2026

Neogen® Harvest Preparation Pack

NEOGEN®

Contents

United States
Mycotoxin Legislation

Continual testing for mycotoxins is important to help ensure that your grains are of good quality and below the regulatory limits set for mycotoxins in your region.

Regulatory & Advisory Levels for Selected Mycotoxins

Mycotoxin	Commodity/ Population	U.S. Level (Action/Advisory/ Guidance)	Level Type
Aflatoxins	Human foods (general)	20 ppb	Regulatory Level
	Corn/peanut/other feeds (immature, dairy, pet, unspecified)	20 ppb	Regulatory Level
	Breeding cattle, swine, mature poultry feeds	100 ppb	Regulatory Level
	Finishing swine feeds (≥100 lbs)	200 ppb	Regulatory Level
	Finishing beef cattle feeds	300 ppb	Regulatory Level
Deoxynivalenol (DON/ Vomitoxin)	Finished wheat products — humans	1 ppm	Advisory Level
	Grain & grain by-products — cattle & poultry (≤50% of diet)	10 ppm	Advisory Level
	Ruminating dairy cattle older than 4 months (grain/by-products ≤50% of diet)	10 ppm (ingredient) / 5 ppm (total ration)	Advisory Level
	Distillers grains, brewers grains, gluten feeds/meals — ruminating beef & feedlot cattle (≤50% of diet)	30 ppm	Advisory Level
	Grain & grain by-products — swine (≤20% of diet)	5 ppm	Advisory Level
	Grain & grain by-products — all other animals (≤40% of diet)	5 ppm	Advisory Level

Mycotoxin	Commodity/ Population	U.S. Level (Action/Advisory/ Guidance)	Level Type
Fumonisin	Human — Degermed dry milled corn products	2 ppm	Advisory Level
	Human — Whole/partially milled corn	4 ppm	Advisory Level
	Human — Popcorn	3 ppm	Advisory Level
	Animal — Pet food (corn/corn by-products ≤50% of diet)	10 ppm	Advisory Level
	Animal — Equids, rabbits (corn/corn by-products ≤20% of diet)	5 ppm	Advisory Level
	Animal — Swine, catfish (corn/corn by-products ≤50% of diet)	20 ppm	Advisory Level
	Animal — Breeding ruminants/poultry/ mink (≤50% of diet)	30 ppm*	Advisory Level
	Animal — Ruminants >3 mo. raised for slaughter & mink	60 ppm*	Advisory Level
	Animal — Poultry raised for slaughter (≤50% of diet)	100 ppm	Advisory Level
Zearalenone	All feed (general advisory guidance)	<500 ppm	Industry Advisory Level (no specific FDA regulatory limit)
Ochratoxin A	All feed (general advisory guidance)	<20 ppb	Industry Advisory Level (no specific FDA regulatory limit)
T-2 / HT-2	All feed (general guidance)	<500 ppb	Recommendation Level (no current formal FDA action/ advisory level)

Resources:

U.S. Food and Drug Administration, 2000, 2001, 2010

For global legislative levels visit neogen.com for the most up to date resources

Canada
Mycotoxin Legislation

Continual testing for mycotoxins is important to help ensure that your grains are of good quality and below the regulatory limits set for mycotoxins in your region.

Regulatory & Advisory Levels for Selected Mycotoxins

Mycotoxin	Commodity/ Species	Canada Level	Level Type
Aflatoxins	All species/class of livestock feed	20 ppb	Regulatory Level
	Nut products for human consumption	15 ppb	Regulatory Level
Deoxynivalenol (DON)	Uncleaned soft wheat for human consumption	2 ppm	Regulatory Level
	Calves, kids, lambs, all other classes of swine feed	2 ppm	Regulatory Level
	Beef cattle, sheep, horses, non-lactating dairy cattle feed	10 ppm	Regulatory Level
	Other ruminants, poultry, rabbits, non-salmonid fish feed	5 ppm	Regulatory Level
	Starter swine (<20 kg) feed	1 ppm	Regulatory Level
	Salmonid fish	0.6 ppm	Regulatory Level
Fumonisin	Horses, rabbit feed	1 ppm	Regulatory Level
	Swine feed	10 ppm	Regulatory Level
	Breeding bulls & lactating dairy cattle, laying hens & breeding roosters	15 ppm	Regulatory Level

Mycotoxin	Commodity/ Species	Canada Level	Level Type
	Other ruminants feed	30 ppm	Regulatory Level
	Other poultry feed	50 ppm	Regulatory Level
Zearalenone	Gilt diets	<1–3 ppm	Recommendation Level
	Cow diets	10 ppm (1.5 ppm if other toxins present)	Recommendation Level
	Sheep and pigs	Concern at 0.25–5 ppm	Recommendation Level
Ochratoxin A	Swine diets (kidney damage)	0.2 ppm	Recommendation Level
	Swine diets (reduced weight gain)	2 ppm	Recommendation Level
	Poultry diets	2 ppm	Recommendation Level
T-2 / HT-2	Swine and poultry	<1 ppm	Recommendation Level

Resources:

Canadian Food Inspection Agency, 2024

Health Canada, 2020

For global legislative levels visit neogen.com for the most up to date resources

Which Product Best Suits Your Testing Needs?

Neogen® can support your testing needs with our innovative range of proven mycotoxin testing solutions. Ensure you are efficiently set up and using the correct assay to maximize the effectiveness of your seasonal harvest testing and beyond.

Why use Reveal® Q+ / Q+ MAX lateral flow tests?

Quantitative: Knowing the accurate level of mycotoxins present allows you to evaluate the safety of your raw materials and compliance with regulatory levels.

Easy Data Management: Protect the integrity of your data with the automated transfer of data from the system to your data program.

Fast, Precise Results: The lateral flow format simplifies your work process with standardized testing protocols, which provide actionable results.

Why use Veratox® ELISA tests?

Quantitative: Get an exact concentration of mycotoxins present within your samples to determine the safety and regulatory compliance of your products.

Batch Testing: Our ELISAs allow you to test up to 19 samples at a time against test controls.

Precise Results: ELISA testing produces comparable results to analytical methods, such as HPLC.

Efficient Workflow: With only minimal training required, the simple process means no wasted time or resource within your lab.

Summary of Benefits:

Lateral Flow Test Format	ELISA Test Format
Ease of use	Multiple samples per run / assay
Quick turnaround time	Batching of samples
Smaller space / no laboratory	Laboratory space
Non-scientific staff / high staff turnover	Trained staff / low staff turnover
Raptor® workflow – walk away test	Similar workflow across the range
Industry standard	Industry standard
Water based extraction for Q+MAX (no solvent required)	Suitable for petfood manufacturer (finished lab product)

Lateral Flow
Sample Workflow

Our Reveal® Q+ tests are simple, easy-to-use lateral flow tests, providing quantitative results in minutes. Reveal Q+ lateral flow format utilises solvent and water based extractions needed for analysis of complex commodities. Neogen's Mycotoxin Aqueous Extraction (MAX) packet eliminates the use of solvents, and allows for one common extraction for many lateral flow tests.

Results from our lateral flow format tests are interpreted using our innovative Raptor® platform, available in two formats to suit your testing needs. Ensure your reader is calibrated and up to date ready for harvest testing **here**.

A summary of our lateral flow protocol is below. Should you require further training or support, please contact your Neogen representative or email.

Example of Reveal Q+ MAX Procedure

Add contents of a MAX 1 packet to 10 g of sample.

Add 50 mL distilled or deionized water and shake vigorously, once settled filter and collect filtrate.

Mix sample diluent with sample extract.

Insert test strip into the Raptor cartridge and insert into reader.

Add prepared sample to the Raptor cartridge, the reader will start automatically and show results.

ELISA Sample Workflow

Veratox® quantitative ELISA microwell assays are perfect for those with laboratory set ups, providing accurate and quantitative results in a wide range of levels including lower levels with our high sensitivity assays.

A summary of our ELISA protocol is below. Should you require further training or support, please contact your Neogen representative or email.

Example of Veratox Procedure

Remove 1 red mixing well for each sample plus 4 for controls. Remove equal number of clear antibody wells and place in well holder. Add 100 µL of conjugate to each red-marked mixing well.

Add 100 µL of controls and extracted samples to the red-marked mixing well. Make sure the controls are in the correct order per the kit instructions.

Mix well, then transfer (using the 12- channel pipette) 100 µL to the clear antibody wells. Incubate at room temperature for 2 minutes, sliding the microwell holder back and forth gently for the first 30 seconds.

Shake out the contents of the antibody wells.

Wash wells thoroughly with deionized water. Repeat wash step 5 times.

Tap out the water on an absorbent paper towel.

Transfer (using the 12-channel pipettor) 100 µL of substrate from the reagent boat to the antibody wells. Incubate at room temperature for 3 minutes, sliding microwell holder back and forth gently for the first 30 seconds.

Transfer (using the 12-channel pipettor) 100 µL of Red Stop Solution from reagent boat into the antibody wells and mix by sliding back and forth on a flat surface.

Wipe the bottom of the microwells with a dry cloth and read using a microwell reader with a 650 nm filter.

The result should read with a coefficient above 0.980 to be considered valid. Sample results above 50 ppb must be diluted and retested. Sample results below the limit of quantification must be reported as < 5 ppb.

Harvest Preparation Checklist

Testing:

Do you have the correct kits?

Do you have enough kits to meet your testing requirements?

Is your staff fully trained on assays and readers?

Are all test kits within shelf life?

Reader:

Is your software up to date?

Is it calibrated?

Is the data manager installed?

Sample preparation:

Do you have a filtering mechanism?

Do you have the appropriate pipettes and pipette tips?

Do you have a grinder?

Do you have the correct solvent/water?

Do you have the sample containers?

Ready to Go? If not, we are here to help!
Please contact your Neogen Representative.

Reader Check and Calibration

What is a Start Up Calibration Check?

During boot up, the instrument performs a baseline calibration check. This check verifies that the camera is in line with the position of the cartridges. It also confirms that the illumination is consistent with its factory calibrated settings. When the validation passes, the unit will boot up directly to the home screen. If the validation fails, a message will be displayed indicating this failure. Please contact your local Neogen representative for further support.

Raptor® Manual Calibration

Advanced Settings:

The advanced settings screen is password protected for Quality Managers to perform certain functions. The password is 6364 to access advanced settings. Advanced settings include Language, Hardware Settings, and Diagnostics.

Diagnostics:

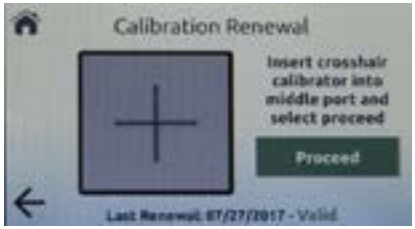
The diagnostics screen is used to access the annual heater testing. To perform annual calibration verification of the heating elements, set the desired temperature and enable the heater block for each port by selecting the button for each heater. Once at the desired temperature, add the temperature probe to each port and set a timer for five minutes. After five minutes, measure the temperature of the port. The temperature reading should be within 2 degrees of the set point.

The second tab within Diagnostics will reset factory settings and should only be used when instructed by trained technical support technicians.

Calibration Renewal:

The annual calibration renewal is used to validate the positional calibration of the internal components of the instrument. Each instrument comes with a white calibration cartridge that is used for this calibration.

To perform the calibration, insert the calibration cartridge into the centre port with the crosshair facing the internal camera. Once in place, press Proceed on the screen. The calibration verification will reset, providing the date of calibration and a valid status indicator for the instrument.



Raptor Solo Manual Calibration

Diagnostic Check

The Raptor Solo requires users to perform a diagnostic check annually to validate the system's optics module.

- You can check the status of your diagnostics in the Unit Status screen located in the Side Menu.

To perform the diagnostic check:

- Access the settings menu by pressing the gear icon on the top left-hand side of the Main Menu.
- Select diagnostic check
- Insert the white crosshair cartridge into the reader port with the + facing you
- Press start
- Status of Valid will show on the bottom of the screen after the completion of the diagnostic check. If the check fails, contact Neogen.

If you require further support please contact your local Neogen Representative

Additional Services and Support from Neogen

Our in-depth product training can be delivered where and when you need it. Our talented team is on hand to provide comprehensive training and support tailored to your business needs, from customized sessions catered to all skill levels, to technical troubleshooting and guidance.

LabLive

Set up an interactive meeting with our technical experts via our LabLive tool. This remote session offers you support, training and troubleshooting from the comfort of your own desktop or lab, at a time that is convenient for you. Our free support tool links you directly with our technical experts through your own personal meeting, giving you quicker and easier support.

Proficiency Testing

We offer regular mycotoxin proficiency testing to help support compliance with customer demands, certifications, and regulatory requirements. We will send you spiked samples to blind test and report results on, then assess your results against the known sample levels to produce a confidential report to validate the efficacy of your test procedure and results.

Mycotoxin Reference Material

When looking to validate your in-house results, we can also provide naturally contaminated mycotoxin reference material (MRM) for testing. The samples will have varying levels of toxin present and can be used as part of training or internal certification to confidently evaluate your sampling, extraction, and testing performance.

Additional resources include:

- Validation reports
- A wide variety of validated matrices
- Sample validation feasibility services
- Technical service support
- Equipment for loans and servicing subject to regions and availability
- Method approvals on select kits

Neogen has over 40 years of industry experience in the detection and management of mycotoxins, offering a comprehensive range of testing solutions that can support growers and manufacturers, every step of the way. Our full range of solutions combine quality, performance, support and reactivity to help you test at all stages; from harvest, through storage, to finished food and feed products.

It's not just about our products; our experienced R&D, Technical Support and Customer Service teams are on hand to offer guidance and support every step of the way, including through our LabLive remote training tool, webinars, proficiency testing, mycotoxin reference material and much more.

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