

1. Record Nr.	UNINA9910987694903321
Titolo	New Technologies Applied in Gobi Desert Facility Agriculture : Sensing and Autonomous Techniques // edited by Can Hu, Long Wang, Jianfei Xing, Xufeng Wang, Zhao Zhang
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	981-9610-31-1
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (VIII, 284 p. 168 illus., 131 illus. in color.)
Collana	Smart Agriculture, , 2731-3484 ; ; 11
Disciplina	629.892
Soggetti	Robotics Mechatronics Automation Robotic Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Current status of research on automated operation of desert and Gobi facilities -- Study on the Cultivation Model of Yellow Sand Substrate in Desert Gobi -- Design and experiment of a self-propelled trenching and film covering machine for desert and desert yellow sand substrate -- Research on intelligent identification and transplantation technology of Gobi Desert caved seedlings -- Design and experiment of intelligent transplantation device for Gobi Desert Cave Seedlings -- Research on water and fertilizer demand model for fruits and vegetables in Desert Gobi facilities -- Design and optimization of intelligent water and fertilizer integration system for Desert and Gobi facilities -- Study on spray agent model for Gobi Desert facilities -- Design and experiment of intelligent spraying machine for Gobi Desert facilities -- Research on the mechanized operation mode of the whole process of facility agriculture in Gobi Desert -- Apple harvest robot review for Gobi Desert orchards.
Sommario/riassunto	This book adopts a cultivation technique using yellow sand substrate in the desert, making agricultural production possible. In Gobi Desert around the world, it is usually not suitable for agricultural production. However, through solar greenhouse facility technology, agricultural

production can be achieved in the Gobi Desert. Due to labor shortage, coupled with high labor cost, facility mechanization plays an important role in Gobi Desert agricultural production. Currently, there is no book describing the mechanization technology progress in Gobi Desert production. This book provides researchers, especially graduates, tips for Gobi Desert facility agriculture and agricultural production terms of self-propelled trenching and film covering machine, seedling transplanting machinery, water and fertilizer integration system, and spraying mechanisms. All these very innovative technologies have been developed, and some have been commercially applied for Gobi Desert agricultural production. This book will benefit researchers, especially the newbies by providing cutting-edge knowledge, for those who are interested in facility agricultural, especially in Gobi Desert production mechanization.
