



Fumo-V[®] AQUA[™]
QUANTITATIVE STRIP TESTS

INSTRUCTION GUIDE FOR CORN



VICAM[®]

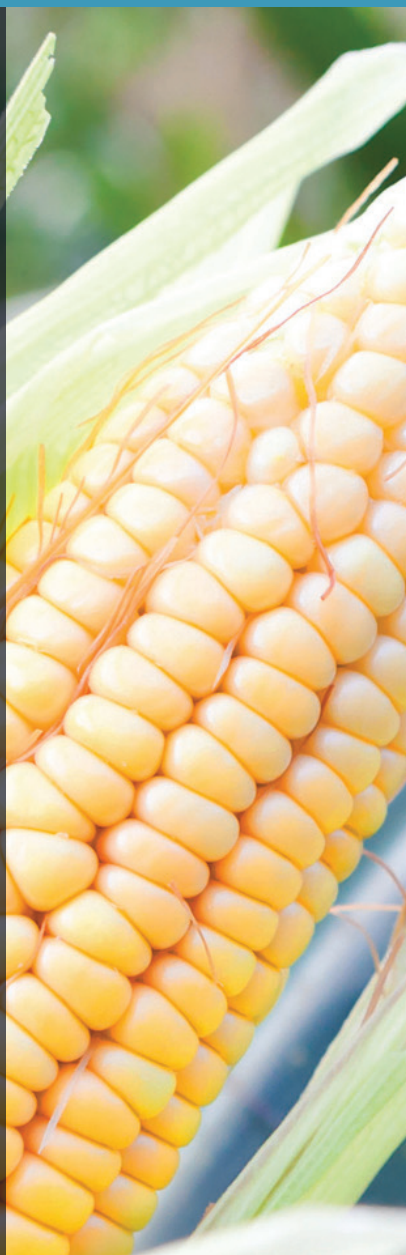
A Waters Business

CULTIVATING SUCCESS THROUGH SCIENCE™

For more than 20 years, VICAM has been the global provider of choice for next-generation food safety technology and rapid mycotoxin test solutions.

The goal of securing the world's food supply requires knowledge, cooperation, and collaboration. To advance that objective, VICAM works closely with government regulatory agencies, international standards bodies, major food industry laboratories, and leading research institutions around the world. With a global scientific and distribution presence, VICAM has access to the latest research advances, industry expertise, and regulatory information needed to design solutions that maximize food safety and quality at every stage of the global food supply chain.

As the trusted partner of the agricultural industry, VICAM is proud to consistently deliver the superior products, responsive service, and individualized support for your industry-specific goals.



FUMO-V AQUA CORN KIT 176003952
(25 tests)

KIT CONTENTS

Fumo-V Strip Tests 100000264
Micro-Pipette Tips, 100 µL 600001109
Filter Paper 600001106
Extraction Tubes, 40 mL 600000827
Fumo-V AQUA Corn Barcode 715005262

REQUIRED BUT NOT INCLUDED

AQUA Premix Solution 100000339
(900 mL)
AQUA Premix Solution (4 L) 100000345
AQUA Premix Solution (20 L) 100000347
OR
AQUA Solution A 100000336
AQUA Solution B 100000337

Strip Test vials (25) 600000813
(for samples over 20ppm)

Vertu Mycotoxin BEQ, 110V 176002078

Vertu Mycotoxin BEQ, 220V 176002079

EQUIPMENT PACKAGE CONTENTS

Vertu Reader, 110V & 220V 725000574
Vertu Bar-Code Scanner 725000576
Printer, 110V & 220V 725000577
Vortex Mixer 23040
Digital Timer G4036
Micro-Pipettor, 100 µL 600001108
Filter Funnel, 65 mm, (4 pack) 36020
Strip Test Vial Rack 600001107
Graduated Cylinder, 25 mL 600000937

Vertu Basic Instruction Guide 715002426
Extraction tubes 600000827
Micro-pipette tips 600001109
Strip test filters 600001106
Vortex sample holder 600001136
Graduated cylinder 50mL 20050
Strip test vials 600000813

STORAGE AND SAMPLING



STORAGE RECOMMENDATIONS

Strip tests must be refrigerated. Store at 4 ° – 8 °C (39 ° – 46 °F).

Strip test and sample extract should be at room temperature of between 20 °C (68 °F) and 25 °C (77 °F) before use. After removing strips from refrigerator leave strips at room temperature for 20 minutes or longer to equilibrate.

SAMPLING

Mycotoxins tend to occur in scattered locations in large corn loads and may be detectable in only a small percentage of kernels in a lot. The uneven distribution of contaminated corn kernels can cause test results to vary significantly from sample to sample. It is therefore essential to take a representative sample from the lot. Product must be collected from different locations in a static lot based on a probing pattern. The probe must draw from the top to the bottom of the lot. The samples obtained from the probes must be ground and mixed well and a subsample taken for testing. Contact your local regulatory authorities or VICAM for more information on sampling.



The information contained in each barcode includes the test name, test lot number, method of scanning, parameters of measure, and algorithm for result calculation. This information is specific to each lot of strip test cassettes and varies from barcode to barcode ensuring the accuracy, precision, and reliability of each test.

The lot number and test type displayed on the Vertu reader must match the label information on the strip test package. If the reader has just been turned on, confirm that scan is selected on the display screen and then press the center button on the keypad. If the reader has already run a test, use the arrow keys to select “NT” and then press the center button.

When the scanner is ready to read the barcode, the reader will beep 3 times. Press the yellow trigger on the barcode scanner and aim the laser beam point at the barcode for the test you are running. When scanning the barcode, it may be necessary to adjust the distance between the scanner and the barcode while pressing the yellow trigger. When the barcode is scanned, the reader will beep once and the display screen will show the correct information.

PREPARATION AND FEATURES

PREPARATION OF PREMIXED AQUEOUS EXTRACTION SOLUTION

Water plus AQUA Solution A and AQUA Solution B can be added individually to each sample when running one sample at a time. Alternatively a premixed Aqueous solution containing all three reagents (water, AQUA Solution A and AQUA Solution B) can be made in advance and the one solution added to the sample.

To make 900 mL of AQUA Premix Solution, combine the following reagents in a glass or plastic container in the order listed below:

1. 540 mL water
2. 180 mL AQUA Solution A (one bottle VICAM p/n 100000336)
3. 180 mL AQUA Solution B (one bottle VICAM p/n 100000337)

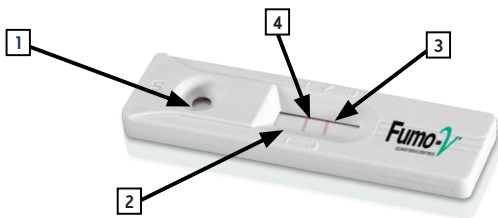
Mix well.

Alternatively, the following AQUA Premix solutions can be purchased from VICAM:

- 900 mL (for 25 tests) p/n 100000339
- 4 L (for 150 tests) p/n 100000345
- 20 L (for 750 tests) p/n 100000347

PRODUCT FEATURES

Fumo-V Strip Test Cassette



- 1 Sample Well
- 2 Results Window
- 3 Control Line
- 4 Test Line

PIPETTE TERMS

Aspirate – to draw the sample up into the pipette tip

Blow out – to empty the tip completely

PIPETTING TECHNIQUES

1. Press the operating button to the first stop.
2. Dip the tip into the solution and slowly release the operating button to "wet" the tip.
3. Press the operating button to the first stop again and slowly release the operating button. Wait 1–2 seconds and then withdraw the tip from the liquid, touching it against the edge of the reservoir to remove excess liquid.
4. Dispense the liquid into the receiving vessel by gently pressing the operating button to the first stop and then press the operating button to the second stop. This action will empty the tip. Remove the tip from the vessel, sliding it up the wall of the vessel.
5. Release the operating button to the "Ready" position.
6. Please consult the chart for visual instructions on operating the pipette. Be sure to always hold the pipette in a vertical position.

PIPETTE POSITIONS

1. Press pipette button down to first stop and place the tip into liquid.
2. With tip in liquid, slowly aspirate (draw up) by letting button return to "Ready" position.
3. Dispense liquid into receiving vessel by pressing button to first stop and then to second stop. This will blow out the tip.



FUMO-V AQUA PROCEDURE FOR CORN

1. Calibrate the Vertu reader daily by scanning in the Fumo-V AQUA corn bar code for ground corn for the lot the of strips being used. You will hear a beep when the bar code is accepted. Make sure the lot number displayed on the reader is the same lot number as the strips.
2. Weigh 5.0 g +/- 0.1 g ground corn and place into an extraction tube.
3. Add to the extraction tube 25 mL of AQUA Premix Solution.
(Alternatively, 15 mL of purified water followed by 5 mL of AQUA Solution A, then 5 mL AQUA Solution B can be added to the sample).
4. Cap the extraction tube and vortex at high speed for 2 minutes.
5. Filter the extract into a clean extraction tube.
6. Transfer 100 μ L of filtered extract from the extraction tube to the circular opening on the Fumo-V strip at a rate of about 1 drop per second. Be sure to hold the pipette vertically. The pipette tip can touch the bottom of the cassette.
7. Allow the strip test to develop for 5 minutes.



8. Insert the Fumo-V strip test into the Vertu reader (circular opening side in first).
9. Press the center key on the reader to take a reading. If the display shows a numerical reading, go to step 12.
10. If the reader displays “> Range”, dilute sample extract 1 to 5 with AQUA premix solution by pipetting 400 μL of AQUA premix to a strip test vial then using the same tip, add 100 μL extract to the vial and mix.
11. Repeat steps 6 – 9 with the diluted extract and multiply the displayed result by 5 to obtain the true level of contamination.
12. To print the result, use the arrow keys to move the cursor to “P” in the upper left hand corner of the display screen. Then press the center button on the keypad.
13. To run the next sample, use the arrow keys to move the cursor to “NT” and press the center button on the keypad. If using the same lot of strip test cassettes, insert the next sample. If using a different lot, scan in the new barcode before inserting the next sample.

Assay range: 0 – 20ppm (1st strip test without dilution)

20 -100ppm (2nd strip test with dilution)

Limit of detection: 0.2 ppm



1. When scanning in the barcode, make sure the red + in the center of the barcode scanner is positioned in the center of the barcode. It may be necessary to adjust the height of the barcode scanner to position it correctly for scanning.
2. Press the center button on the keypad quickly and gently to read samples. Pressing the center button on the keypad long and hard will turn the instrument off.
3. Purified water can be reverse osmosis purified, distilled or deionized water.
4. When running one sample at a time, add water first, then AQUA Solution A and AQUA Solution B.
5. All strips should have a visible control line.
6. Do not run test in a location where air from an air conditioner, heater, or window will blow directly on strips.
7. If funnel is being used, clean the funnels using detergent and rinse with water between runs or dispose.





Sustainable – Safe, solvent free testing

Fast screening – Results in 5 minutes*

Simple – No special training required

Precise – Limits of detection as low as 0.2 ppm

Convenient – Easily performed onsite or in the lab

Durable – Long shelf life

Accurate – Real-time data which can be printed or downloaded to a computer

Wide Range – 0 to 100 ppm**

**after extraction.*

***with dilution.*

VICAM®

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KEY LOCATIONS

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Waters

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