



Special lecture

Smart Agricultural Development in Taiwan

Assoc. Prof. Dr. Pomin Li

Head of Department of Biomechatronics Engineering and Dean of Office of International Affairs
National Pingtung University of Science and Technology, Taiwan (R.O.C.)

In order to improve Taiwan's domestic food productivity, the government has introduced various policies and incentives in recent years such as raising the purchase price of rice, increasing the secure amount required for rice, encouraging fallow cultivation with replaced species, and so on. However, with less and less agricultural population, the improvement of food productivity must rely on the improvement of facilities and equipment used in the agricultural field. Precision agriculture is based on traditional agriculture and automatic technology with smart technologies for agricultural production management. It has built in the application of global positioning system (GPS), geographic information technology (GIS), computer control technology, experts and decision-making knowledge systems to achieve the positioning, quantification, and timing of agricultural production.

The development of agricultural production combined with smart control systems and Internet of Things technology can transform traditional agricultural machinery and equipment into smart agricultural machines. Through the automation and intelligentization of agricultural facilities and equipment, the field environment for agricultural production can be improved. It can increase grain production as well as improving the quality of production. However, the farmers in Taiwan still use traditional technologies and are relatively unfamiliar with the use of intelligent agricultural machinery for innovative technologies. Therefore, through the development of agricultural facility and smart agricultural machinery, the concept of specialized technologies such as remote automatic control, signal processing technology, system wafers, and artificial intelligence are introduced to promote the integration of smart agricultural machinery in the practice of technology in agricultural facilities, traditional agricultural production, and production and research applications. The goal is to create better business opportunities for the internationalization in the agricultural industry.

Keywords: Precision Agriculture, Agriculture Facilities, Smart Agriculture, Agriculture 4.0