



Knowledge grows

Yara N-Tester BT

Version for US / CA



Included in the box

N-Tester BT



User Manual



Batteries



2x AA (LR06),
already inserted

Wrist cord



attach if
needed

Using the N-Tester BT with the Atfarm mobile app

STEP 1

Install the Atfarm mobile app

Install from
Google Play
Store:



Install from
Apple App
Store:



STEP 2

Use the Atfarm mobile app

1. Login with email, password.
2. Create or choose farm and field.
3. Scroll down to N-Tester options and start measurement
4. Follow the steps provided in the app.

STEP 3

Switch the N-Tester BT on

- Press and hold the On/Off button for a few seconds.

Tip:

A red blinking LED during initialization indicates the batteries need replacing.

The Atfarm mobile app will manage the connection automatically.

On some smartphones a window with Bluetooth® connection options appears, please don't connect the N-Tester BT in this window.

STEP 4

If pairing was successful, the blue LED will stay on. Follow the steps provided in the app.

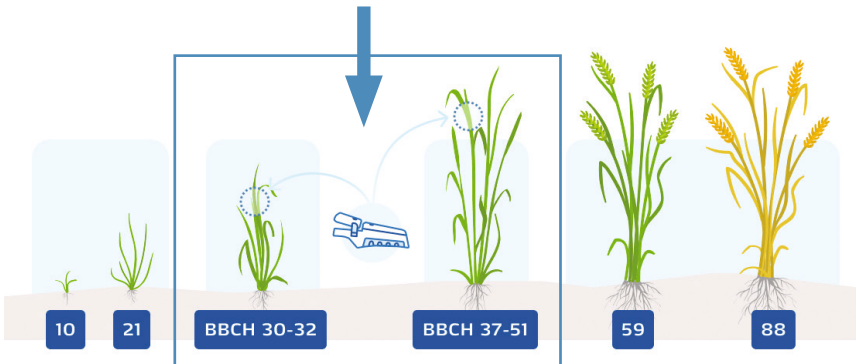


How to take a measurement

STEP 5

Depending on the country and crop, the type of leaf recommended for measurement changes. In general:

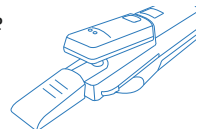
- Choose a plant in the right growth stage (e.g. ~BBCH 30 - 51). Avoid atypical areas of the field (e.g. areas with different soil properties such as sand banks).
- Choose the youngest, fully developed leaf from the plant. Avoid grained or thick points of the leaf, leaves with visible drought stress or leaves rolled together.



Tip:

Make sure that the field has enough sulphur. A lack of sulphur will change the leaf colour and the N-recommendation provided might not be correct.

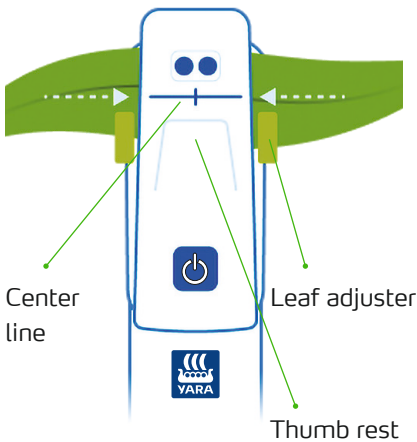
You can practice handling the N-Tester BT with the Test disc. Remove the Test disc and place it in the measuring head so that the green glass covers the lens. Then follow the instructions on Step 6.



How to take a measurement

STEP 6

- Place the leaf inside the measuring head, using the center line as a reference. The lens must be covered completely.



- Press the measuring head together by using the thumb rest. Hold until the LED blinks. You will also be notified on your smartphone.

Tip:

If necessary, the leaf adjuster can be moved to adapt to the width of the leaf.

An unsuccessful measurement is either indicated by a red LED light or a notification from the Atfarm mobile app. If this does happen, repeat the measurement.

STEP 7

- The app will guide you to the areas on the field where the measurements should be taken. Repeat the measurement in each area at least as many times as indicated in the app.
- Get recommendation to apply fertilizer (yes/no).
- When finished, switch off the N-Tester BT with the On/Off button.

Specifications & Contact

Operation Conditions

Temperature range: 32-130 °F

Humidity range: ≤ 85 %

Altitude: ≤ 2000 m

Operating place: outdoor

Pollution Degree: 2

(as defined in IEC 61010-1)

Protect the N-Tester BT from heavy rain or submersion in liquid!

Batteries

The N-Tester BT uses 2x AA (LR06) Alkaline (non-rechargeable) batteries.

To change batteries please open battery compartment with a PH1 screwdriver.

Empty batteries must be removed and taken to collection points. Batteries should never be disposed of with household waste.

Cleaning

Clean the N-Tester BT with a damp cloth. Do not use chemical cleaners or place under running water.

Be careful with the lens inside the measurement head. Only if required, clean the lens with a clean, dry soft cloth.

Recycling



Old N-Tester BT must be returned to the return address. The recycle bin indicates: No household waste.

NEED HELP?



If you have any questions, please do not hesitate to contact us. For contact details see the back cover of the manual.

Supplier's Declaration of Conformity (US)



Supplier's Declaration of Conformity 47 CFR § 2.1077 Compliance Information

Unique Identifier: Yara, N-Tester BT, Model 2.1,
Serial numbers from
S/N: 2000 0000 - S/N: 2001 9999

Responsible Party: Yara North America
100 North Tampa Street,
Suite 3200 - Tampa, FL, USA
+44 1484 509725

FCC Compliance Statement:

This product contains FCC ID: S9NBNRGM0AL

This device complies with part 15 of the FCC rules. Operation is subjected to the following two conditions:

1. this device may not cause harmful interference and
2. this device must accept any interference received, including any interference that may cause undesired operations.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. (Part. 15.21)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Supplier's Declaration of Conformity (Canada)

Supplier's Declaration of Conformity

Unique Identifier: Yara, N-Tester BT, Model 2.1,
Serial numbers from
S/N: 2000 0000 - S/N: 2001 9999

Responsible Party: Yara Canada
1800 - 1874 Scarth Street
Regina, Saskatchewan S4P 4B3, Canada
+44 1484 509725

This product contains IC: 8976C-BNRGM0AL

This device complies with RSS-247 of the IC rules. Operation is subjected to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including any interference that may cause undesired operations.

CAN ICES-003(B) / NMB-003(B)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. (RSS-247)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to to RSS-247 of the IC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

General Information

General:

The information included in this manual corresponds with our current state of knowledge and is no claim for completeness.

The fertilizer application rates that are recommended using this device are non-binding and do not form a contractual relationship between the receiver and Yara. Warranty or liability for correctness of the fertilizer recommendation is exempted in individual cases as the location and the cultivation conditions may be substantially different. The information provided does not replace any individual consultation.

YARA MAKES NO REPRESENTATIONS, WARRANTIES OR GUARANTIES OF ANY KIND, EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE N-TESTER.

ANY REPRESENTATION, WARRANTY OR GUARANTY OF YARA WHICH MIGHT OTHERWISE BE IMPLIED OR INCORPORATED INTO THIS MANUAL IS HEREBY EXPRESSLY EXCLUDED.

The Yara N-Tester BT is a portable nitrogen meter that measures the chlorophyll content of a leaf. Do not use this instrument for any other purpose. The device must not be modified or be opened e.g. to carry out unauthorized repairs.

The manufacturer and the distributor of the measuring devices do not claim liability for damages or injuries of any kind resulting from an improper use or handling of the devices.

The contents of this manual are subject to change without prior notice because of improvement in performance or function.

Avoid using the instrument if it has been exposed to rain or moisture or if your hands are wet.

Safety Information

Application errors:

Observe the following points in order to avoid incorrect measurements:

- Do not take measurements during incorrect development stages.
- Do not perform measurements on insufficiently developed leaves.
- Do not perform all measurements on the same plant.
- Do not perform all measurements on a small area of the field.
- Do not use the N-Tester on areas with sulphur deficiency.
- Do not use with visible drought stress (leaves rolled together).
- Do not measure using an outdated Atfarm mobile app version.

Battery errors:

The product contains built-in 1.5 V alkaline batteries. For harmless use it is essential:

- Do not disassemble or reconstruct the battery.
- Do not short-circuit the battery.
- Do not incinerate or heat the battery.
- Do not use or leave battery nearby fire, stove, or heated place.
- Do not immerse the battery in water or sea water, or get it wet.
- Do not give the battery impact or throw it.
- Do not drive a nail into the battery, strike it by hammer or tread it.

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List of the used Open-source Components

The listed Open-source software (OSS) components are used within the device under the terms of the respective licenses. The source code corresponding to the Open-source software components is also provided along with the product wherever mandated by the respective OSS license.

Included OOS components: STM32Cube generated files, STM32 Examples

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Ultimate Liberty license https://www.st.com/SLA0044	Copyright (c) 2012-2021 STMicroelectronics
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Knowledge grows



Help & Updates

support@at.farm

<https://support.at.farm/>



**Responsible company,
Returns:**

Yara North America

Reference: N-Tester BT
100 North Tampa Street
Suite 3200 - Tampa, FL
USA



Yara International ASA

Drammensveien 131
0277 Oslo
Norway

Yara Canada

Reference: N-Tester BT
1800 - 1874 Scarth Street
Regina, Saskatchewan S4P 4B3
Canada