

1. Record Nr.	UNINA9910743274003321
Titolo	Robots and Autonomous Machines for Agriculture Production
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2023
Descrizione fisica	1 online resource (520 p.)
Soggetti	History of engineering & technology Technology: general issues
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Global population growth, population aging, declining labor force levels, and rising production costs pose more challenges to agricultural production. In recent years, due to the improved performance of artificial intelligence, precision agriculture, and advanced control, they have been widely used in various agricultural applications, including management, disease detection, crop monitoring, yield estimation, and crop harvesting. Robotics and autonomous machines represent a high-level application of automation in agriculture, based on precise and resource-efficient approaches to sustainably achieve greater efficiency and quality in the production of agricultural products while reducing environmental impact. Reactive technologies based on agricultural robots and autonomous machines are separate but closely related fields covering the application of automated control and robotic platforms at all levels of agricultural production. In robotic or autonomous systems, agricultural sensing and control is particularly difficult due to the complexity of the environment in which agricultural production operates. The open robot system has good expansibility, versatility and flexible operation ability. The establishment of agricultural robot control system can guarantee the reliability and real-time control. A total of 26 papers are included that explores the various ways in which robotics and autonomous machines for agricultural production address general problems.

