

The Fruit Texture Analyzer has been designed by end 2020, updated in 2022  
It comes with the best technology for measuring the **firmness / softness, size and weight**  
of quite any kind of fruit or vegetable – It is a statistic instrument for measuring the  
crispiness of Apples, pears, potatoes, mangos, apricots, papaya, cucumber, peaches, kiwi,  
and the firmness of oranges, lemon, pomelo, cherry, strawberry... and many other fruits and  
vegetables



Many thanks for having acquired an Agrosta instrument

Your package contains :

- The instrument itself
- 2 Tips : 8 and 11 (mounted on instrument), other tips on demand
- A USB Stick with the software for windows
- A USB cable
- A power supply
- A certificate of conformity
- A manual

The FTA is provided with 2 tips : A tip of 11 and a tip of 8 + specific tips according to your requirements

- The tip of 11 is recommended for : APPLE, PEAR, PEACH, KIWI, PAPAYA
- The tip of 8 is recommended for : MANGO, CUCUMBER, APRICOT, POTATO
- Other tips on demand (ORANGE, CHERRY, STRAWBERRY, MELON, AVOCADO..)

Main characteristics of the machine :

- Using Stepper Motor Nema 23
- Stepstick (Motor Electronics) from Asia
- Main electronic processor based on dual core ESP32
- Electronic shield for pressure testing made in Hong Kong (Based on HX 711 24 bits precision)
- Design and software made by Agrosta in France
- Precision force sensors
- Resolution : 1 gram
- Max pressure : 20 000 grams (Capacity 20 Kg, limited to 18 Kg by software)
- Min pressure measurement : 31 grams
- Precision : 0.2 grams
- Software compatible with Windows XP, 7, 8 and 10

The screenshot displays the software interface for the Fruit Texture Analyzer. It features a central Excel spreadsheet with columns for 'Date', 'Firmness', 'Size', and 'Weight'. A 'START NEW SERIE' button is highlighted in the top right corner. On the right side, there are control panels for 'FIRMNESS Gram 3191', 'SIZE 158', and 'INITIAL SIZE mm 230'. There are also buttons for 'LAB SCALE TABLE OK', 'PENETROMETER STANDARD PARAMETERS', and 'DEFLECTION STANDARD PARAMETERS'. A 'LAUNCH CYCLE' button is at the bottom right.

## 1/ Install Driver

- Don't connect your machine
- Insert USB stick in your computer

Nom	Modifié le	Type	Taille
CH341SER	14/04/2018 10:23	Dossier de fichiers	
INSTALL	14/04/2018 10:23	Dossier de fichiers	
Agrosta_Driver.EXE	24/01/2017 01:17	Application	238 Ko
INSTALL.EXE	26/02/2014 10:39	Application	212 Ko
INSTALL.ZIP	16/02/2018 15:50	Archive WinRAR ZIP	11 735 Ko

- Double click on "Agrosta\_Driver" – Follow setup procedure

## 2/ Connect Usb cable between instrument and your computer

**3/ Wait a few seconds till it is recognized (Driver linked to device)**

**4/ Install Software from USB Stick (Doble click on INSTALL)**

**5/ The software starts after setup**

**6/ Connect power plug**

**7/ Select the COM corresponding to your machine in the list on the right (Usually, the last one)**

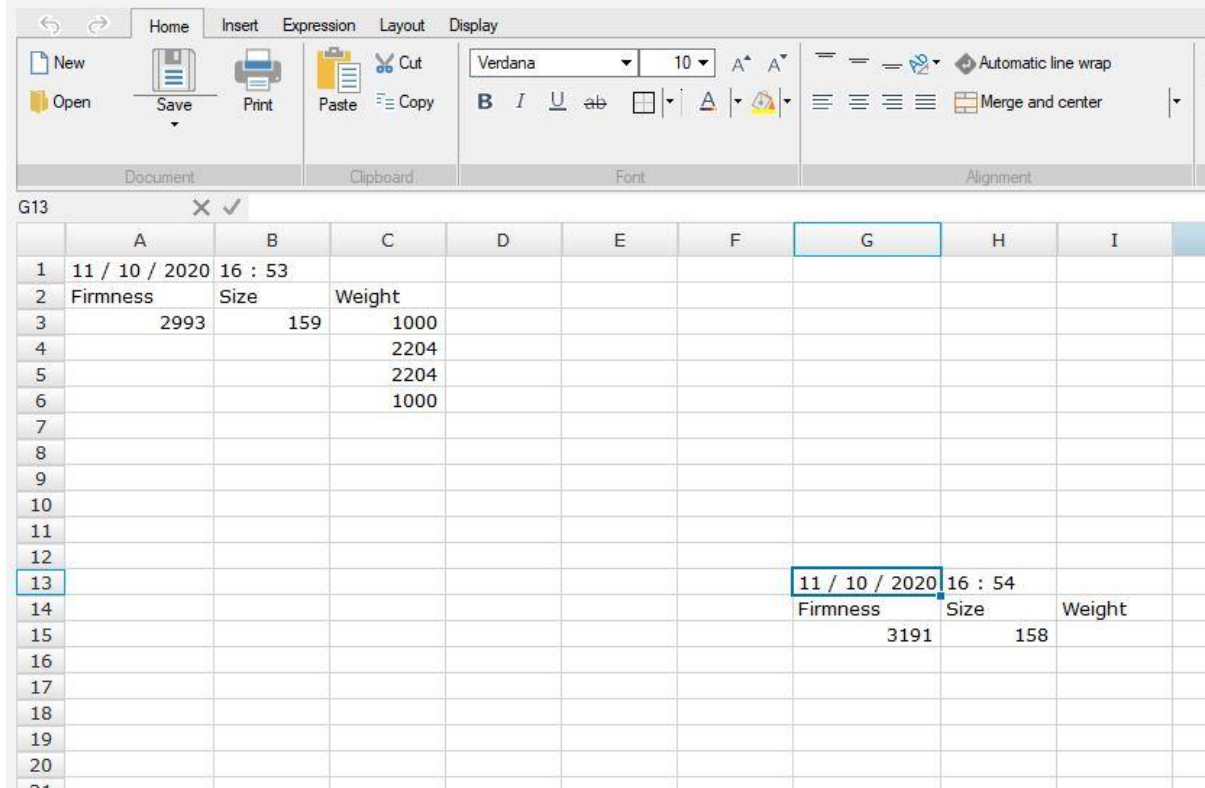


**8/ Double click on OK**

- The software comes with a light version of an OPENSOURCE EXCEL – So you don't need to have Excel on your computer, The software will generate Excel files, and you will have the opportunity to open and modify those files inside Agrosta Software (Only **.xlsx** files)
- Once your machine is connected (Procedure described before), you can either open an existing Excel file in order to add your measurements inside this file, or start with a new file
- Inside the EXCEL module, click on the cell where you want the measurements to be added for the coming Serie of fruits. The measurements will be added under the cell you have selected
- Then click on "START NEW SERIE" – The titles of the columns, as well as the date and time will be added

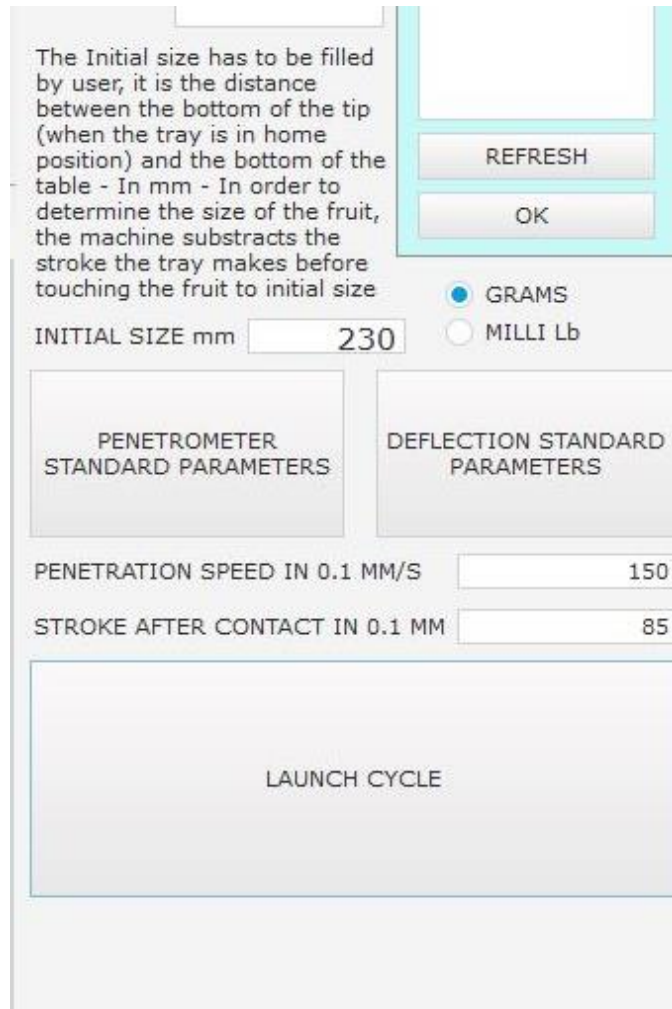
★ FTA

1/ Connect the machine by selecting the COM port on the right, and click on OK  
 2/ Open Excel file for inserting data if necessary, else start with a new file  
 3/ Click on the cell in the Excel window where the data will start to be displayed  
 4/ Click on START NEW SERIE (On the right)  
 Note : Works only within the single letters, don't select columns with 2 letters or more (AA, BB..)



	A	B	C	D	E	F	G	H	I
1	11 / 10 / 2020	16 : 53							
2	Firmness	Size	Weight						
3	2993	159	1000						
4			2204						
5			2204						
6			1000						
7									
8									
9									
10									
11									
12									
13							11 / 10 / 2020	16 : 54	
14							Firmness	Size	Weight
15							3191	158	
16									
17									
18									
19									
20									
21									

- Try to place a fruit on the lab scale, the weight will be instantly displayed in the Excel chart
- You can now place your first fruit on the table, fill the initial size and adjust the parameters of speed and stroke after contact (Or click on one of the 2 buttons with preset parameters: Penetrometer or deflection)



The Initial size has to be filled by user, it is the distance between the bottom of the tip (when the tray is in home position) and the bottom of the table - In mm - In order to determine the size of the fruit, the machine subtracts the stroke the tray makes before touching the fruit to initial size

REFRESH

OK

GRAMS  
 MILLI Lb

INITIAL SIZE mm

PENETROMETER STANDARD PARAMETERS

DEFLECTION STANDARD PARAMETERS

PENETRATION SPEED IN 0.1 MM/S

STROKE AFTER CONTACT IN 0.1 MM

LAUNCH CYCLE

- Now, you can click on “LAUNCH CYCLE”, the machine starts, and the values are displayed
- Measure your fruits one after each other (Weight, then firmness and size) :

- You can start a new serie of fruits if you want by clicking on another cell inside Excel module, and then clicking again on “START NEW SERIE”
- You can modify your file, record it, add comments, insert columns or lines as you do in Excel: You can make calculations with functions like AVERAGE() or SUM() like you do in any Excel file – Find all functions in the tab “Expression”
- Take care to limit your sheet to columns from A to Z, don’t use columns starting from AA after Z

## 9) Maintenance

- You can remove the spring if necessary for changing the spring for example (The machine works well without spring) – For this, just unscrew and remove the spring module



## 10) Changing table

Un can unscrew the table and screw a new one as per photo hereafter (mushrooms table)

