

Miaoli District

Council of Agriculture, Executive Yuan
Agricultural Research and Extension Station

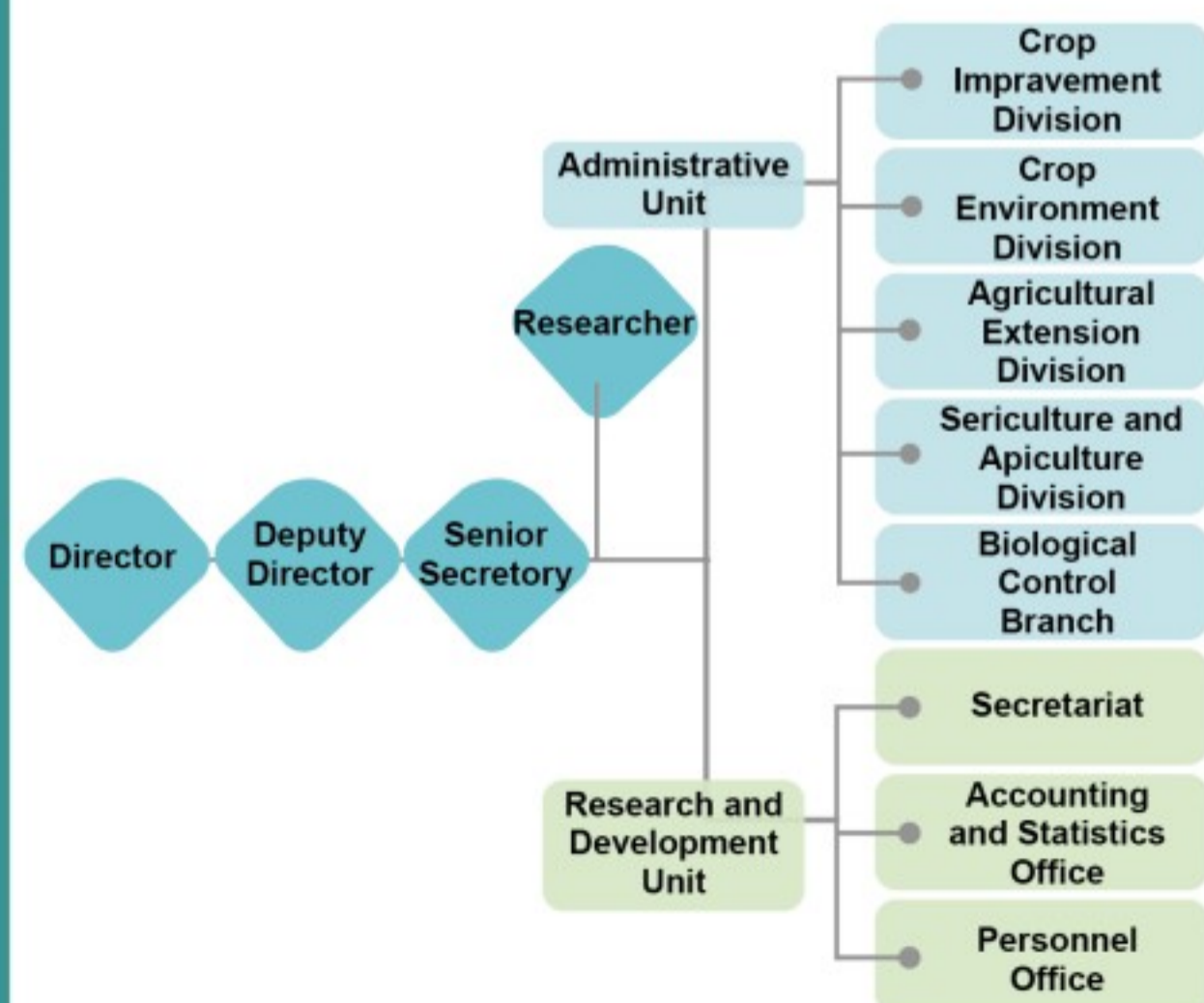


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Historical Sketch

The station was previously called Sericulture Improvement Station, which was originally established as the Mulberry Propagation Unit at Gong-Guan, Taipei City, by the Taiwan Governor-General's Office. This unit was then merged with the Silkworm Rearing Unit and renamed as the Taiwan Provincial Sericulture Experiment Station in 1949. In 1989, the Station was changed into the Sericulture and Apiculture Experiment Station to cover research regarding silkworms and honeybees. In 1997, this Station was further reorganized as the Miaoli District Agricultural Research and Extension Station to extend the scope of research activities, thereby including crop improvement and agricultural extension in the Miaoli area.

Organization and Staff



Introduction



The Station takes charge of the national research on sericulture, apiculture, biological control, and agricultural environmental education. Additionally, the station also conducts crop improvement, plant protection, soil fertilization, and farmer's counseling in the Miaoli area.

Mission

Based on its agricultural achievements, the station's standpoint is to be a guardian for Taiwan's sustainable, ecological and agricultural resources. We developed 5 strategies to become an agricultural research organization that incorporates science, ecology, education, humanities, and arts.



Future Perspectives



Official Website



Facebook



Youtube

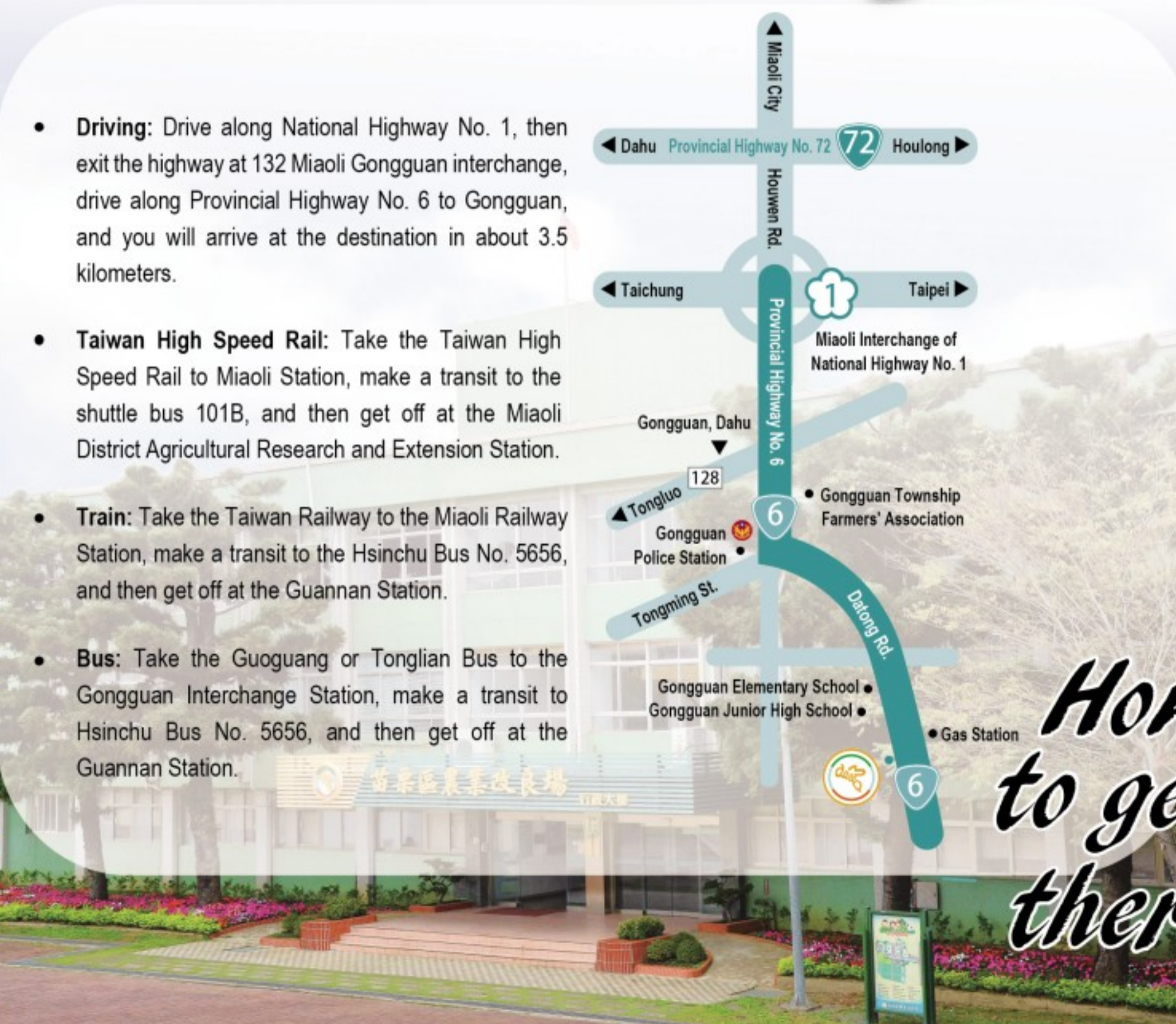
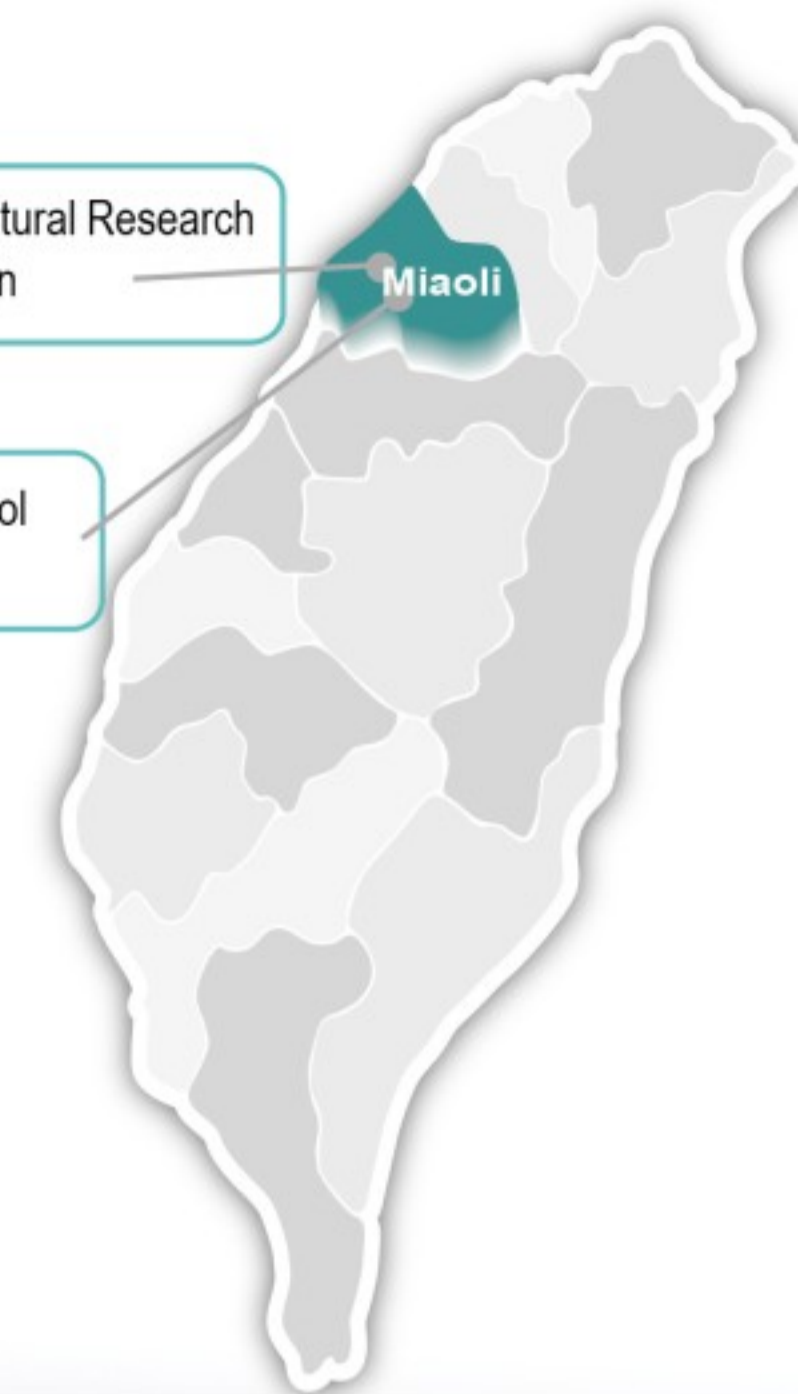
Location

Miaoli Gonggu-

Miaoli District Agricultural Research and Extension Station

Miaoli Dahu

Biological Control Branch



- Driving:** Drive along National Highway No. 1, then exit the highway at 132 Miaoli Gongguan interchange, drive along Provincial Highway No. 6 to Gongguan, and you will arrive at the destination in about 3.5 kilometers.
- Taiwan High Speed Rail:** Take the Taiwan High Speed Rail to Miaoli Station, make a transit to the shuttle bus 101B, and then get off at the Miaoli District Agricultural Research and Extension Station.
- Train:** Take the Taiwan Railway to the Miaoli Railway Station, make a transit to the Hsinchu Bus No. 5656, and then get off at the Guannan Station.
- Bus:** Take the Guoguang or Tonglian Bus to the Gongguan Interchange Station, make a transit to Hsinchu Bus No. 5656, and then get off at the Guannan Station.

How to get there

Innovative Research and Development

Mulberry

Totally mulberry lines of 238 are conserved in this station. With germplasm as the base, the leaf mulberry varieties "Taisang No. 1", "Taisang No. 2" and "Taisang No. 3", the fruit mulberry varieties "Miaoli No. 1" and "Miaoli No. 2" are bred. Diversified products such as high-GABA mulberry leaf tea, mulberry leaf fodder, and mulberry floss have also been developed.



Rice

The rice varieties "Miaoli No. 1" and "Miaoli No. 2" are bred. The station has also developed the "frameless seedling color-drawing technology" for paddy fields. An ecofriendly rice cultivation method that integrates the intelligent rice culture system that is currently being promoted for industrial application.



Emblica

The emblica (*Phyllanthus emblica* L.) varieties "Miaoli No. 1" and "Miaoli No. 2" are bred. The functional effects and related products of emblica are developed and evaluated for industrial purposes.



Strawberry

A new strawberry variety "Miaoli No. 1" (Lianxiang) has been bred. For easier cultivation, a high-branched planting technique was developed and promoted. A three-level propagation and rotation system for the seedling production was established and promoted for healthy strawberry seedling production.



Jelly fig

Jelly fig (*Ficus awkeotsang* Makino) lines of 115 are conserved in this station. It has developed jelly fig varieties "Miaoli No. 1" and "Miaoli No. 2". Additionally, it has promoted a flat-land labor-saving cultivation technique, and developed high value-added skin whitening products using embryo cells extracted from jelly fig seeds.



The station developed integrated diseases and pest management technology, as well as a technology for the molecular detection of anthracnose in strawberry. We also promote the diagnoses of diseases and pests, as well as provide consulting services for crops in the Miaoli area to support pesticide reduction.

Plant protection

The station promotes rational fertilization in the Miaoli area. Detection services for soil, plant, water, medium, and heavy metals are provided in this station. It also provides counseling on eco-friendly cropping, organic production, and safe agriculture. Additionally, it developed microbial fertilizers including the "Miaoli live bacteria No. 1" and "Miaoli live bacteria No. 2", which have been transferred to industrial application.

Soil fertilizer

The station develops and promotes liquid fermentation technology using straw decomposing bacteria, the reuse of agricultural resources such as straw and corn stalks, and the establishment of the mass production system for recycled products. Furthermore, we also consult farmers to establish a circular agricultural demonstration field to achieve circular agriculture.

Circular agriculture

Silkworm

We have conserved around 136 strains of silkworms in Taiwan. We have also been involved in developing various technologies for the mass production of animal vaccines using a silkworm bioreactor, artificial silkworm diet, and clean silkworms. We also focus on the preparation of special silk dressings for chronic wounds and the use of silkworm pupa as animal feed, and have also bred the new silkworm varieties Taichan No. 8, No. 9, No. 10, and No. 11.



Bees

We developed techniques for the construction of bee-friendly habitats and molecular diagnosis of bee viruses, materials for controlling varroa mites, and strategies for the integrated management of bee diseases and pests of honeybees. We promote the safe production of bee products via the Taiwan Good Agriculture Practice (TGAP), interactive beekeeping calendar, and beneficial service information system.



Parasitic natural enemies

We have developed technology for the mass production of *Anastatus formosana* and *Bactrocera dorsalis*, as well as their alternate hosts. The concept of controlling pests with pests can be applied in pest control. For example, *Anastatus formosana* has been demonstrated to be useful in industrial applications for controlling *Tessaratoma papillosa*.



Predatory natural enemies

We have conserved natural predators and enemies such as *Hierodula patellifera*, *Mallada basalis*, *Eocanthecona furcellata*, and *Orius strigicollis*, that are mainly used for the control of small pests such as Aphidoidea, Lepidoptera, Thrips, and white flies. We also collaborated with the National Taiwan University to establish an intelligent system for lacewing production (*Mallada basalis* (Walker)). We have established the mass production system and will assess the effect of its prototype.



Achievement

Highlights

We conduct the introductory, junior, and advanced agricultural training courses in the station. In addition, some specialized training courses are set up, such as beekeeping, strawberries, special crops, organic agriculture, biological control, and agricultural product processing.

Farmer's academy

The Taiwan Silkworm, and Honeybee Insect Education Park was established in 2001. It occupies a 5.5-hectare area and is equipped with many exhibition halls, including the Guide Service Center, Agricultural Exhibition Hall, Biological Industry Hall, and Taiwan Silkworm Museum. It provides the environmental education experience courses that attract more than 50,000 visitors each year. It has won the 4th National Environmental Education Award.

Environmental education

The 4th National Environment at Education Award

