

USER GUIDE

EC-20-400 Plate Meter



Datamars recommends the use of Jenquip Pasture Management Software. This software is required in order to download data from the plate meter. It takes the information from your farm walk and produces ready-to-use reports. Jenquip Pasture Management Software is supplied with your plate meter on a USB stick. For all support, phone 0800 AGDATA (0800 243282) in NZ, or 1800 248 774 in AU.

Computer requirements: Windows XP or later.

To use the EC-20 plate meter, you will also need:

An Android phone with the following features:

- Android software version 4.3 or newer
- Jenquip Pasture App installed (available from Google Play* Store)
- *Bluetooth*® to connect the phone to the plate meter
- A cellular or Wi-Fi connection, if you want to send files from the app
- If you are using FarmIQ's auto paddock recognition feature, you will need to activate Location Services on your phone.

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Introduction

Congratulations on the purchase of your Tru-Test EC-20 Plate Meter. This plate meter is a high precision engineered device for measuring the average height of pasture relative to density of the pasture.

This is directly relative to the quantity of dry matter present (kilograms of dry matter – kg DM/ha).

Your plate meter will become an invaluable tool in your farming operation for day-to-day feeding decisions and long term feed budgeting.

Important safety note

Read and understand all the instructions before using the plate meter. A copy of this user guide can be downloaded from www.livestock.tru-test.com

Your plate meter is designed only for measuring pastures. Use it for no other purpose (e.g. it is not a walking stick). We have manufactured the plate meter using quality materials and manufacturing techniques, however, if faults do occur, have them corrected before you use the plate meter.



Be careful around electric fences. Parts of the plate meter will conduct electricity!

Store the plate correctly. Be careful that the wind does not blow the plate away - it could be dangerous. It is not to be thrown.



Water blasting or submerging the unit will void the warranty.

Assembly instructions

The plate meter is supplied in three parts:

The plate

The heavy duty plastic plate sits on top of the pasture to establish average height and density. The area of the circle and weight of the plate have been carefully calibrated.

The rod and shaft with meter

The grooved rod allows pasture to be measured in 0.5 cm intervals (clicks). The yellow shaft includes the electronic meter.

The handle

The black handle can be adjusted to suit the height of the user.

To assemble the plate meter:

- 1 With one hand, hold the yellow shaft vertically with the counter towards the ground. The grooved rod will slide down through the shaft.



- 2 With your other hand, screw on the plate, making sure that the smooth side of the plate is uppermost (ribbed side closest to the meter).



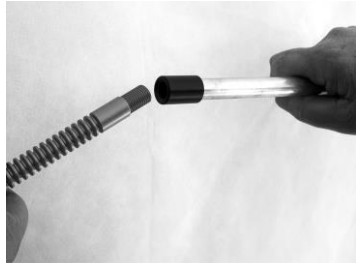
- 3 Turn the plate meter the correct way up (plate down) and place it on the ground. The grooved rod will protrude out of the shaft. With one hand hold the grooved rod and with the other hand, screw on the black plastic handle. Be careful not to displace the small rubber O-ring on the top of the rod.



- 4 Use the buttons on the handle to adjust the handle so that it is a comfortable height.

Assembling the grooved rod extension

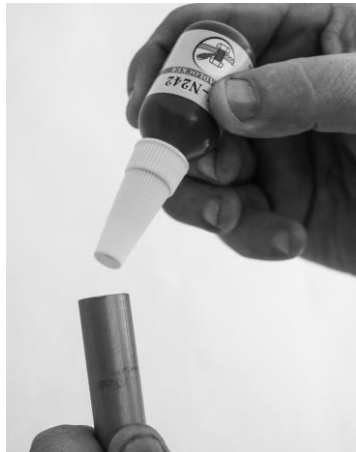
- 1 Screw the top handle (black in some models) into the grooved rod.



- 2 Turn the grooved rod upside down and slip off the O-ring.

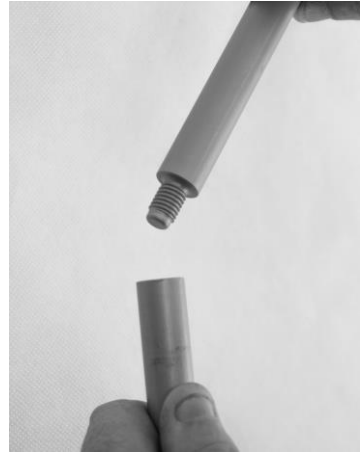


- 3 Put four drops of thread locker into the female end.



- 4 Screw the threaded rod extension into the grooved rod and tighten firmly by hand. Do not use tools as it may damage the grooved rod. Wipe off any excess thread locker with a dry cloth.

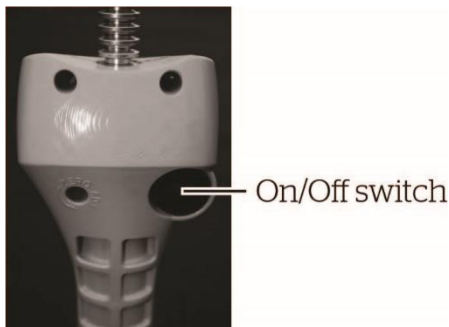
Zero calibrate the plate meter before use! See page 8.



Operating the plate meter

Switching the unit on and off

The plate meter is switched on and off using the black switch at the back of the unit. Off is in the 'down' position. When the plate meter is off, there are no numbers displayed on the LCD screen. The plate meter will turn off automatically after 15 minutes if it is left on, and is not in use.



The EC20 Pasture Android* App

The pasture app enables the EC20 plate meter to communicate with your Android phone or tablet. You can store paddock walk data, and export reports for viewing or further manipulation in other pasture management systems.

Refer to the **EC20 Pasture Android App Handbook** that shipped with your EC20 Plate Meter.

Battery

The product consumes about 10 to 20 mA when on, depending on the battery voltage and whether it is beeping. This could be used to estimate run times on rechargeable NiMH battery packs.

The “Battery Status” LED shows green for the first half of the battery life. As the battery becomes weaker, the LED will gradually change to orange, and then to red when it is at 6 V. From 6 V to 5 V, the LED will slowly flash red as there is only about one hour of life left. A good quality alkaline battery could last around 28 hours or even longer. Below 5 V, the product will play a tune and turn off.

Testing to see whether Zero Calibration is required

Make sure that the Potentiometer (Pot) Zero Calibration is correct. Perform a sample reading. The product should beep as you lift the plate meter off the pasture, registering the reading. The *Bluetooth*® link does not need to be active to do this test. If the Phone App is connected, the “Wireless/Error” LED should be blue and will flicker briefly as data is being sent to the Phone App.

If there is no beep and you continue to perform three sample readings in a row, the product will likely play a warning alarm sound, and the “Wireless/Error” LED will blink four times red: “Ze-ro-Er-ror”. This means that the potentiometer has not returned to “Zero” between each reading. No data is sent to the phone in this condition. (Although the Phone App is notified of the error condition, so could be enhanced to instruct the user to perform a zero-calibration procedure on the plate meter). Every 20 seconds, the warning alarm will be heard until the product is turned off, or a screwdriver is used to zero out the potentiometer.

Zero calibration

To zero out the potentiometer:

- 1 Locate the zero adjustment screw (beside the On/Off switch).
- 2 Remove the protective rubber bung by levering it out gently using a flat-bladed screwdriver.
- 3 Insert the flat-bladed screwdriver into the slot. Turn anti-clockwise gently until the potentiometer stops turning.
- 4 Replace the rubber bung.



Do not force or over-tighten the potentiometer. This may damage the plate meter and void the warranty.

Fault finding



Most problems are due to the plate meter being out of calibration (see following points as to why). If in doubt it is worth Zero Calibrating just to make sure it is correct.

The plate meter does not "beep" when taking a reading:

This means that the plate meter does not know where the bottom is and therefore does not record the reading.

Check	Resolution
The cog has wound off.	Replace - Request a spare cog from your service agent.
Potentiometer is damaged. The Potentiometer is the shaft part that drives the cog. <i>Note:</i> Under no circumstances should you apply CRC or a light oil to the potentiometer. It is a dry bearing and any lubricant will render the potentiometer useless.	Send the plate meter to your service agent for repair.
Check that the metal shaft is coming right back into the base of the tube. Ensure that there is no grass or soil build-up preventing it from doing so. Also check the washer at the bottom of the shaft is not catching on the bottom of the plate.	Clean the plate meter.
Metal shaft is bent.	Straighten or request a replacement part from your service agent.
Grass or soil build-up inside case.	Clean the plate meter.
Flutes on steel shaft have become filled with grass or soil.	Clean the plate meter.

Warranty and servicing

For warranty and servicing information, see www.livestock.tru-test.com/product-warranty

Notes

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