

Promotion of Agricultural Mechanization and Automation

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The mechanization and automation of agriculture are direct pathways to increase the production efficiency and product quality, by reducing cost and labor demands while improving working environment. Since the 1990s, the government strategically introduced measures such as land preparation, transplanting, harvesting and drying for rice and other crops, with a result of achieving mechanization up to 98%. Automated-assisted techniques have also been developed and applied to the production of horticultural and special crops to enhance a better environment in farm management as well as the production and harvesting systems. The produce inspection and grading can also be conducted in a non-destructive and high-precision manner. Mature technology in automation processing and handling, data management, and biological applications are then extended to farmers, farmers' organizations, and manufacturers. This integrated agricultural system of mechanization, automation and information, may be applied effectively and competitively in large scale in the future.

In the fiscal year of 2011, the farmers purchased 3,020 sets of machine, selected from 10 types of newly developed machines, with government subsidies of 30- 40% of the purchase price. Among these are riding-type mower, vegetable and fruit electronic weight grader, integrated wash and grader, in door electric lifter, branch pulverizer, self-propelled orchard drill and self chain-exchanging boom sprayer. Loans of up to NT\$ 679 million were implemented to assist farmers in purchasing of farm machinery and automated systems.

Special measures such as issuing "Certification on Farm Machinery ", "Tax Exemption Coupon for Farm Fuels" and "Farm Vehicle License Plate" were carried out to assist farmers to reduce cost on farm motor fuels.

Additional R&D results are most significant in the development of Unmanned automatic sprayer in orchid, autonomous picking robot for greenhouse grown fruits vegetables, automatic sequential processing system for postharvest melon. And portable inspection system for internal quality of fruits is also developed to enable the *in-situ* measurements of the ripeness and internal quality of fruits in the fields or greenhouses.

(Data Source: Agriculture and Food Agency)

Date submitted: December 24, 2013

Reviewed, edited and uploaded: January 2, 2014