

Agrosta®100 BLUE

Digital Firmness Tester

The AGROSTA®100 BLUE has been designed end 2022. It is a firmness/maturity tester dedicated to soft fruits communicating via Bluetooth with an app for android or Windows.



Thanks !

Many thanks for having acquired an Agrosta instrument
Your package contains :

- Box with the instrument itself
- Charger
- Certificate of conformity
- Manual
- Set of tip protections

We highly recommend reading the user manual, as it provides clear and concise instructions to help you maximize the use of the device.

13 Rue du Bastringue – 76440 SERQUEUX - FRANCE
lak@agrosta.org – www.agrosta.org – Tel +33 689494340

Product Overview

The Agrosta 100 BLUE is provided with one sensor (10, 25 or 50) according to your requirements. You can buy adaptors separately :

- A100-10 sensor for **peaches** (35% to 95%), **apricots** (45% to 95%), **grapes and kiwis** (35% to 95%), **cranberries**— With the 10 mm tip, a reading of 85% corresponds to 4.5 Kg per 0.5 cm² with a penetrometer.
- A100-25 sensor for **tomatoes** (values from 45 to 80), **cherries**, **plums**, **melon** flesh, **grapes** (values from 30 to 80), **blueberries** (values from 25 to 70 - destructive), **peppers**
- A100-50 sensor for **strawberries**.



Origin and Manufacturing: The AGROSTA®100 BLUE is meticulously designed and assembled in France. The motherboard is sourced from Hong Kong, while the shield boards are manufactured in the USA. Additionally, we utilize a high-quality battery from Germany.

Waterproof Disclaimer: Please note that the AGROSTA®100 BLUE is not waterproof. It is an instrument of precision, and we strongly advise you to handle it with care, avoiding any drops or impacts.

Warranty Information: The AGROSTA®100 BLUE is backed by a two-year guarantee starting from the date of shipment. This guarantee covers any manufacturing defects or faults that may arise during the specified period

Accuracy Specifications:

- Minimum Percentage: 10% (Operation Threshold)
- Maximum Percentage: 100% (When Fully Depressed, Equivalent to 806 grams of Pressure)
- Resolution: +/- 1%
- Maximum Memory Capacity: Extensive - Limited Only by Smartphone or Tablet
- Battery Life: 9 Hours of Continuous Work with 2 Hours of Charging

Additional specifications:

- **Automatic Sleep Mode** : The device enters sleep mode if no measurements are taken for a period of 15 minutes.
- **Usable While Charging** : The device can be used even while it is being charged.
- **Battery Level Indication** : The device provides an indication of the battery level, allowing you to monitor the remaining charge.
- **Ultra-Low Power Consumption in Sleep Mode** : The device has a very low power consumption in sleep mode, providing up to 3 years of battery life without usage.
- **TouchPad Wake-Up** : You can wake up the device from sleep mode by using the touchpad.
- **Auto-Connect to the App** : Once manually connected for the first time, the device automatically reconnects to the mobile application for subsequent use.

Android Mobile application

Requirements : If your device does not have a built-in QR code reader, please install a separate QR code scanner app if you intend to use the barcode functions.

Step 1: Installation

Option 1: Scanning the QR Code

1. Open a QR code scanner app on your device.
2. Scan the QR code provided using the scanner app.

Version 2026



Previous version



Option 2: Visiting the Website

1. Click on this URL : **www.agrosta.org/agrosta100n.apk**
2. Once on the website, locate the download section or button.

Please follow these steps to install the application:

1. Click on the download link to initiate the installation.
2. You may encounter several warnings since the file is not from the Google Play Store.
3. The first warning will state, "Setup of unknown applications is not authorized on this phone."
4. Click on "Settings" or "Parameters."
5. Select "Allow this source" to authorize the installation.
6. Click on "Install" to proceed.
7. You may encounter another warning stating, "Blocked by Play Protect: This app can be dangerous."
8. Click on "Install anyway" to proceed with the installation.

Step 2: Device Connection



1. On your smartphone navigate to SETTINGS.
2. Tap on BLUETOOTH.
3. Wake up your device by pressing the touchpad for **two seconds**. You'll have **one minute** to establish a connection with your smartphone before the device goes back to sleep mode.
4. Select "Add device" to initiate the pairing process with your phone or tablet.
5. Select the device named AGROSTA100



WHILE PRESSING ON THE TOUCHPAD, THE DEVICE WILL RECORD THE POSITION AND TARE

TAKE CARE TO TAKE THE DEVICE IN HAND (AND IN WORK POSITION) BEFORE PRESSING THE TOUCHPAD

THE TIP HAS TO BE COMPLETELY EXEMPT OF ANY PRESSURE WHILE YOU SWITCH ON THE DEVICE

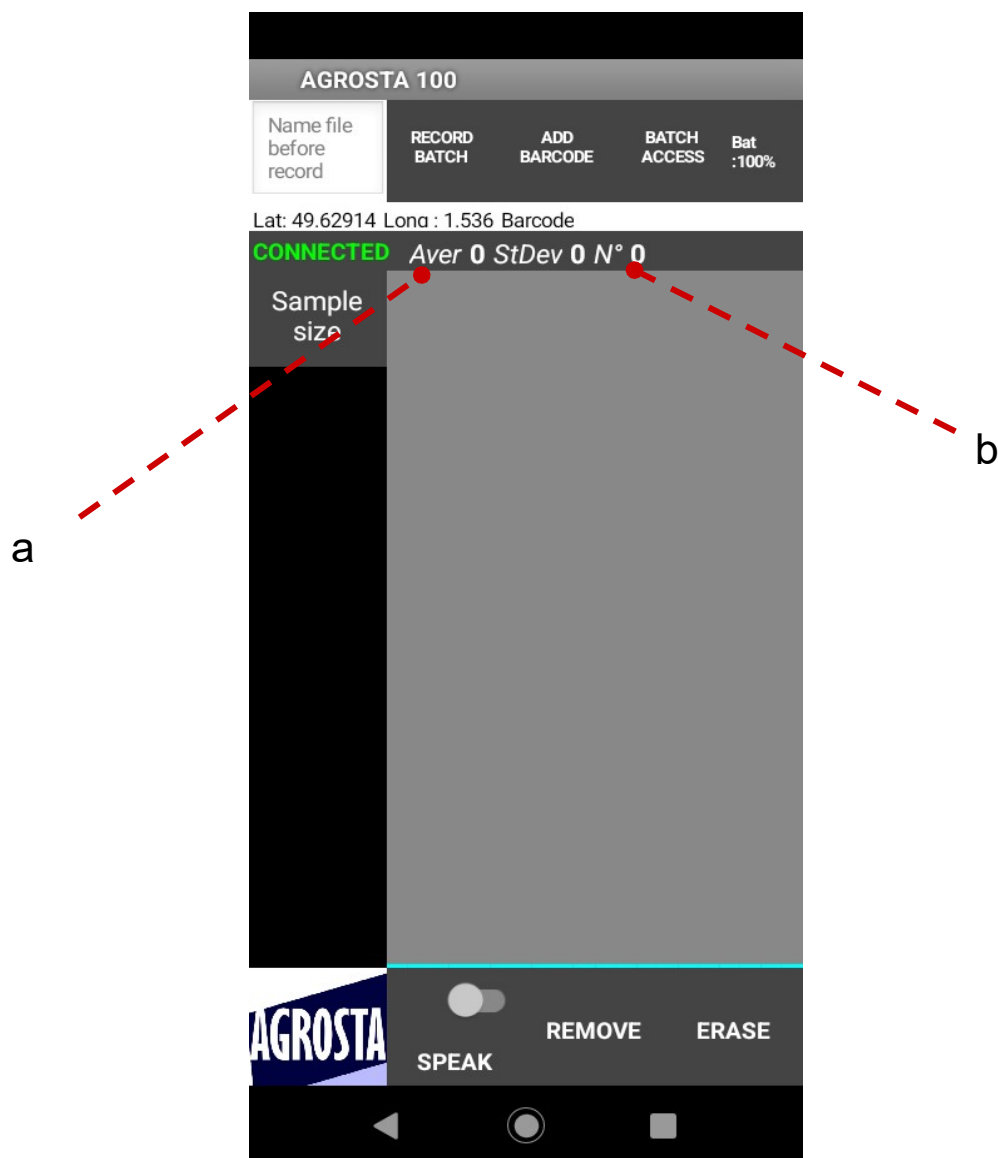
IF YOU HAVE A DOUBT, JUST CLOSE THE AGROSTA APP, IT WILL SWITCH OFF THE DEVICE

Step 3: Opening the Application (Version 2024 – go to page 13 for version 2026)

1. Open the application : If this screen appears, please check the phone settings to ensure that the connection is established. If not, please repeat Step 2.

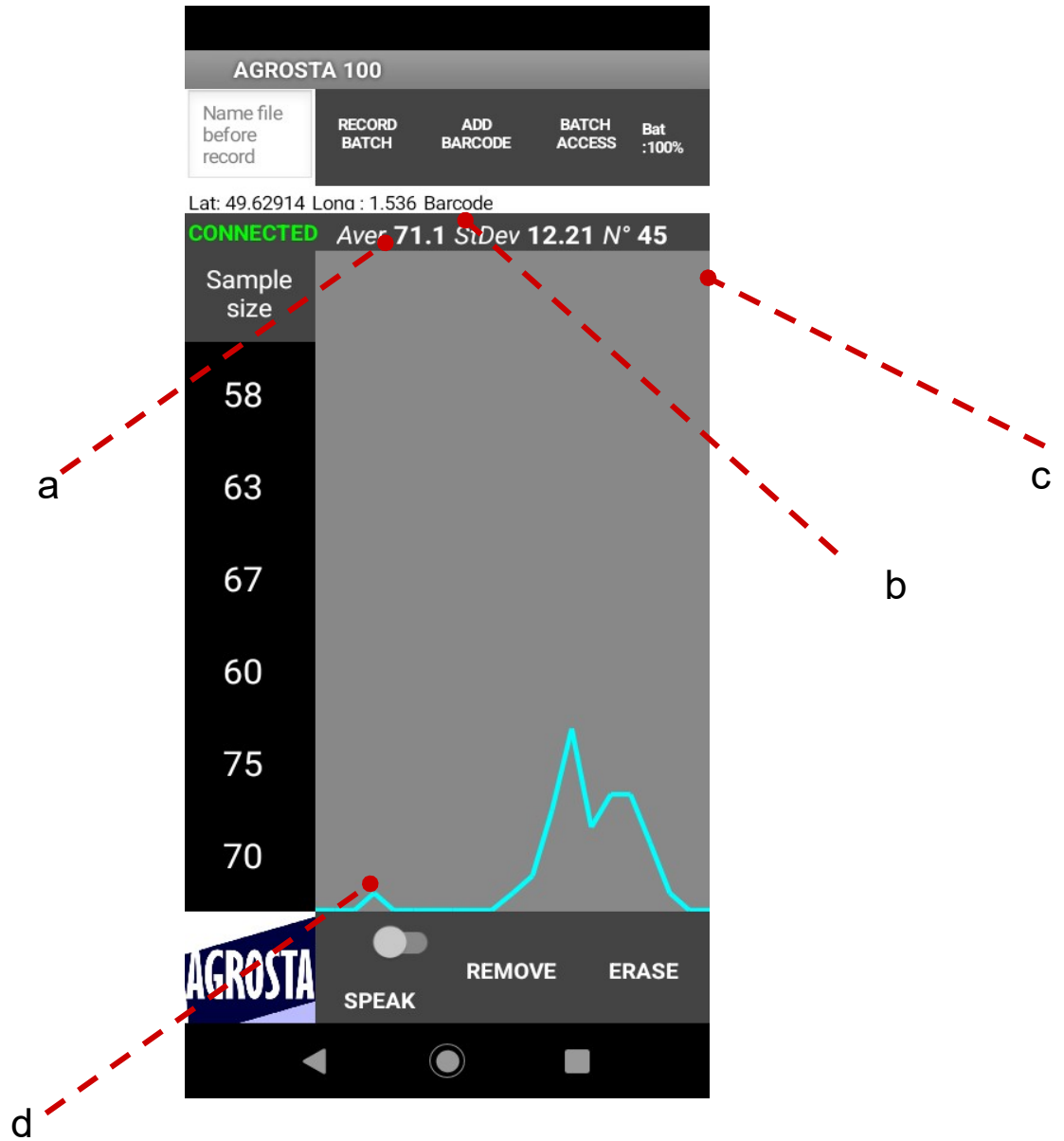


2. If the connection is successfully established, **press the touchpad** of the device to proceed.
3. You will now see "CONNECTED" displayed in green **(a)**. When the battery level **(b)** of the device appears in the top right corner of the screen, the device is ready for use. Please note that it may take several seconds for the battery level to appear.



Step 4: Application Features

1. **Data Analysis** : You can analyze the recorded measurements using various statistical tools, such as average **(a)**, standard deviation **(b)**, sample count **(c)**, and graphical representation **(d)**.



2. **Data Export** : The application provides the option to export the measurement data in text formats, allowing you to share or analyze it using external tools. Once you have finished measuring your batch, enter a file name in the text box and click on "**RECORD BATCH**." If you use the name of an existing file, the data will be appended to the end of the file. You can access previous batches by clicking on "**BATCH ACCESS**." After recording the data into a file, the measurements are automatically removed from the list.

The screenshot shows the AGROSTA 100 application interface. At the top, the title 'AGROSTA 100' is displayed. Below the title, there is a section with a text input field labeled 'Name file before record' (highlighted with an orange border) and four buttons: 'RECORD BATCH', 'ADD BARCODE', 'BATCH ACCESS', and 'Bat :100%'. Below this section, the coordinates 'Lat: 49.62914 Long : 1.536' are shown. A green status bar indicates 'CONNECTED' and 'Aver 0 StDev 0 N° 0'. Below the status bar, there is a 'SP1' label, a 'BACK' button, and a list of measurements: 'Average: 60.8', 'Standard Deviation: 10.09', 'Barcode ref: Barcode', 'Lat: 49.62839', and 'Long : 1.53623'. At the bottom, a list of numbers is displayed: '68, 58, 49, 57, 49, 57, 52, 54, 60, 69, 72, 84'.

To return to the measurement screen, click on the "**BACK**" button. The recorded files are available in ".csv" format, which is compatible with **Excel**. The files use the semicolon ";" as the separator between data fields.

3. **ADD BARCODE** : allows you to scan a barcode directly. This eliminates the need to install a separate barcode scanner on your phone or tablet.

4. **Location Tracking (a)** : The application includes a location feature that tracks the geographical coordinates of each measurement, providing additional context to the data.
5. **Sample Size Button (b)**: This button allows you to measure the average of a specified number of measurements taken on the same fruit. A dropdown menu provides options to choose between 2, 4, 6, or 8 measurements. Alternatively, users can manually enter a custom sample size of their choice.



6. **Voice Assistant**: The application includes a voice assistant feature that utilizes text-to-speech technology to announce the measurements. You can choose from a wide selection of over 40 languages. The results will be audibly spoken by a voice, providing

a convenient option for users who prefer not to visually monitor the phone or tablet during measurements. If desired, you can disable this feature by turning off the switch in the application settings.

7. **Remove Button:** This button, by default, removes the last measurement or the selected measurement from the list. It offers the flexibility to selectively delete specific entries without erasing the entire dataset.
8. **Erase Button :** This button allows you to delete all the measured data at once, providing a convenient way to clear the entire dataset.

Sleep Mode and Auto-Reconnection

1. When there is no activity for **15 minutes after the last measurement**, the device enters sleep mode, and the application becomes temporarily unavailable.

During this time, the following screen will appear:

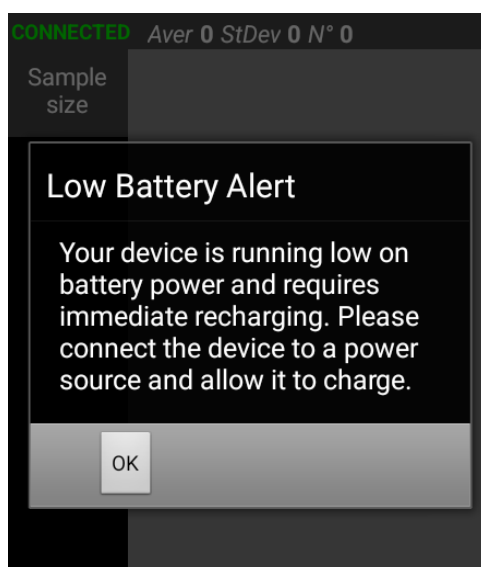


2. If the touchpad is pressed, the device will **automatically reconnect** to the application. The measurements present in the list before entering sleep mode will still be available. In case you accidentally close the application, don't worry, the measurements are **saved** in a file called "**BACKUP**" accessible through the "**Batch Access**" button.

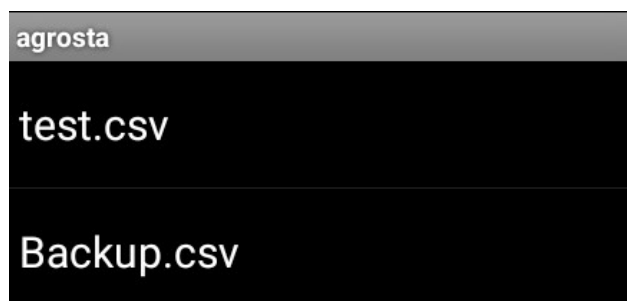
3. You can still continue to take measurements even when your phone is locked. When closing the application, the device automatically enters sleep mode
4. You can navigate on your phone while keeping the application open. The AGROSTA 100 BLUE device will remain connected as long as you do not close the application. This allows you to use other functionalities of your phone while maintaining the device connection for seamless data recording and monitoring.

Low Battery Level and Automatic Data Backup

1. When the battery level drops to 8%, the application provides a low battery notification. We recommend charging the device to ensure uninterrupted usage and continuous recording of data.



2. During this notification, the data is automatically saved in the "**Backup**" file accessible through the "**Batch Access**" button.

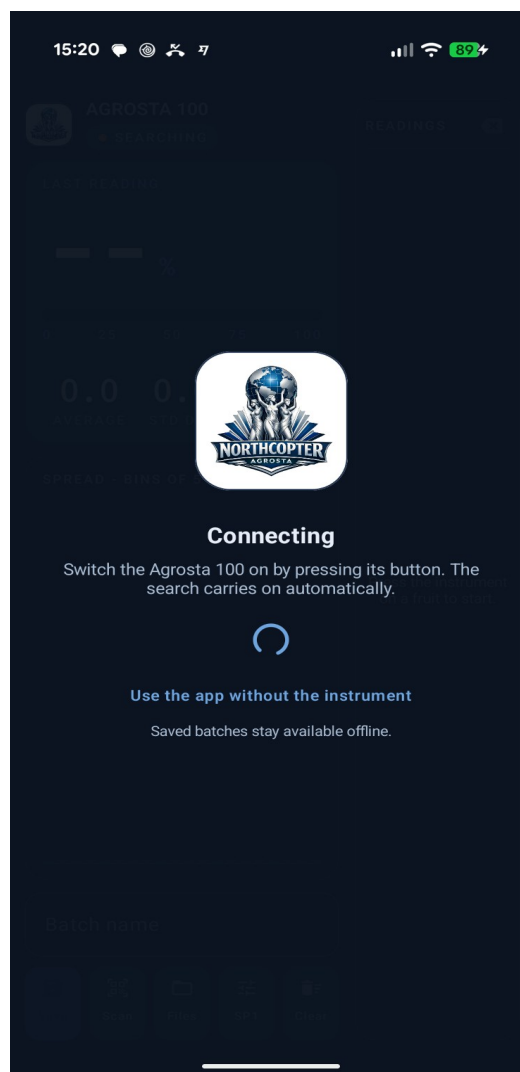


3. In the event of the device shutting down, no measurements will be shown, **but the connection tab will still indicate a connection**. This allows users to save their data to their preferred file, ensuring no data is lost.

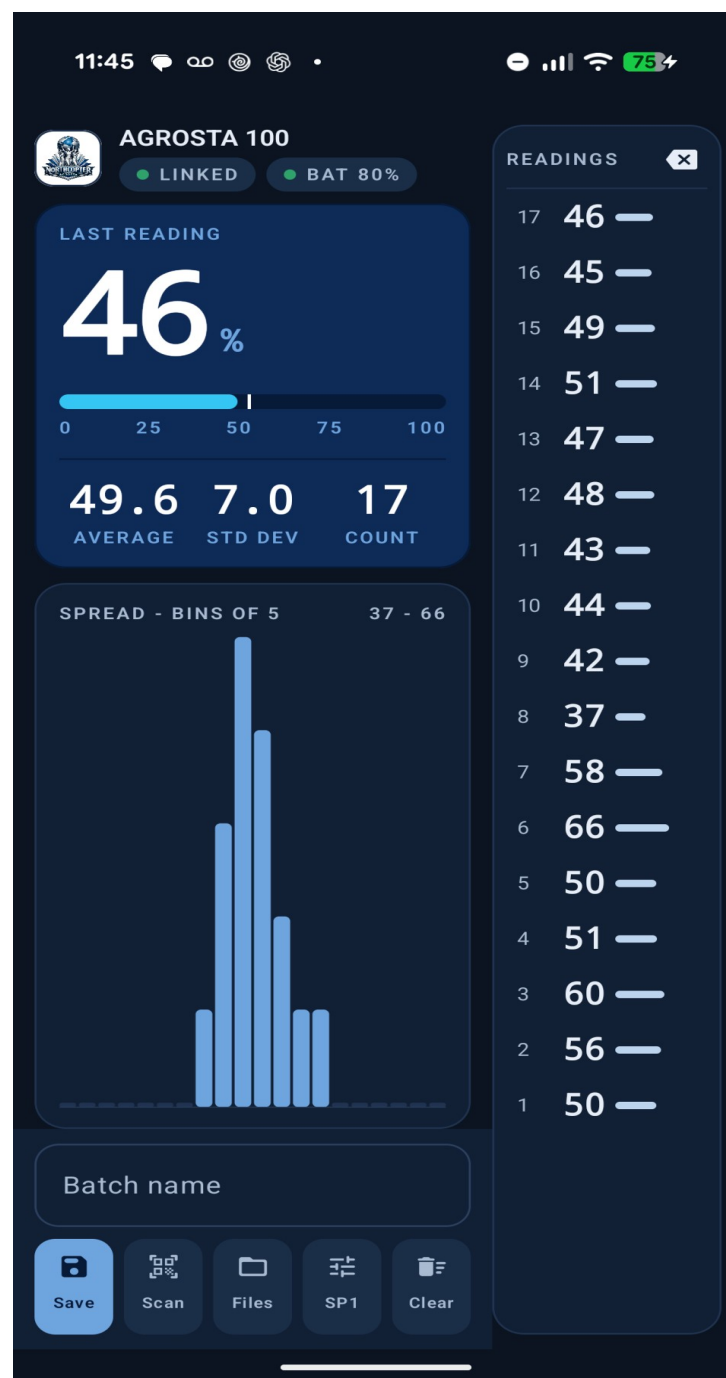
App 2026

The 2026 application replaces the previous one. Measuring works exactly as before, and the following has changed:

- 1. Pairing from the application.** You no longer need to go to the phone settings. Wake the instrument by pressing its touchpad, then tap "Pair the instrument" on the waiting screen. The application looks for the device named AGROSTA100 and asks Android to pair it: confirm in the window that Android displays, and the connection is established on its own. If the instrument is not found, it has probably gone back to sleep: press its touchpad again, then tap "Search again". The same screen offers to switch Bluetooth on if it is turned off.



2. **The measuring screen.** The last reading is displayed in large figures with a 0 to 100 scale, on which a white mark shows the average of the batch. Below it, the average, the standard deviation and the number of readings, then the distribution of the batch in bins of 5 points. On the right, a column running the full height of the screen lists every reading taken, the most recent at the top: about twenty are visible at once, without scrolling.



3. **Correcting a reading.** Tap a line in the right-hand column to select it. The button at the top of that column removes the selected reading, or the last one when nothing is selected. A fruit that slipped is therefore removed without erasing the batch.
4. **Using the application without the instrument.** On the waiting screen, tap "Use the app without the instrument". Saved batches stay available: you can read them, share them and delete them with the instrument switched off. To return to the waiting screen and to the connection status, tap the status pill at the top left of the screen.
5. **Saving a batch.** Type a name in the "Batch name" field, then tap Save. The batch is written as a semicolon separated CSV file, which opens directly in Excel. If a batch with the same name already exists, the new readings are appended to it. Tap Files to see the saved batches, read one, share it by mail or Drive, or delete it. A shared file keeps its .csv extension, so the person receiving it can open it straight away.
6. **Barcodes.** Tap Scan to read a barcode or a QR code and attach it to the batch. No internet connection is needed. If the label is damaged or unreadable, the "Cancel scan" button at the bottom of the screen returns to the measurements, and the reader closes by itself after one minute.
7. **Settings.** Tap the SP button to open the settings. Sample size sets the number of presses averaged into a single reading: 1, 2, 4, 6, 8, or any value you choose. Spoken readings has the instrument read each measurement out loud, in the language of your choice, so that you can keep your eyes on the fruit. GPS position adds the latitude and longitude to the saved batch.
8. **Sleep and reconnection.** The instrument still goes to sleep after 15 minutes without a measurement, and the application reconnects on its own as soon as you press the touchpad. Closing the application switches the instrument off, which preserves its battery.

File Transfer to a Computer

1. Connect your Android phone to your computer using a USB cable.
2. On your Android phone, go to the Settings.
3. In the Settings menu, locate and select the "Bluetooth & device connection" or "Connected devices" option.
4. Find the USB connection settings and select "USB" or "USB for file transfer".
5. Choose the "MTP" (Media Transfer Protocol) option.
6. On your computer, open the file explorer or finder application.
7. Locate and access your Android phone, typically listed under "Devices" or "Removable Storage".
8. The files related to the application are located in the following directory:
Android/data/com.lak.agrostabm/files

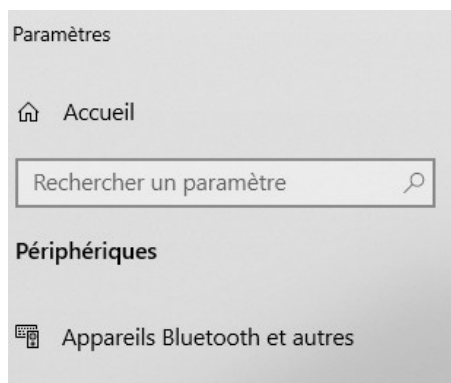
Communication with a Windows Computer

Step 1: Installation

1. Downloading the App for Windows To communicate with your AGROSTA 100 BLUE device on a Windows computer, you can download the application by following this link: <https://agrosta.org/100blue.zip>

Step 2: Setting up Bluetooth Communication

1. On your Windows computer, navigate to the Settings menu and select "Bluetooth & other devices" or a similar option.



Appareils Bluetooth et autres



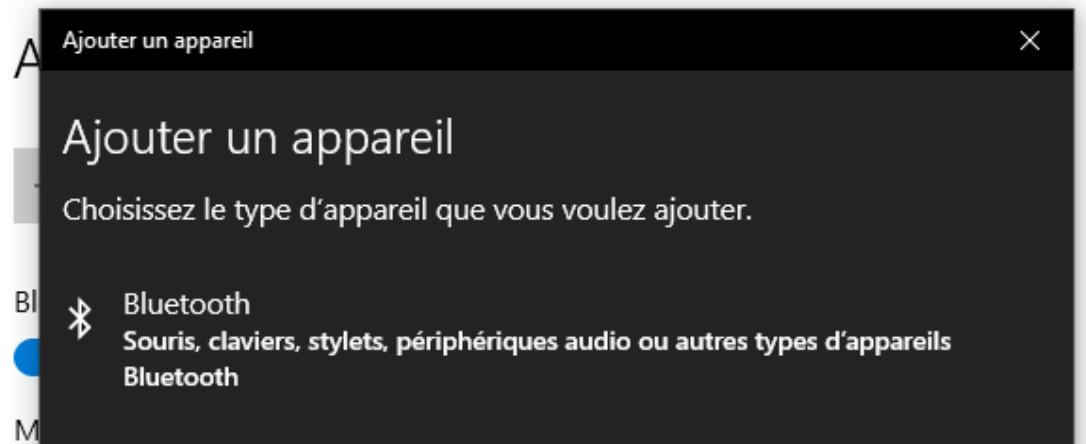
Ajouter un appareil Bluetooth ou un autre appareil

Bluetooth

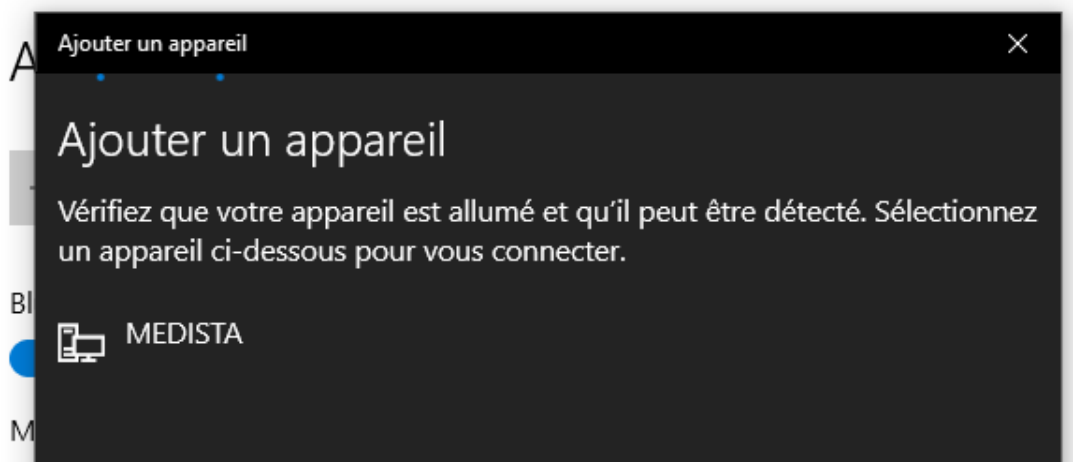
☒ Activé

2. Wake up your device by pressing the touchpad for **two seconds**. You'll have **one minute** to establish a connection with your smartphone before the device goes back to sleep mode.

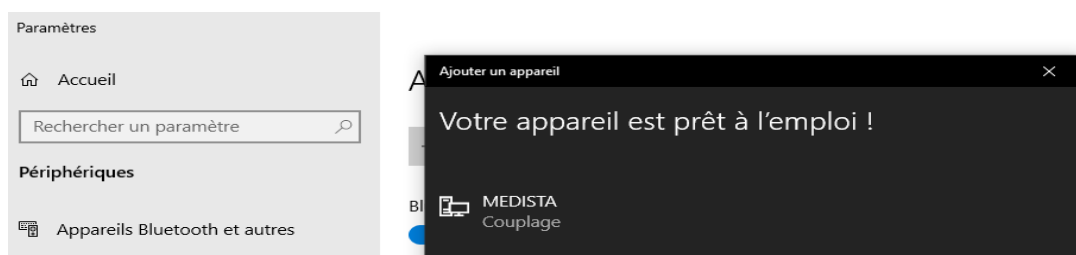
3. Add the AGROSTA 100 BLUE device by clicking on the "Add Bluetooth or other device" button.



4. Follow the on-screen instructions to complete the pairing process between your computer and the AGROSTA 100 BLUE device.

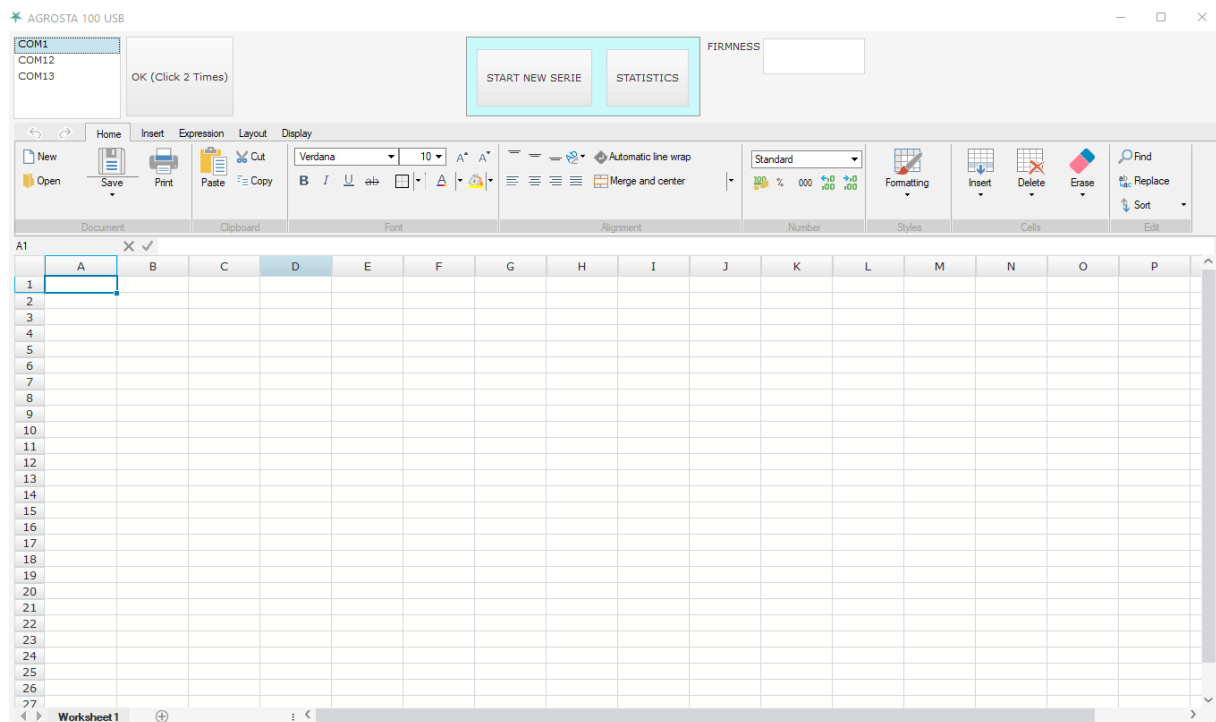


5. After clicking on "AGROSTA100" in the Bluetooth devices list on your computer, you may see a notification stating that the device is ready to use.



Step 3: Opening the Application

1. Launch the AGROSTA 100 BLUE software on your Windows computer.
2. Look for the COM port indication on the top left corner of the software interface. Each COM port represents a device connection.
3. Identify the COM port that corresponds to your AGROSTA 100 BLUE device.
4. Click on the COM port in the software interface, and then click "OK" twice to confirm your selection.
5. The software is now configured to communicate with your AGROSTA 100 BLUE device via the selected COM port. You are ready to use the software to perform measurements and access other features.



To start a new batch, follow these steps:

1. Click on any cell in the chart where you want the data to be displayed.
2. Next, click on the "START NEW SERIES" button.
3. Proceed to take your measurements using the AGROSTA 100 BLUE device.
4. Once you have completed your measurements, click on the "STATISTICS" button.
5. The software will calculate and display the average and standard deviation for the recorded data.

Congratulations! You are now ready to fully utilize the AGROSTA®100 BLUE. Feel free to refer to the user manual if needed and explore all the features offered by this device.

Happy measuring!

Appendix

Specific Syngenta App for android :

Can be used by anybody

The name of the batch is not erased, and you can obtain statistics for many samples inside the same batch

