

## Research Topics

### Introduction

- Temperate deciduous fruit trees cannot bloom without some amount of chilling in winter. It is quite important to estimate the chilling requirements in fruit production.
- Diversification of fruit tree traits can be established by interspecific crossing, but there are plant group-specific mechanisms of reproductive isolation.

### Purpose

- Numerization of the temperature requirements for fruit tree blooming and evaluation the effects of global warming.
- Breeding new varieties of *Prunus* fruit trees (ume, plum, etc.) by effective utilization of interspecific crossing.

### Major Achievements

- Construction of a blooming time prediction model of *P. mume* based on the temperature requirements
- Identification of genetic regions controlling the temperature requirements in *P. mume* buds
- Evaluation of interspecific (incl. inter-subgeneric) cross-compatibilities between *Prunus* fruit tree species

## Prospects for collaboration

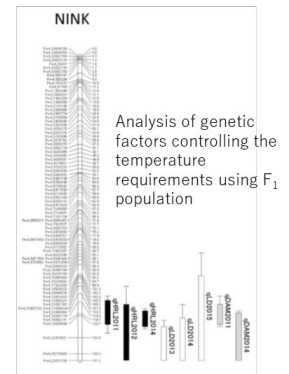
### [Agriculture, food industry]

**Areas:** Vulnerable to climate changes in the future  
Willing to introduce new crops for promotion of the production sites

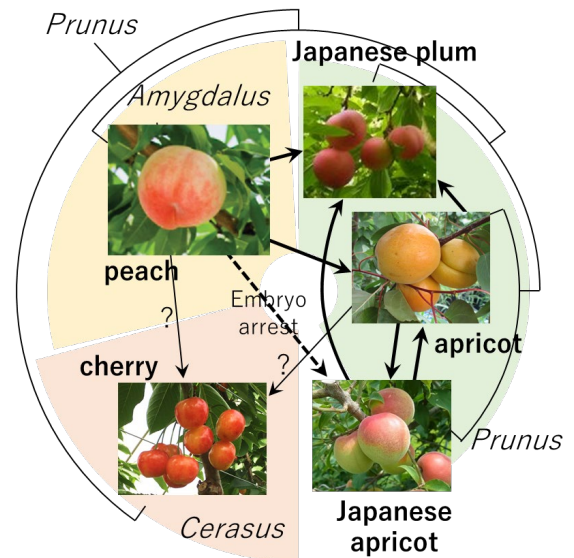
**Collaborators:** Agricultural producers, public research centers, distributors, and food processing companies

### [Scientific communication]

Contribution of basic science like molecular biology for practical crop production is to be shown clearly.



The candidates of genetic factors controlling the temperature requirements for blooming and leafing date in *Prunus mume*



Interspecific (inter-subgeneric) cross-compatibilities in *Prunus* fruit trees (stone fruits)



## Message

Fruit trees, which are perennial crops, require long time to be grown, but have big possibilities as local specialties. I would like to support local promotion based on scientific knowledge.