

# Research Introduction



Faculty of Agriculture, Yamagata University

## Title: Why are local varieties of crops important for our life?

### Contents:

#### 1. Re-evaluation of localized crops traditionally used in Japan

Japan has wide varieties of climates including tropical zone and subarctic zone over the area of ca. 2,800 km long from south to north. There are more than one thousand characteristic local varieties of vegetables, cereals, fruits, etc. in various area of Japan.

Most of them, however, have come to have no economic value after 1960's, from when the age of mass production, mass distribution and mass consumption started. Therefore, it is difficult to success traditional crops and knowledge of their use to maximize natural conditions over generations. And fewer growers are almost aged over 70 years old.

Then, we should re-evaluate their local varieties and find new values from a broader perspective such as genetic resources for breeding, educational resources for area culture and history, regional resources for promoting community activities and local economic development, in order to conserve local varieties and their culture of usage, and inherit them to next generation.

#### 2. Why have many turnip (*Brassica rapa*) been inherited in Yamagata pref.?



Turnip was important hedge for surviving during winter, especially cold-summer famine.

Turnip can grow in cold temperature in a short period time, people can get leaf vegetable one month after sowing, and turnip two month after. Then, yamagata people may have used turnips as hedge for surviving.



Traditional pickle and soup of turnip



The book of "Yasai" (local vegetables in Japan) (Aoba, T., 1981) "Local vegetable varieties are live cultural property. They have two aspects: one is material being as food. Another aspect is cultural medium to convey information about a putative route of propagation from origin, its climate and interaction with people etc" - --the late Prof.Dr.Takashi Aoba

### 3. Re-evaluation of traditional farming. Especially, slash-and-burn agriculture in Tsuruoka



To prevent mountain fire, fire is often lit midnight (ex. 3:00).

- easy to confirm the direction of sparks flying .
- Wind dies down.
- Morning dew will appear just before sunrise.



The fire in an arching line prevents mountain fire.

Merits:

1. Eliminating the need for fertilizer.
2. Eliminating the need for pesticides and herbicides.
3. Increasing in quality of eating and appearance?
4. Making it possible to level land quickly for next tree planting after deforestation
5. Promoting germination of crop seeds by breaking dormancy after heat
6. Making beautiful landscapes.



## Hope For The Future

### 1. Creation of database for local varieties in Japan

Database has agricultural and eating-related traits, origin, traditional usage, current conditions, etc.

2. Revealing the reason why the local variety is cultivated and utilized in the area from the viewpoints of climate and geographic condition, regional preference, history of exchanging culture, etc.

3. Thinking about how to conserve diversity of local varieties and how to use them on the current value.

Belongings: Plant and Bioresource Science Course

Research Field: Plant Genetic Resources Science

Self Introduction: My favorites are reading, traveling, taking photoes, eating local foods.

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