

Genetic Resources of Indigenous *Citrus* Species at Kinki University®

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From ancient times *Citrus* species have been used as fresh fruits, medicines, and ornamentals in Japan. Tachibana and cherry trees have been planted in the old Imperial Palace as the holy trees. *Citrus* is one of the most important fruit trees in the world and is cultivated in temperate, subtropical, and tropical areas.

Although the origin and time of introduction is unclear, we have many old species such as tachibana (*C. tachibana*), shekwasha (*C. depressa*), daidai (*C. aurantium*), yuzu (*C. junos*), and kabosu, koji to name some. Kishu-mikan (*C. kinokuni*) is one of the earliest species introduced into Japan, where it was the most popular species because of its pleasant flavor and rich fragrance during Edo era. But, Kishu-mikan was replaced by Satsuma mandarin during those 200 years. Satsuma mandarin (*C. unshiu*) originated in Kagoshima prefecture, southern part of Kyushu Island, and has been the leading type in modern Japanese citrus industry. It produces high quality fruits without seeds in the climate condition in Japan. More than 200 cultivars have been obtained by bud mutation and breeding programs. In addition, some species of *Citrus* originated in Japan such as natsudaidai (*C. natsudaidai*), hassaku (*C. hassaku*), Iyo-kan (*C. iyo*), hyuganatsu (*C. tamurana*), sanboukan (*C. sulcata*), and some pummelo cultivars.

Trifoliolate orange (*Poncirus trifoliata*) was introduced into Japan in ancient time and has been used as a rootstock for *Citrus* cultivars. Kumquat (*Fortunella* sp.) has been used for ornamental and medicinal usages.

About 180 species and cultivars of the indigenous *Citrus* are maintained in the germplasm collection at the Experiment Orchard of Kinki University. These materials are used for taxonomic studies and in pursuit of the origin.

Indigenous species are compatible to the climate condition and grow vigorously with fewer chemicals. We can expect medicinal and ornamental uses with these indigenous materials. We want to share the information on *Citrus* species and cultivars indigenous to Japan.