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### • Education Background:

2003.09-2008.12, Doctor of Engineering. Northwest A&F University, Agricultural mechanization engineering;

1999.09-2003.07, Bachelor of Engineering. Ningxia University, Agricultural Mechanization and Automation.

## • Working Experiences:

2008.12-present, Served as a lecturer, associate professor, and professor successively. College of Mechanical and Electronic Engineering, Northwest A&F University.

2009.03- present, Served as the secretary of the discipline, assistant to the dean, and deputy dean successively. College of Mechanical and Electronic Engineering, Northwest A&F University.

#### • Research Interests:

Soil machine interaction relationship.

Modern agricultural equipment and technology.

Agricultural mechanization development planning.

#### • Professional Activities:

Author of more than 50 publications, including 6 educational and methodological publications, more than 8 courses of lectures, published 32 high-quality research articles and obtained 21 patents, participated in the compilation of 3 monograph.



# Research and prospect of high speed precision seeding technology and equipment

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**Abstract:** [Objective] Insufficient arable land and low levels of crop yields have become constraints to agricultural mechanised production. The implementation and promotion of high-speed precision seeding technology is a necessary means to improve crop yields, increase production efficiency, reduce production costs, as well as ensure food security and economic development. [Method] The report briefly reviewed the current status of the development of high-speed precision seeding technology and the level of research on equipment in China. The research process of different types of high-speed precision seeding equipment was summarized. Based on the key technologies in this field, the scientific problems and difficulties in the development of high-speed precision seeding equipment under the current planting mode and environment were introduced. According to the agronomy requirements of crop species, focus on the main principles and core technologies of different types of high -speed precision seeding equipment such as anti-blocking device, seeding device, seed guide device, profiling mechanism, and covering the soil suppression device in domestic and foreign research, as well as the representative research results and frontier progress in this field were mainly described. **Result** Summarized the current research status of the development of highspeed precision seeding technology and equipment. **[Conclusion]** Based on the technical characteristics of high-speed precision seeding equipment and the actual needs of agricultural mechanization in different regions, the research direction and development plan of high-speed precision seeding technology in the future were put forward, hoping to provide reference for scientific and technological workers in this field.

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