<Address>

OKansai Regional Breeding Office : 1043 Uetsukinaka, Sho-oh, Katsuta, Okayama
TEL 0868-38-5138　FAX 0868-38-5139
Access : 3.7km north from Katsumata Sta. on the JR West Kishin line (10 min. by taxi)
2.5km north from Chugoku-Katsumata bus stop on the Chugoku Highway Bus (8 min. by taxi)

OSan'in Breeding Stock Garden : 406 Honomi, Chizu, Yazu, Tottori

OShikoku Breeding Stock Garden : 417-1 Kuzume, Tosa-Yamada, Kami, Kochi
TEL 0887-43-2471　FAX 0887-53-2653
Access : 2.2km east from Tosa-Yamada Sta. on the JR Shikoku West Dosan line (6 min. by taxi)

<History>

Apr. 1958　Kansai Forest Tree Breeding Station (KFTBS) was established as part of the Forest Experiment Station in the Ministry of Agriculture and Forestry.
Apr. 1959　KFTBS became affiliated to the Forestry Agency. KFTBS San'in Branch Office was created.
Apr. 1960　KFTBS Shikoku Branch Office was created.
Apr. 1978　Breeding Laboratory was created in KFTBS.
Oct. 1991　KFTBS and other national breeding stations were unified as Forest Tree Breeding Center (FTBC). KFTBS was renamed as Kansai Regional Breeding Office (KRBO).
Apr. 2001　FTBC KRBO became an incorporated administrative agency. San'in and Shikoku Branch Offices were reorganized as Breeding Stock Gardens.
Apr. 2007　FTBC KRBO became affiliated to the Forestry and Forest Products Research Institute (FFPRI).
Apr. 2015　FFPRI FTBC KRBO became a national research and development agency.
Apr. 2017　FFPRI FTBC KRBO was reorganized into the Forestry Research and Management Organization.

<Our Work>

Our primary mission is to create and diffuse superior seedlings of trees for forestry. To achieve the goal, we select/collect plus trees with better growth, wood quality, resistance and other traits. In addition, we collect and preserve various genetic resources of forest trees to be used for the breeding. We also promote diffusion of superior varieties through distribution of foundation stock and technical training for production of seeds, clonal saplings, etc., to people engaged in forestry.

<Coverage Territory>

OKansai Breeding Region: 19 prefectures (15 pref. in Hokuriku, Kinki, Chugoku and 4 pref. in Shikoku)
O6 Breeding Districts: East Japan Sea Coast, West Japan Sea Coast, Kinki, Seto Inland Sea, North Shikoku, South Shikoku
OForest Area: 678 mil. ha (65 mil. ha is national, 613 mil. ha is non-national), 27% of total forest in Japan

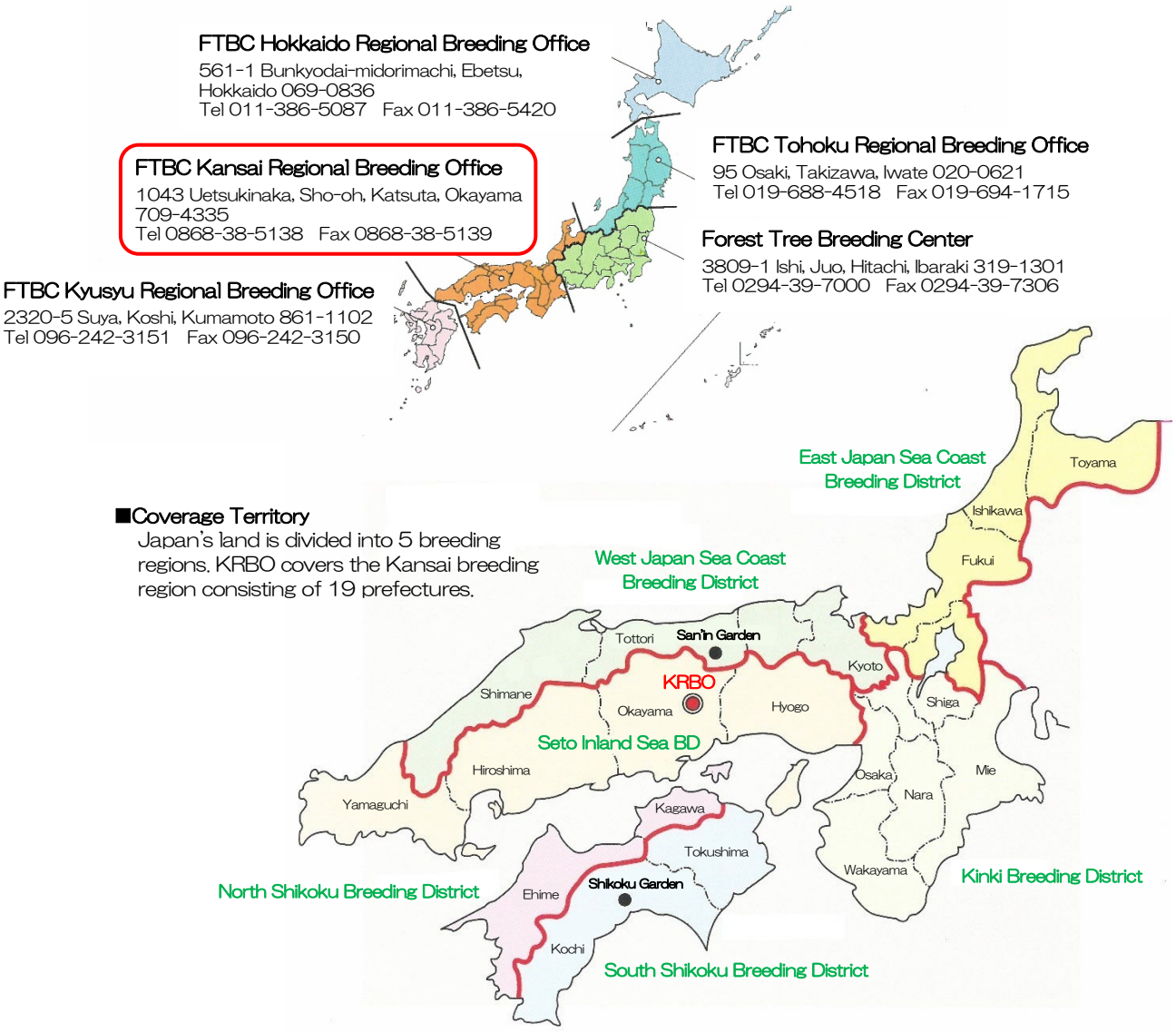
FTBC Hokkaido Regional Breeding Office
561-1 Bunkyodai-midorimachi, Ebetsu,
Hokkaido 069-0836
Tel 011-386-5087 Fax 011-386-5420

FTBC Kansai Regional Breeding Office
1043 Uetsukinaka, Sho-oh, Katsuta, Okayama
709-4335
Tel 0868-38-5138 Fax 0868-38-5139

FTBC Tohoku Regional Breeding Office
95 Osaki, Takizawa, Iwate 020-0621
Tel 019-688-4518 Fax 019-694-1715

Forest Tree Breeding Center
3809-1 Ishi, Juo, Hitachi, Ibaraki 319-1301
Tel 0294-39-7000 Fax 0294-39-7306

FTBC Kyusyu Regional Breeding Office
2320-5 Suya, Koshi, Kumamoto 861-1102
Tel 096-242-3151 Fax 096-242-3150



■Coverage Territory
Japan's land is divided into 5 breeding regions. KRBO covers the Kansai breeding region consisting of 19 prefectures.

<Organization>

Director General

OLiaison and Coordination Division
- Planning, communication and coordination with relevant organizations for breeding projects
- Management of the office, accounting and other general affairs

OBreeding Division/Breeding Laboratory
- Research on breeding and propagation of forest trees
- Research and exploration of forest tree genetic resources

OGenetic Resources Management Division/San'in and Shikoku Breeding Stock Garden
- Collection, propagation and preservation of forest tree genetic resources
- Production and distribution of developed varieties and clonal saplings to be preserved
- Establishment and management of tree banks and seed orchards and scion gardens
- Management of San'in/Shikoku Stock Gardens, conservation gardens, crossing gardens, foundation stock gardens, examination gardens, etc.

OBreeding Technical Officer
- Training for techniques concerning forest tree breeding

<Development of Superior Varieties>

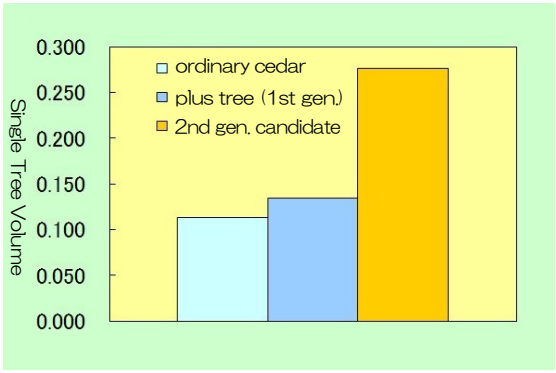
Almost all of seedlings of Japanese cedar (sugi) and Japanese cypress (hinoki) currently distributed are produced from seed orchards of the first generation plus trees, which are those trees selected with superior traits as growth rate. For further improvement of the seedlings, KRBO is selecting and conserving candidate clones for advanced generation from the second generation plus trees in collaboration with relevant organizations.

(Specified Mother Tree (SMT))

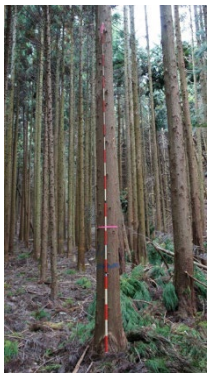
The Act on Special Measures concerning Advancement of Implementation of Forest Thinning, etc. (revised in May 2013 and extended in April 2021) stipulates that the Minister of Agriculture, Forestry and Fisheries designates varieties of cedar and cypress which show particularly outstanding traits as growth and produce about less than half of pollens than ordinary ones as "Specified Mother Trees" and promotes their diffusion. In accordance with the law, KRBO applies for registration of our varieties that meet the criteria and distributes the foundation stock of Specified Mother Trees to prefectures and other entities*. So far, 56 varieties of cedar and 41 varieties of cypress developed at KRBO are designated as SMTs.

* "Entities" refers to the proprietors that are licensed by prefectures according to the Forest Thinning etc. Act (revision in 2013).

A candidate cypress for 2nd generation



Comparison of single tree volumes among ordinary cedar, 1st generation plus trees and candidates for 2nd generation plus trees



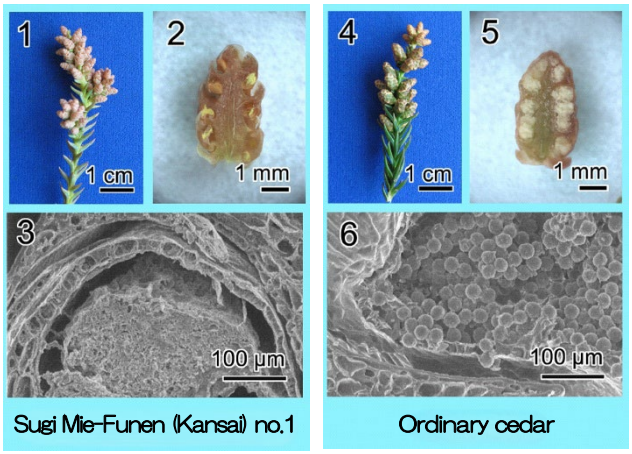
SMT of cedar

SMT of cypress

(Less-Pollen and Pollen-Free Varieties)

KRBO is developing less-pollen (bearing no observable male flower or only a few of them) varieties of cedar and cypress selected from plus trees in collaboration with prefectures. Moreover, we found a variety of cedar which bears male flowers but produces no pollen (i.e. male-sterilized) and registered it as "Sugi Mie-Funen (Kansai) no.1" in 2007. We are currently proceeding with the development of better pollen-free varieties by artificial crossing of the "Mie-Funen" with plus trees. In 2023, we developed three pollen-free varieties, which are our first outcomes made by artificial crossing at KRBO.

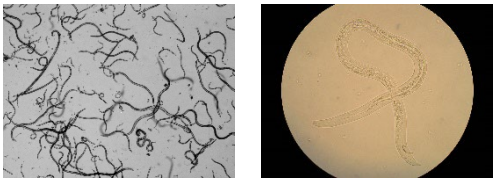
Less-pollen variety of cedar　　Ordinary cedar



Male strobili of cedar (1, 4)
Longitudinal section of male strobilus (2, 5)
Electron micrographs of microsporangium (3, 6)

(PWN (Pine Wood Nematode) Resistant Varieties)

Pine wood nematodes are 1 mm-long eelworms that are vectored by a certain kind of longhorn beetles and cause pine wilt disease. KRBO is developing PWN resistant varieties of Japanese red pine and Japanese black pine based on artificial PWN inoculation tests in collaboration with prefectures.



Pine wood nematodes

(Other Varieties)

In addition to the varieties mentioned above, we are developing cedar and cypress varieties with high carbon fixation ability, cedar varieties that grow rapidly at early stage and cedar varieties with superior wood quality.

<Collection and Preservation of Forest Tree Genetic Resources>

(Forest Tree Gene Bank Program)

In order to maintain and hand down the diverse forest resources to future generations, as well as to make use of them for breeding, KRBO collects and preserves valuable genetic resources of trees such as those designated as natural treasures, endangered tree species and giant trees. We also distribute the resources for research use.

("Emergency Call for Tree Gene Bank" Service)

As part of the Forest Tree Gene Bank Program, we grow clonal saplings of valuable trees in decline upon requests from their owners. The saplings are propagated and returned to their original sites. This service has been continuing since 2003.

Collecting scions from a chinaberry tree

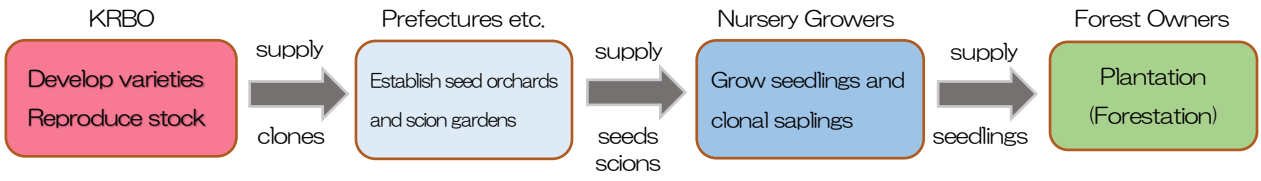
Grafting a gingko tree

Returning clonal saplings of the "Maple of Kyorinbo Temple" (Oct. 30, 2023 in Shiga)

<Diffusion of Superior Varieties>

(Distribution of Foundation Stock)

Clones of the varieties (including Specified Mother Trees) developed at KRBO are preserved as foundation stock on our premises. Upon requests for distribution from prefectures and other entities in the Kansai breeding region, we propagate clonal saplings from scions collected from the stock. Distributed clonal saplings are used to establish seed orchards or scion gardens. Seeds and scions produced in these orchards and gardens are raised to seedlings by private nursery growers, then supplied to forest owners.



Foundation stock garden of cedar at KRBO

Foundation stock garden of cedar at Shikoku Garden

Cedar sapling for distribution

<Technical Training for Production of Seeds, Scions and Saplings>

To promote the use of our varieties, KRBO offers technical lectures and on-the-spot training to people dealing with bred varieties. The training involves techniques to produce seeds, scions, clonal saplings, etc.

Lecture on grafting of cypress

Training on pruning management of cypress seed orchard

(Apr. 2025)