

Bayer cotton trait wins Canadian clearance as US Regulatory review advances

29 October 2026 | News

The Canadian decision covers food use only; the US Department of Agriculture is separately reviewing Bayer's petition for nonregulated cultivation status



Bayer CropScience has secured Canadian food-safety clearance for its genetically modified cotton MON 89151, marking a regulatory milestone for the company's next-generation insect-resistant cotton technology.

Health Canada concluded its assessment on July 30, 2026, determining that food derived from the cotton variety does not pose a greater risk to human health than food from conventional cotton varieties. The application was submitted in 2025, and the assessment examined the crop's molecular characteristics, nutritional composition, toxicity and potential to cause allergic reactions.

The decision applies specifically to food use in Canada. It should not be interpreted as authorisation for commercial cultivation in the country, which is a separate regulatory matter.

Cotton is primarily cultivated for its fibre, but its seeds also supply ingredients used in food and animal feed. Cottonseed oil is used in food processing, while cottonseed meal has applications in feed. Regulatory assessments therefore examine whether genetic modifications introduce new food-safety concerns or materially alter the crop's nutritional profile.

Health Canada found no additional human-health concerns associated with MON 89151 and identified no new allergenicity concerns. Its nutritional assessment also found no nutritionally significant differences compared with conventional cotton, despite some statistically significant variations in individual components.

Three-protein technology targets insect pests

MON 89151 has been engineered to express three insecticidal proteins: Cry1Da_7, Cry1B.3 and Vip3Cb1.1. The first two are derived from proteins associated with *Bacillus thuringiensis*, while Vip3Cb1.1 originates from a *Paenibacillus* bacterium.

The combination is designed to protect cotton against selected lepidopteran pests, a group that includes caterpillars responsible for significant crop damage. The target pests include fall armyworm, tobacco budworm and cotton bollworm.

By combining three insecticidal proteins, the trait is intended to provide a broader set of biological control mechanisms than a single-protein approach. The effectiveness of such a strategy, including its contribution to resistance management, depends on pest susceptibility, field performance and appropriate stewardship practices.

Bayer is positioning MON 89151 as a foundational technology for its next generation of insect-resistant cotton. The company's broader objective is to improve crop protection through engineered traits, although the extent to which the technology reduces insecticide applications will depend on local pest pressure, farming practices and the products used alongside the trait.

US regulatory review continues

The Canadian decision follows an earlier US food-safety consultation. The US Food and Drug Administration completed its review of MON 89151 for human and animal food uses on June 6, 2025, under Biotechnology Notification File No. 202. The FDA's consultation addressed food safety, while the assessment of the insecticidal proteins themselves falls under the remit of the US Environmental Protection Agency.

A separate process is underway for potential commercial cultivation in the United States. On September 21, 2026, the US Department of Agriculture's Animal and Plant Health Inspection Service published a notice inviting public comments on Bayer's petition seeking a determination that MON 89151 should no longer be subject to regulation under the agency's plant-pest framework.

The notice included a draft plant-pest risk assessment and opened a 60-day comment period. The process allows interested parties to submit views before the agency reaches a decision; publication of the notice does not itself constitute final authorisation for cultivation.

Regulatory milestones shape the commercial outlook

The Canadian food-use clearance adds to MON 89151's regulatory progress, while the ongoing US review will be important to its potential deployment in the field.

For agricultural biotechnology developers, securing food-safety clearance and obtaining permission for cultivation are distinct steps. Each jurisdiction may apply separate requirements, and approvals in one market do not automatically confer authorisation elsewhere.

MON 89151's commercial prospects will therefore depend on the outcome of outstanding regulatory reviews, its performance against target pests and the effectiveness of resistance-management practices. The Canadian decision establishes that Health Canada found no food-safety objection to the variety's use as food, while the separate US cultivation process remains a key milestone to watch.