UPOV

International Union for the Protection of New Varieties of Plants

E

**Technical Working Party on Testing Methods and Techniques** **TWM/3/14**

**Third Session**
**Beijing, China, April 28 to May 1, 2025**

**Original:** English
**Date:** April 9, 2025

# LENGTH DATA COLLECTION DEVICE PRO

*Document prepared by an expert from China*

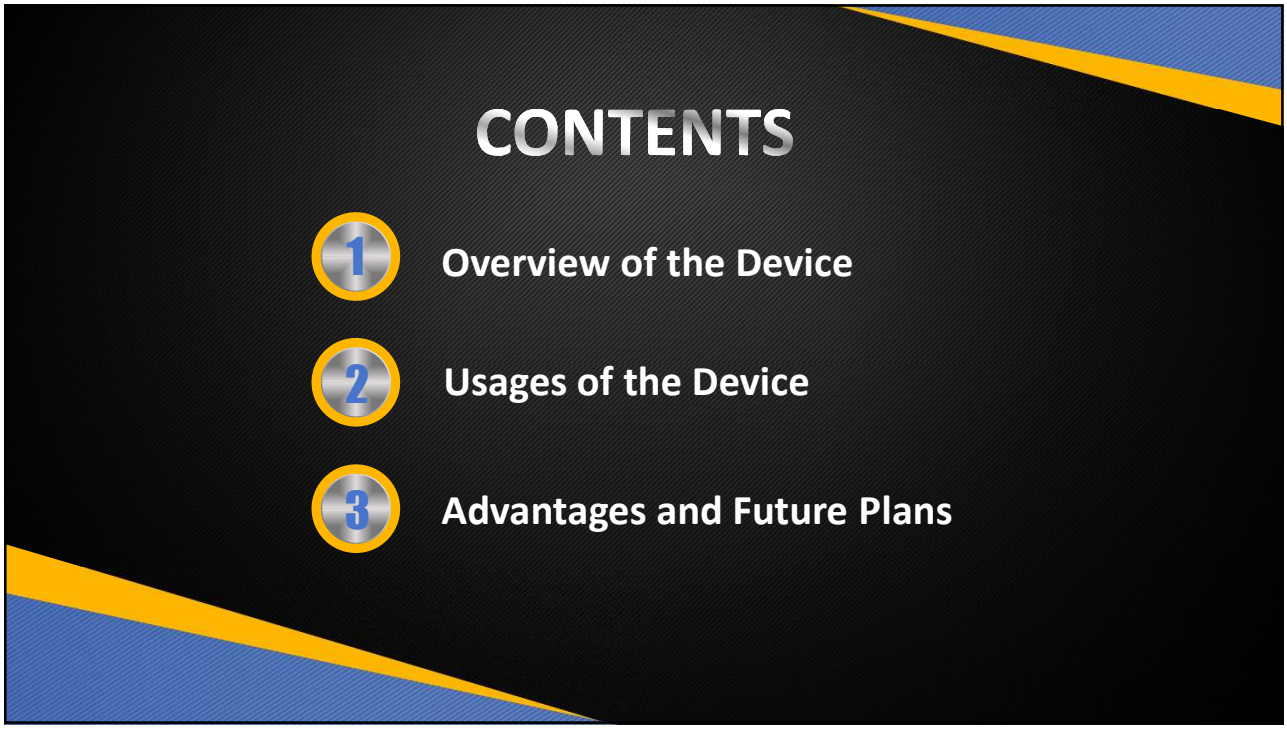
*Disclaimer: this document does not represent UPOV policies or guidance*

The annex to this document contains a copy of a presentation “Length Data Collection Device Pro”, to be made by an expert from China, at the third session of the TWM.

[Annex follows]


Length Data Collection Device Pro
Jinzhou Sub-center for New Plant Variety Tests,
Ministry of Agriculture and Rural Affairs
2025.03.14

1


CONTENTS
1 Overview of the Device
2 Usages of the Device
3 Advantages and Future Plans

2

# BACKGROUND

- Manual measurement of quantitative traits requires **5** steps:

Placement → Reading → reporting → listening → Recording

which is low efficiency, multiple operational steps, and high error rate.

Manual Measurement

VS

Measuring with the Device

- Therefore, we have developed the length data collection device, which only requires **2** steps:

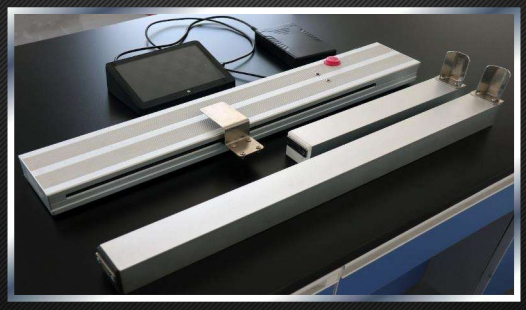
Placement → Clicking the Button

reducing the measurement process, greatly improving testing efficiency and accuracy.

3

# 1 Overview of the Device

## 1.1 Components

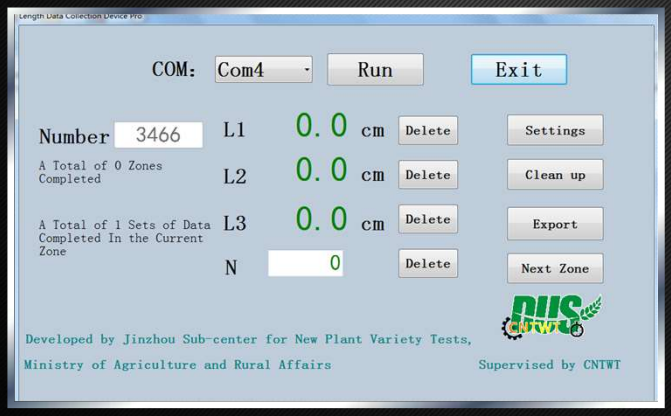


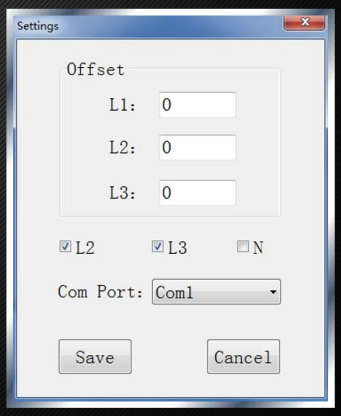
- The **main unit** includes a main body, sliding calipers, a touchscreen display, and extension rods.
- Full accessories also include an outdoor battery, battery charger, and power cables.
- 600mm (length) × 100mm (width) × 45mm (height), 1.73kg, accuracy 1mm, range 0~150mm, the range is **extendable** for diverse needs.

4

# 1 Overview of the Device

## 1.2 Operation Interface

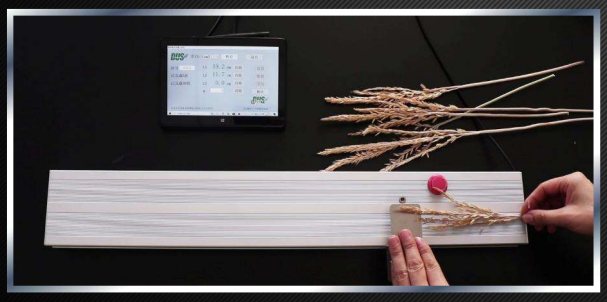



5

# 2 Usages of the Device

## 2.1 Applications at Our Sub-center



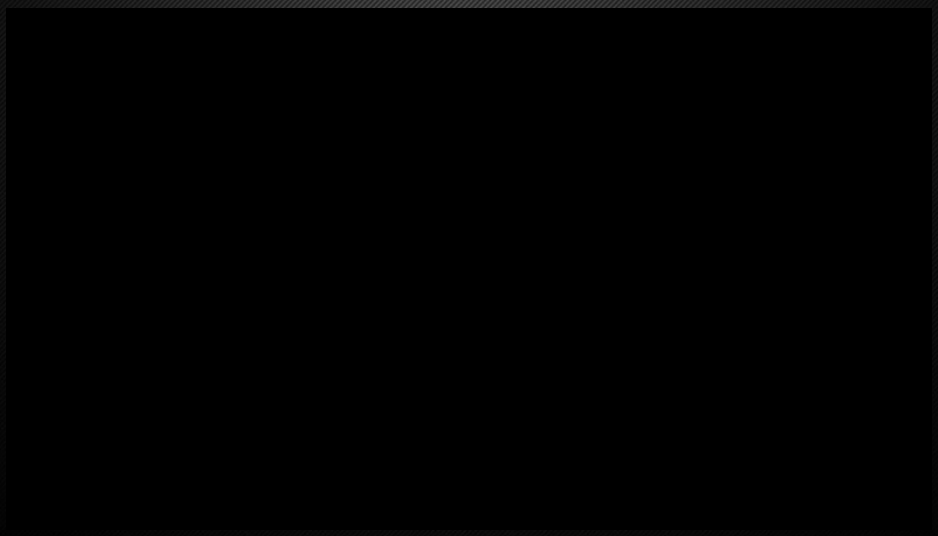
| Crops | 1 | 2 | 3 |
|---|---|---|---|
| Maize | Tassels | Ears | Leaves |
| Rice | Stems | Panicles | Leaves |

- The length data collection device has achieved measurement of **64%** of the quantitative traits outlined in the testing guidelines for **Maize**.

6

## 2 Usages of the Device

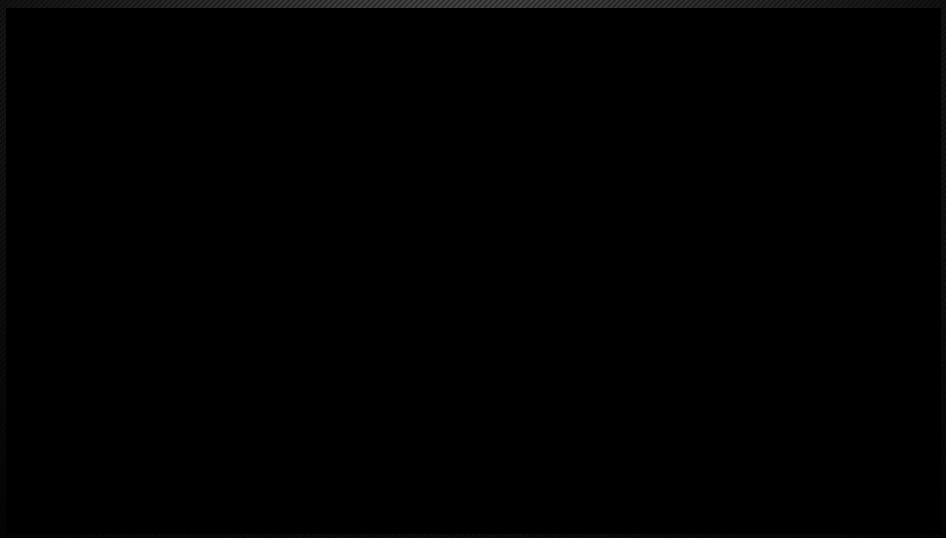
### 2.2 Application Demo: Maize Tassel Measurement



7

## 2 Usages of the Device

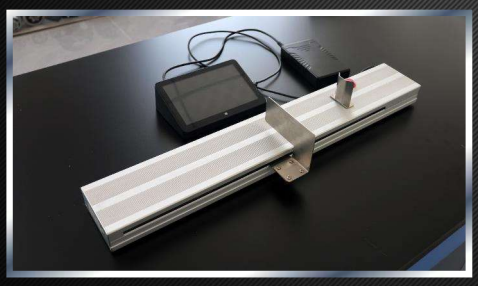
### 2.3 Application Demo: Rice Stem and Panicles Measurement



8

## 2 Usages of the Device

### 2.4 Device with Barriers



- For irregular measuring objects such as ears, add **barriers** to move the zero point forward, which is easy to operate.

9

## 3 Advantages and Future Plans

### 3.1 Summary

**3.2.1 High Precision**: Data accuracy to the **millimeter** with high reliability.

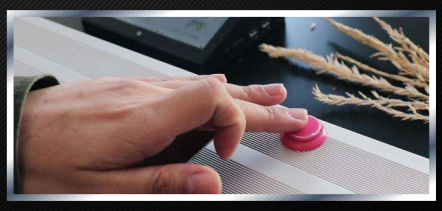
**3.2.2 High Efficiency**: **3 times** more efficient compared to manual recording.

**3.2.3 Process Optimization**: Reduces human error while improving data quality.

**3.2.4 User-Friendly Operation**: **One-click** data input/saving, requiring no training.

**3.2.5 Cost-Effective**: Reduces labor demands and operational costs.

**3.2.6 Portability & Durability**: **Lightweight**, USB-powered, and equipped with a battery for **8-hour** continuous operation in challenging field environments.



10

## 3 Advantages and Future Plans

### 3.2 Expansion to Multiple Plants

- We are planning to promote the device for testing **multiple types** of plants.
- Testing **fruit** horizontal and vertical diameter, **stem** length, **leaf** length and width, **flower** diameter, etc.

11

# THANK YOU

## Length Data Collection Device Pro

Jinzhou Sub-center
jzdus8@163.com

2025.03.14

12

[End of Annex and of document]