

FOREST EXPERIMENT STATION

Established: 1905

Location: 37-21, Shimomeguro 5-chome, Meguro-ku, Tokyo

Director: Hideo TAKEHARA

Total Number of Employees: 804 (Research personnel: 509)

Outline of Work:

The Forest Experiment Station carries out researches with the aim of (1) providing the nation's forest and range administration with necessary scientific information vital at this time of rapid industrial growth and social modernization and (2) contributing to the improvement of forestry and forest products techniques. Thus, the field of research covers a wide complicated range from basic to applied sciences. Extensive researches are now under way on the following major subjects which are the current requirements of forest policy:

- 1) Increase in gross forest production;
- 2) Elevation of forest productivity;
- 3) Rationalization of wood utilization;
- 4) Conservation of national land.

Recent Principal Research Findings:

Prevention of noise and vibration of forest machineries.

Use of building timber as structural members.

Prevention of death of pines caused by pine bark beetles.

Integrated technique to establish, manage and utilize grassland on mountain slopes.

Growth regulation of crops with chemical substances.

Establishment of performance testing at early stage in breeding perennial woody crops.

Method of estimating damages of farm and forest crops caused by air pollution.

Reforestation in heavy-snow areas.

Breeding for wood quality improvement.

Utilization development of tropical woods.

Control of shoot blight of larch.

Survey on equilibrium moisture contents.

Effects of forest on vegetation, soils and microbes.

Durability of boards (particle, fibre, etc.) and wood.

Establishment of rational quick culture techniques of forestation (with rapidly-growing species).

Reforestation in sub-alpine zones.

Management of natural forests.

Control method of forest in remote areas.

Erosion control planning by photogrammetry.

Publications:

Annual Report of the Government Forest Experiment Station. (In Japanese, annual)

Bulletin of the Government Forest Experiment Station. (In Japanese with English summary, or in English or other European language, 10-15 issues a year)

Explanatory Notes on Research Reports. (In Japanese, 10-15 issues a year)
Government Forest Experiment Station Newsletter. (In Japanese, monthly)

Organizational Structure and Main Research Themes:

- Administration Division (4 sections)
- Technical Coordination Division (3 sections)
- Forest Management Division (5 laboratories)—Forest management; Farm forest and range management; Forest economy; Mensuration; Photogrammetry.
- Forest Mechanization Division (5 laboratories)—Yarders and skyline cables; Mechanized planting.
- Silviculture Division (10 laboratories)—Seedling raising and forest regeneration; Forest tending and natural forest management; Germination promotion of forest tree seeds; Forest tree breeding by hybridization; Physiology of growth of forest trees; Physiology and ecology of root of forest trees.
- Forest Protection Division (7 laboratories)—Forest and nursery disease; Fungi and their chemical control; Control of defoliators and termites and their natural enemies; Wood borer; Control of field mice and hares; Wildlife management.
- Forest Influences Division (7 laboratories)—Erosion control and restoration in mountainous regions; Water source regulation; Function of protection forest; Prevention of forest damages; Forest climatology.
- Forest Products Chemistry Division (8 laboratories)—Polymer chemical properties of cellulose; Hemicellulose; Diffusion of gas, liquid, etc. in wood; Phenol manufacturing from lignin; Wood extractives; Pulp and fiberboard; Wood carbonization.
- Wood Technology Division (13 laboratories)—Physical properties of wood; Wood Mechanics; Wood anatomy and identification of wood; Relation between growth condition and wood quality; Saving techniques; Wood seasoning; Secondary wood working; Adhesiveness of wood materials; Wood preservation and fire-proofing of wood; Particleboard manufacturing.
- Forest Soil Division (6 laboratories)—Forest soil survey and classification; Chemical analysis of inorganic component of forest soil; Physical properties of soil; Geology and mineralogy of forest land; Nutrient absorption of forest trees and seedlings; Soil microbes, root nodules and mycorrhiza of forest trees.
- Director—Hokkaido Branch Station (11 laboratories) (Sapporo City, Hokkaido)—Regeneration of high altitude forest; Identification of crossbred species; Forest soils and tree growth; Stand composition and growth; Stock raising types in Hokkaido; Economical erosion control methods for interior forests; Forecast of mouse multiplication.
- Tohoku Branch Station (10 laboratories) (Morioka City, Iwate Prefecture)—Nursery techniques in cold, snowy districts; Forests tending; Important afforestation soils in Tohoku district; Composition and growth of stand; Farm forestry; Establishment of rational compound forest management techniques; Erosion control techniques for denudation prevention in cold infertile districts; Forest and nursery disease; Ecology and control of forest and nursery pests.

- Yamagata Sub-branch Station (2 laboratories) (Mamurogawa-cho, Yamagata Prefecture)—Afforestation in snowy districts; Function of snowslip and snowstorm prevention forest.
- Kansai Branch Station (6 laboratories) (Kyoto)—Composition and growth of stand; Afforestation techniques for sterile lands; Forest and nursery insect pest and disease; Forest soils and growth of trees; Economical erosion control techniques in arid and denuded mountain districts.
- Shikoku Branch Station (4 laboratories) (Kochi)—Composition and growth of stand; *Cryptomeria japonica* of Shikoku (*Yanase sugi*); Nursery soils and their fertility preservation; Forest and nursery insect pest, disease and wild animal damages.
- Kyushu Branch Station (8 laboratories) (Kumamoto)—Composition and growth of stand; Sylvics of warm-temperature zone species; Elements of forest tree breeding; Forest and nursery pest and disease; Black soils; Function of windbreak forest.
- Kiso Sub-branch Station (2 laboratories) (Fukushima-cho, Nagano Prefecture)—Improvement of sub-alpine zone trees species; Forest and nursery insect pest, disease and wild animal damages.
- Asakawa Experiment Forests (2 laboratories) (Hachioji, Tokyo)—Classification and distribution of trees; Biological control of harmful insect by virus.