

White Leaf Disease Test Kit

One Step Rapid Immunochromatographic Assay

For the detection of White Leaf Phytoplasma in sugarcane

- ❖ **On-site test**
can be done anywhere, anytime
- ❖ **Rapid**
get result within 10 minutes
- ❖ **Easy-to-use**
no experience required
- ❖ **Reliable**
consistent performance

The rapid one-step assay **INNOVA WLD test kit** is developed and manufactured based on advanced immunochromatography technology. The kit is designed for the on-site detection of Phytoplasma, the causative agent of white leaf disease in seedcane nursery plots. The test is very simple and there is no need for special laboratory equipment, growers can easily make their own inspection. Results appear within 10 minutes, and are easy to interpret. Use 25 kits/acre of the nursery which can be replanted into 8 acres. Manufactured in Thailand under the Good Manufacturing Practice: GMP Medical Device Standard.

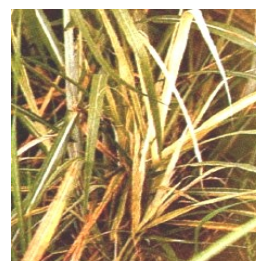


Content of the kit

Each box of Cat. No. 881-25 contains consumable for performing 25 assays.

- Test cassettes: individually packed in foil pouch with disposable pipette and desiccant. (25 tests/kit)
- Instruction Manual

Note: Drilling steel bar is available separately

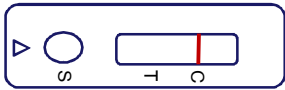


Instructions for using INNOVA WLD test kits

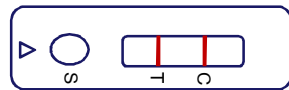
Random Sampling	Tips and Precaution
<p style="text-align: center;">Collecting sugarcane juice samples from 25 locations/acre by a random staircase.</p>	<ul style="list-style-type: none"> • Should test with the main stalk of sugarcane aged 8 months or more. • Nursery plot should be randomly inspected for 25 location/acre. If all the 25 tests do not show positive result, the plot is free from white leaf disease.

Instruction for use	Tips and Precaution	
	1) Use the steel bar drill a main stalk of the randomly selected stool at the third internode above the ground.	<ul style="list-style-type: none"> Always test juice from the main/primary stalk of the cane. Tillers are not recommended. Steel bar should be washed with water and dried before the next test to prevent spreading the disease-causing organisms.
	2) Remove the test cassette from sealed pouch and place on a flat, level surface. Apply 3 drops of the juice, using provided pipette, to the center of "Sample-receiving Window (S)" of the test cassette.	<ul style="list-style-type: none"> If the kit is kept in refrigerator, it must be equilibrated to room temperature for at least 30 minutes before use. Once the pouch is opened, the test cassette must be used within 15 minutes. Do not use the kits beyond the expiration date. Do not touch the viewing window
	3) Wait 10 minutes and read the result.	<ul style="list-style-type: none"> Read the result within 10 minutes of starting the test. Ignore any changes which happen after 20 minutes.

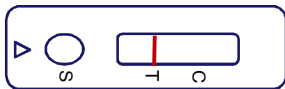
Interpretation of results



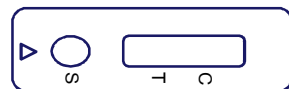
'C' line only: negative result



'C' and 'T' lines: positive result



T' line only: test is invalid



No lines: test is invalid

Storage

INNOVA WLD test kit is moisture-sensitive, thus should be stored in a cool, dry place, at 4-30°C. Do not expose to direct sunlight.

Performance of the test kit

Group	Number tested	Band intensity	Number with results	Percentage
White Leaf Disease	110	-	32	29.1%
		+	25	70.9%
		++	17	
		+++	36	
Recover From WLD	80	-	55	68.8%
		+	18	31.2%
		++	6	
		+++	1	
Healthy	80	-	72	90.0%
		+	7	10.0%
		++	1	

NEGATIVE The sugarcane is free from white leaf disease.

POSITIVE The sugarcane is infected by white leaf disease phytoplasma.

INVALID The result is invalid and cannot be interpreted. Should repeat the test using a new sample and a new test device. If the same result occurs, the sample cannot be assayed using this test device.

- If any tests in the same plot is resulted as white leaf infection, no need to test further.

- Do not use seedcane from the sugarcane plot which white leaf disease is detected

Comparison of WLD kit and PCR in sugarcane field test

Sugarcane with no apparent white leaf disease				White leaf disease sugarcane			
Age months	Number tested	KIT positive	PCR positive	Age months	Number tested	KIT positive	PCR positive
6	40	38	31	6	3	2	1
7	38	25	15	7	1	1	1
8	20	3	11	9	2	2	2
9	7	7	4	10	2	0	1
10	16	2	13	14	19	7	7
11	6	-	6	Total	27	12	12
12	9	-	7				
Total	136	75	87				

Thailand patent pending

Application No. 0801002804 "Processes for the detection of White Leaf Phytoplasma in sugarcane"



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