Organized Session 20

Development of Data-Driven Agricultural Technologies that Contribute to Increase Profits for Agricultural Business through Improving Productivity and Efficiency of Distribution

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Concept of Organized Session

Data-driven agriculture technology is expected to contribute to efficiency gains such as labor savings and reduction of food loss, as well as to price negotiations in the market by improving the value of agricultural products. Furthermore, the development of data-driven agriculture technologies is expected to create new business opportunities and make a significant contribution to food security. National Agriculture and Food Research Organization (NARO) has been working on the development of fundamental technologies under the research program of “Technologies for Smart Bio-industry and Agriculture” in the second phase of Cross-ministerial Strategic Innovation Promotion Program (SIP) of the Cabinet Office, since 2018 as part of a five-year plan. Under this research project, we have developed the intelligent agricultural machinery, such as robot tractor and its advanced operation, and highly accurate harvest timing and yield prediction based on mesh weather data providing through the data platform named WAGRI. These developed technologies have been verified to be highly effective in actual fields and to improve the profitability of agricultural business. In this session, an overview of these research achievement will be presented.

**Keywords:** Data-driven agriculture, intelligent agricultural machinery, harvest prediction, robot tractor, Cross-ministerial Strategic Innovation Promotion Program (SIP)