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JY

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

JY/T 0194-2011

Replacing JY 194-1985

**Leaf structure model
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009 "Guidelines for Standardization Work_Part 1. Structure and Preparation of Standards" this standard replaces JY 194-1985 "Technical Conditions of Leaf Structure Model". In addition to editorial changes, the main technical changes are as follows.

-Appearance size has increased allowable tolerances;

-Added the requirement that the main parts of the model should be affixed with name or

number tags;

-Specifies the materials that should and should not be used for the model;

-Specify the limit of heavy metal content in the paint of the model.

Please note that some elements of this standard may involve patents. The issuer of this standard is not responsible for identifying these patents.

This standard was proposed by the National Technical Committee for Standardization of Teaching Instruments (SAC/TC125).

This standard is under the jurisdiction of the National Technical Committee for Standardization of Teaching Instruments (SAC/TC125).

1 Scope

This standard specifies the naming, requirements, test methods, inspection rules and signs, packaging, transportation, and storage of leaf structure models.

This standard applies to the leaf structure model for plant teaching in middle schools.

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 21746-2008 General requirements for safety requirements of teaching instruments and equipment
JY 0001-2003 General quality requirements for teaching instruments and equipment
products JY 0002 Inspection rules for teaching instruments and equipment
products JY 0026-1991 teaching instrument and teaching equipment product model naming
method JY 0213-1994 Teaching mechanical, thermal instrument transportation, storage
environmental conditions and test methods

3.1 Naming rules

The model name of the product is JY 0026-1991.

3.2 Nomenclature

The leaf structure model is named.

SM - YGZ - P - 400

Product length, 400mm Product feature code, profile Product name Pinyin prefix, "leaf structure" Product model classification code, biological model Model example.

SM-YGZ-P-400 stands for biological model, leaf structure model, section, 400mm in length.

4.1 Use environmental conditions

Temperature. -10 °C ~ 40 °C, relative humidity. not more than 90%.

4.2.1 General requirements

4.2.1.1

The product shall use broad bean leaves as a reference material to show the structure of dicotyledonous plant leaves. The model is 400mm ± 30mm long and 140mm ± 10mm wide.

The height of the main vein of the leaf is 180mm ± 10mm.

4.2.1.2

Part of the leaves should be transected through the main vein, showing main veins, fine veins, upper and lower epidermis, fence tissue and sponge tissue on one side on one side, various sections should be used to show the connection between the main and lateral veins, as well as the longitudinal and lateral cross-sections of the main and lateral veins.

4.2.1.3

The morphology, structure and position of each cell shall be correct, and the color shall be different.

4.2.2 Specific requirements

4.2.2.1

Leaf veins. It should be located between the palisade tissue and the sponge tissue, and the connection between the main vein and the side veins should be appropriate. The xylem of the veins should be on the stem surface, the bast is on the dorsal stem surface, and there should be a layer in the main vein.

4.2.2.2

Epidermis. covering the upper and lower sides of the leaves, the epidermal cells are irregularly flat and covered with cuticle.

4.2.2.3

Fence organization. It is close to the upper epidermis and accounts for about 1/3 of the leaf thickness. The cells are cylindrical and arranged vertically and closely to the epidermis, Some cells were made longitudinal and transverse sections. The complete morphology of cells and the distribution, location, number and arrangement of chloroplasts on the cell profile should be correctly displayed point. Part of the longitudinal and transverse cells should show the nucleus.

4.2.2.4

Sponge tissue. it should show complete morphology and profile, with loosely arranged cells, large cell gaps, and a small amount of cells on the cell profile.

Chloroplast.

4.2.2.5

The shape, location and distribution of stomata shall be correctly displayed. The cross section of the guard cell should show the nucleus, chloroplast and its inner Chamber under the square hole.

4.2.2.6

The following parts of the model shall be affixed with name or number tags. upper epidermis, lower epidermis, fence tissue, sponge tissue, main vein, lateral vein, wood Part, phloem, formation layer, stomata.

4.3 Materials and processes

4.3.1

The model should be made of rigid PVC material, and glass fiber reinforced plastic (FRP) or fragile and deformable materials should not be used.

4.3.2

The content of heavy metals in the coating of the model shall conform to GB 5.2.5.4 of GB 21746-2008.

4.3.3

The structures represented on the model should be accurate in position and modified naturally and correctly. Bonding and splicing should be firm.

4.3.4

The color of the structure of each part should be correct and clear, and the spraying transition should be natural and there should be no spillage.

4.3.5

The cut surface of the model shall be flat and not deformed.

4.3.6

The product shall also comply with JY 0001-2003 sections 5.2, 6.9, 6.12, 6.27, 7.4.3, 7.7 and 9.1 to 9.6.