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Guest editorial: Sustainable and intelligent precision agriculture

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Abstract

UMAN society has experienced three industrial revolutions from mechanization, and electricity to information automation. Every industrial revolution significantly alters the form of agricultural industry from labor-intensive farming, mechanized production, precision agriculture to large-scale finegrained industrial agriculture. However, the agricultural industry at current stage still faces many challenges, such as global food security, food safety, poverty reduction, and sustainable natural resource management. Now the fourth industrial revolution is ongoing, that is characterized by a fusion of emerging technologies such as Industry 4.0, Internet of Things, Cloud/Edge Computing, Big Data, Artificial Intelligence, and Blockchain. Correspondingly, the blueprint of sustainable and intelligent precision agriculture is expected to realize through applying these emerging technologies into agriculture, so that the issues of hunger, poverty, food security/safety could be eliminated. It is vital to everyone, every country, and the whole world. This motivates the guest editors to provide this Special Section for researchers from diverse interdisciplinary areas to present their latest achievements for a sustainable and intelligent precision agriculture.