

Key Discipline of Agricultural Engineering at Shihezi University



Prof. He Xinlin

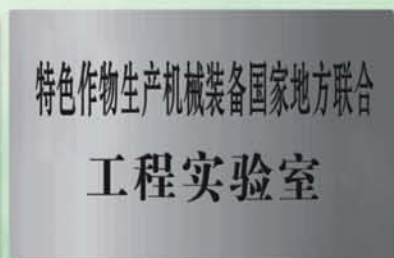
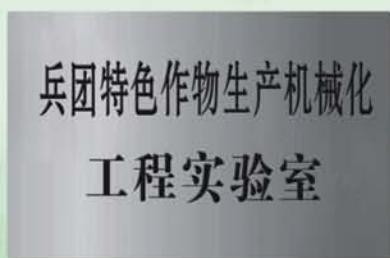
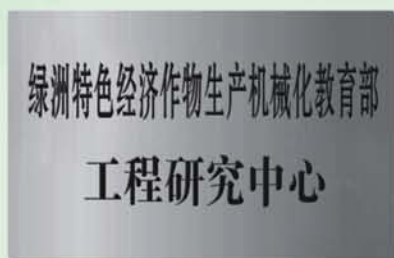
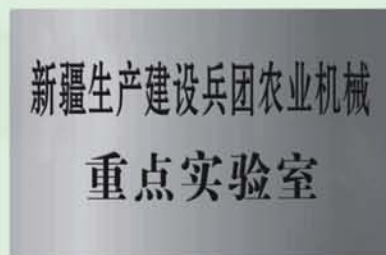


Prof. Kan Za

Shihezi University obtained the qualification for conferring Master Degree on the subordinate discipline of Agricultural Water and Soil Engineering in 1990, and on the subordinate discipline of Agricultural Mechanization Engineering in 2000; In 2005 and 2011, Shihezi University obtained the qualification for conferring Master Degree and Doctoral Degree respectively on the first-level discipline of Agricultural Engineering. The subordinate disciplines of Agricultural Mechanization Engineering and Agricultural Water and Soil Engineering have been listed as the first batch of key disciplines in the Xinjiang Autonomous Region since 2003. The undergraduate major of Agricultural Mechanization and Automation at Shihezi University has been approved as a National Feature Specialty. In 2013 the major of Agricultural Water Conservancy Engineering was selected into a Plan for Educating and Training Outstanding Engineers of China by Ministry of Education. In 2015 the undergraduate major of Agricultural Water Conservancy Engineering at Shihezi University first obtained the professional certification of International Engineering Education that was currently unique in Xinjiang Region of China. In 2016 the doctoral program on Agricultural Engineering at Shihezi University passed the assessment of the Ministry of Education of China.

The following research centers and platforms have been currently set up in the field of the Agricultural Engineering Discipline at Shihezi University: National Research Center of Efficient Irrigation Engineering and Technology(Xinjiang), National-Local Joint Engineering Laboratory of Machinery and Equipment for Feature Crop Production, Key Laboratory of Northwest Agricultural Equipment of Ministry of Agriculture, Engineering Research Center of Oasis Agricultural Engineering and Information Technology of Ministry of Education, Key Engineering Laboratory of Feature Crop Production Mechanization of the Xinjiang Production and Construction Corps, Key Laboratory of Modern Water Saving Irrigation of the Xinjiang Production and Construction Corps, and Engineering and Technology Research Center of Materials and Chemical Engineering of Xinjiang Production and Construction Corps.

Oasis irrigation agriculture has been formed under the special geographical and climatic environment of Xinjiang Region. After long-term agricultural development and construction promoted by Xinjiang local government and the Xinjiang Production and Construction Corps, a large-scale and modernized agriculture management pattern has been formed, which improved the development of agricultural machinery in an intelligent and large-scale direction. The mismatching of water and soil resources has promoted the development of water-saving technologies, especially the drip irrigation technology under mulch film has become a landmark leading the development of domestic irrigated agriculture.



Laboratories and Research Team of the Key Disciplines of Agricultural Water and Soil Engineering at Shihezi University

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Research Directions of the Agricultural Engineering Discipline at Shihezi University

Agricultural Mechanization Engineering Discipline:

This discipline closely combines the regional characteristics of large-scale oasis agricultural production in Xinjiang, and researches focus on the modern special cash crop production in Xinjiang, the key technologies and equipment for whole-process mechanization, technology and equipment, agricultural products processing, quality and safety inspection, and modern animal husbandry engineering. The research team of this discipline has made a lot of scientific research achievements with significant regional characteristics, such as precision plastic film mulch planter, self-propelled tomato harvester, self-propelled red jujube harvester, self-propelled pepper harvester, nondestructive detecting technologies and equipment for tomatoes and other agricultural products, supporting facility and equipment for scaled farms, etc., and promotes the applications of practical solutions to the bottlenecks in oasis agricultural production.



Agricultural Soil and Water Engineering Discipline:

This discipline aims at the sustainable development of soil and water resources in oasis agriculture in arid areas of Xinjiang. According to the characteristics of local arid climate, large demand of agricultural irrigation water, serious soil salinization and ecologically fragile soil, the research team of this discipline carries out the researches on water-saving irrigation theory and technology application, rational allocation of water resources and improvement of soil salinization, and has made a number of special research achievements such as high efficiency planting modes of drip irrigation under plastic film mulch, long-term comprehensive regulation of water and salt under film mulch drip irrigation, coordinated regulation of

reservoir group in irrigation district, co-regulation mode of underground pipe drainage by water saving irrigation, ecological and efficient water use technology in the oasis-desert areas, and provides supports for the local economic development and ecological stability.

Agricultural Electrification and Automation Discipline:

The research team of this discipline focuses on the researches of intelligent agricultural equipment and agricultural information technology, and has made outstanding achievements, especially in the precision sowing and monitoring, soil testing and fertilization, drip irrigation monitoring, spatial information service system based on 3S technology, crop area and growth monitoring with remote sensing, cotton crop yield prediction and field data acquisition, as well as agricultural intelligent navigation technology and system, which has formed a certain discipline characteristics and advantages.



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