Toward the realization of Smart Agriculture in Japan

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The entire process in the food value chain is made ‘smart’ by utilizing AI and ‘WAGRI,’ the Agricultural Data Collaboration Platform.

Productivity optimization, total costs cut, food waste reduction, high value adding and technology matching are anticipated.
SIP is a Cross-ministerial project which Minister of State for Science and Technology Policy and the Prime Minister takes leadership.

- Labor efficiency is 160% by use of two robot tractors.
- Combined use of these four ICT agri-machines resulted in a 45% increase in one farmer’s income through farm-size expansion.†

- Automatic & remote water management system reduces working hours by 80%.

† In the case of the field trials in Chiba.
An Example of Smart Agriculture in Paddy: Realization of Labor-saving by precision farming

- Sensing by drone
- Plant growth mapping
- Combine harvester with yield monitoring
- Yield mapping

Map-based variable rate fertilization according to growth

- Map-based variable rate fertilization resulted in the increase of productivity by 10% (400kg/ha) and the decrease of nitrogen applied per yield by 22% in one instance.

Map-based variable rate fertilization according to yield
In Japan, various automated agri-machines have been put on the market and are being introduced into agricultural fields gradually.
Automated agri-machinery test

◆ Publication of Certified Machines (as of Dec. 2021)
  ▪ Auto-steering agri-machinery test: 38 types for 3 kinds of machines
  ▪ Autonomous agri-machinery test: 3 types for 2 kinds of machines
  ▪ If the machine passes the optional test, the machine will be able to indicate “Two Stars”.

◆ IAM will continue to revise the test based on the results of the MAFF’s trial project for introducing automated agri-machinery.
Thank you for your attention!