

Cultivation and Utilization of Tropical Crops

Dr. Shin Yabuta

Specially Appointed Assistant Professor

E-mail shin.yabuta@setsunan.ac.jp

Keywords. Cultivation, Tropical crops, Cassava, Bio-char
Tolerant for environmental stress, Biomass resource



Research Outline

Background

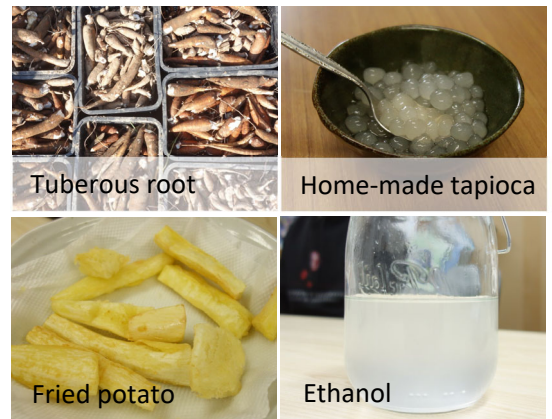
- Climate change and international instability are factors affecting global food production.
- Promotion of domestic food production, which is highly dependent on foreign countries, and production in oversea through technology transfer and collaborative research will contribute to the stabilization of food supplies and food diversification.

Objective

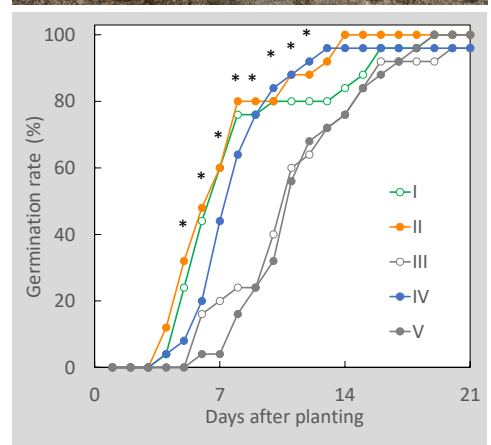
- Establishment of cultivation techniques to improve quantity and quality and expand cultivation area for domestic cassava production.
- Development of soil amendment using carbonatization technology for total utilization of biomass including crop residue.

Main Results

- Cassava cultivation methods consisting of stem preservation for new cropping, improving plant growth and optimization harvest timing were established.
- Seasonal change of the amylose/amylopectin ratio with tuber development was revealed.
- Bio-char of sunflower and jatropha residue can be used as an alternative to chemical fertilizers.



Varietal usage of cassava



Improving initial growth of cassava by pre-transplant treatment.

Treatment I, II and IV showed quick germination compared with treatment III and V(control).

Prospects for Collaboration

【With Local Agriculture】

Expansion of cassava cultivation to a larger area by using fostered knowledge about it.

【With Scientific communication】

Contribution to solving local problem in oversea production regions and human exchanges through efforts in Japan and there.



Appeal Point

I would like to contribute to utilization of varietal tropical crops such as, cassava, sugarcane, NERICA, sweet potato, chili pepper, jatropha and pineapple.