presented by Mme Wu Lina from the Fujian Grain Engineering Design Institute, on the subject of underground grain storage in China. Mme Wu described the long history of underground grain storage in China dating back to the Song dynasty where storages as large as 120,000 tonnes were constructed. Mme Wu described new experiments in underground storage in China which offer benefits of low stable temperature and moisture and natural protection from insects and rodents.

The third paper was presented by Mr Liu Xinchun of the Zhengzhou Grain Science Research and Design Institute, on the subject of grain fumigation machinery development in China. Mr Liu outlined the developments of methyl bromide and phosphine fumigation equipment in China including recirculation systems, combined aeration/fumigation systems and on-site phosphine generating machines. He foresaw the need for methodologies to speed up fumigation processes in port situations in the future, and ongoing reliance on traditional methods for long-term storage protection.

The fourth paper was presented by Ms Feng Tianmin of the Beijing Grain Storage Design Institute, on the subject of the design of a new type of roof structure that is being developed for warehouse storage in China. The new roof is constructed as a hyperbolic thin concrete U shaped shell which can span 24 meters without intermediate support. The design allows a significant reduction in roof construction costs by eliminating the need for support trusses and purlins.

The Chairman emphasised the need for greater engineering participation in stored grain protection conferences in the future.