

ICS 65.020
CCS B 60

LY

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

LY/T 3086.2-2019

**Technical regulation for ex situ conservation of wild plants with
extremely small populations**

**极小种群野生植物保护技术 第2部分：迁地保护技术规程
(English Translation)**

Issued on: October 23, 2019

Implemented on: April 1, 2020

Issued by: State Forestry and Grassland Administration

Table of Contents

Foreword	
1 Scope	
2 Normative references	
3 Terms and definitions	
3.1 Ex situ conservation	
3.2 Gene library	
3.3 Potential distribution area	
3.4 Microenvironment	
4.1 Basis for ex situ protection	
4.2 Principles of ex situ protection	
4.3 Objectives of ex situ conservation	
5 Places and methods for ex situ conservation of very small populations of wild plants	
5.1 Ex-situ conservation sites	
5.2 Relocation protection methods	
6 Establishment of relocation protection base	
6.1 Location selection	
6.2 Land preparation	
6.3 Nursery	
6.4 Seedling preparation	
6.5 Seedling transportation and quarantine	
6.6 Seedling planting	
6.7 Seedling Management	
7 Management of ex situ conservation of very small populations of wild plants	
7.1 Construction of species and habitat information database and archive management	
7.2 Relocation of small environment	
7.3 Pest and disease control	
7.4 Relocation protection monitoring	
8 Evaluation of ex situ conservation effects	
8.1 Short-term standards	
8.2 Long-term standards	

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is proposed by the Chinese Academy of Forestry.

This standard is under the jurisdiction of the State Forestry and Grassland Administration.

This standard was drafted. Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry, Beijing Forestry University.

1 Scope

This standard specifies the basis, principles and methods for ex situ conservation of wild plants with very small populations, base construction, habitat selection and suitability evaluation.

This standard applies to all kinds of extremely small populations of wild plants in China. The protection of other rare and endangered plants can be referred to.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 15776--2016 afforestation technical regulations GB/T 6001--85 technical regulations for seedling raising SN/T 1157--2014 Entry and exit plant nursery stock quarantine regulations LY/T 2651--2016 Technical regulations for restoration and reconstruction of degraded forest ecosystems LY/T 2244.1--2014 Technical guidelines for evaluating the effectiveness of conservation of nature reserves Part 1. Wild plant protection LY/T 1819--2009 Rare and Endangered Wild Plant Protection Community Technical Regulations

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Ex situ conservation

Protect extremely small populations of wild plants outside their native habitat.

3.2 Gene library

DNA fragments containing different genes of a certain organism are introduced into a population of recipient bacteria for storage, and each recipient bacteria contains Different genes.

3.3 Potential distribution area

Species are not yet distributed, but are suitable for all possible areas for their survival and reproduction.

3.4 Microenvironment

Adjacent environments that have a direct impact on living beings refer to specific habitats within a small area.

4 Basis, principles and objectives of ex situ conservation of very small populations of wild plants

4.1 Basis for ex situ protection

- (1) Severe degradation in situ;
- (2) The number of individuals is lower than the minimum viable population, and the population is difficult to maintain;
- (3) Sudden changes in living conditions face a serious survival crisis.

4.2 Principles of ex situ protection

- (1) Do not damage the native population and its habitat;
- (2) Establish as many relocation protection sites as possible when conditions are available;
- (3) Try to save multiple individuals and genotypes at each ex-situ conservation site;
- (4) Try to adopt multiple ways to carry out relocation protection;
- (5) Fully consider the role of artificial regulation in ex-situ conservation.

4.3 Objectives of ex situ conservation

Preserving wild plant germplasm resources of very small populations, reducing the risk of extinction in situ, increasing the probability of population reproduction and eventually restoring wild species group.

5.1 Ex-situ conservation sites

Utilize existing botanical gardens, arboreturns or other cultivated lands to protect the relocated plants after natural or artificial propagation.

Set up a special base of very small populations of wild plants or other rare and endangered plants for ex-situ conservation.

5.2 Relocation protection methods

- (1) The whole plant is preserved;
- (2) Preservation of seeds and tissues;
- (3) Gene library preservation.

6.1 Location selection

(1) Select a site with similar conditions to in situ climate, soil, and organisms (including mycorrhizal fungi, pollinating insects, etc.) as the ex-situ conservation base Ground (2) According to the potential distribution area of the species and the actual conditions, select a suitable site as the ex-situ protection base;

(3) When comprehensively considering the needs and conditions of work such as protection and research, take control measures to artificially create a suitable small environment.

Select some sites as relocation protection bases.

6.2 Land preparation

For land preparation technology, refer to GB GB/T 15776-2016.

6.3 Nursery

Refer to GB/T 6001-85 for nursery technology.

6.4 Seedling preparation

Container seedlings should be used to ensure intact root systems and later seedling survival rates.

6.5 Seedling transportation and quarantine

Seedlings must be transported with a special soil truck, and should be transported at an appropriate time (such as before budding in early spring or after falling leaves).

Show quarantine of diseases and insect pests. Specific quarantine procedures can refer to SN/T 1157-2014.

6.6 Seedling planting

Dig the planting holes 1-2 days before planting and supplement the base fertilizer. During the cultivation process, ensure that the root system of the seedlings is stretched, and the soil is firmly grounded.