

ENGINEERING FOR AGRICULTURE PROVIDING GLOBAL FOOD SECURITY

Session Organizers:

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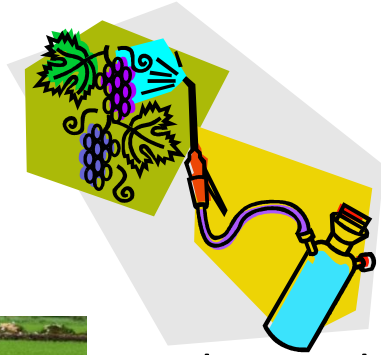
Engineering for Agriculture



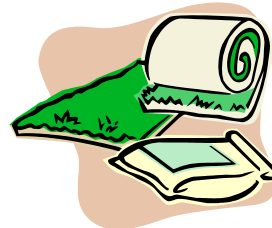
Breeding



Plant physiology



Chemical



Fertilizer



Irrigation



Machinery



Food processing

and so on.

It includes wide area of Engineering!

Crop varieties and cultivation technology are connected to the unique natural environment of different countries.

What engineers need to do?

Farming techniques have been developed and have supported growing world populations.

Recently, agricultural sustainability attracts global attention for several reasons.

- The threat of Climate change
- Increasing food prices



Stable production

Low cost

Energy and material conservation

Environment conservation

- Need of food safety
- Need for improving food quality and variety



Assuring safety and quality

Guidelines or standards for food

Variety of foods in all seasons

Minimizing food losses

Challenges

Engineering solutions in

- Developed and developing countries
- Urban and rural area
- Consumer and Producer

Panel discussion

- Engineering for sustainable agricultural production in developed and developing countries
- Engineering for food safety and quality

ENGINEERING FOR AGRICULTURE

1. Applications of Precision Agriculture in Rural Communities

Dr. Amy Kaleita, Associate Professor, Iowa State University

2. Construction of “eneturism” which tourist bring leftover food to methane fermentation using hot spring.

Dr. Chika Tada, Associate Professor, Tohoku University

3. Engineering CEA Systems for a Sustainable Future: Status, Challenges and Opportunities

Dr. Murat Kacira, Associate Professor, University of Arizona

4. Development of Technique for Estimation of Geographical Origin of Food Using Stable Isotope and Trace Element Analyses

Dr. Yaeko Suzuki, Researcher, National Food Research Institute, Japan

5. Food Safety and Quality Assurance of Food Products

Ms. Yoko Obayashi, Manager, Ajinomoto