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CDC Closes Polymicrobial Alfalfa and Broccoli Sprout Outbreaks as FDA Seed Traceback Opacity Draws Scrutiny

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The Centers for Disease Control and Prevention (CDC) and the U.S. Food and Drug Administration (FDA) have formally closed two concurrent multistate foodborne outbreak investigations linked to contaminated alfalfa and broccoli sprouts that sickened a combined 111 people across 19 states [1, 2] . While whole- genome sequencing (WGS) via the national PulseNet surveillance network and supply-chain traceback successfully pinpointed the exact commercial seed lots driving both outbreaks -- alfalfa seed lot SAL2-24JB and imported New Zealand broccoli seed lot #W4105 -- the FDA's refusal to publicly identify the primary upstream supplier of the polymicrobial alfalfa seed lot has reignited debate over federal trade-secret exemptions in agricultural outbreak reporting [1, 3] .

Dual Outbreak Telemetry: Polymicrobial Alfalfa and Imported Broccoli Seed Lots

On November 9, 2026, the CDC declared an end to the multistate alfalfa sprout investigation after recording 77 laboratory-confirmed illnesses across 16 states, with 6 hospitalizations and zero fatalities [1, 3] . Unusually for a single agricultural commodity lot, epidemiological and genomic clustering revealed a polymicrobial contamination event spanning four distinct bacterial lineages: three serotypes of Shiga toxin-producing Escherichia coli (STEC O26:H11 , O103:H25 , and O168:H8) alongside Salmonella enterica serovar Agona [1, 2] . Three patients were clinically co-infected with both STEC and Salmonella simultaneously [3] .

| Outbreak Parameter | | Alfalfa Sprout Investigation | | Broccoli Sprout & Seed Investigation |

| CDC / FDA Closure Date | | November 9, 2026 | | November 4, 2026 |

| Confirmed Cases & Reach | | 77 cases across 16 states (3 dual co-infections) | | 34 cases across 6 states (ID, MN, MT, OR, UT, WA) |

| Hospitalizations / Deaths | | 6 hospitalizations / 0 deaths | | 3 hospitalizations / 0 deaths |

| Causative Pathogens (WGS) | | STEC O26:H11, O103:H25, O168:H8 + Salmonella Agona | | Salmonella enterica serovar Bovismorbificans |

| Implicated Seed Lot | | Alfalfa seed lot SAL2-24JB | | Broccoli seed lot #W4105 (imported from New Zealand) |

| Downstream Recalls | | Everything Sprouts LLC (MN), Berlin Seeds (OH), International Specialty Supply | | Evergreen Fresh Sprouts (ID), Gardeners Basics, EAK / Home Grown, Eden Brothers |

Five days earlier, on November 4, 2026, federal investigators closed a parallel outbreak of Salmonella enterica serovar Bovismorbificans that infected 34 people

across six western and midwestern states (Idaho, Minnesota, Montana, Oregon, Utah, and Washington), resulting in 3 hospitalizations [2, 4] . Traceback linked those cases to broccoli seed lot #W4105 , imported from New Zealand, which had been distributed both to commercial hydroponic growers -- such as Evergreen Fresh Sprouts, LLC of Moyie Springs, Idaho -- and to online retail seed companies selling direct-to-consumer home-sprouting packets across Amazon, Walmart, TikTok Shop, and Etsy [4] .

Seed Coat Architecture and the Germination Amplification Reactor

Unlike leafy greens or tree fruit that are primarily contaminated on exposed epidermal surfaces during harvest or post-harvest washing, sprout-associated outbreaks almost universally originate on the farm where the parent seed crop is grown [5] . Alfalfa (Medicago sativa) and brassica seeds are harvested mechanical field crops exposed to agricultural runoff, wild ruminants , and bird vectors. When fecal enterobacteria such as Salmonella or non-O157 Shiga toxin-producing E. coli contact maturing seed pods, bacterial cells adhere to microscopic fissures in the outer seed coat (testa) and become embedded within the hydrophilic polysaccharide mucilage layer as the seed dries to low moisture content (8-10% water by weight) [5, 6] .

In this desiccated state, enteric bacteria enter a metabolically dormant survival phase with upregulated osmoprotectant solute transporters (trehalose and glycine betaine synthesis) and heat-shock chaperones, allowing trace contamination levels below 0.1 to 1 colony-forming unit per kilogram (CFU/kg) to remain viable inside seed sacks for months or years [5] . Because bacteria are shielded inside hydrophobic micro-crevices of the seed coat, pre-germination chemical disinfection -- typically soaking seeds in 20,000 ppm calcium hypochlorite , Ca(OCl) 2 -- achieves only a 2- to 3-log 10 reduction and cannot reliably sterilize internal crevices without destroying seed embryo viability [5, 6] .

Once seeds are transferred into rotary germination drums maintained at 22-28 deg C with continuous misting (water activity a w > 0.99), imbibition ruptures the seed coat and releases a nutrient-rich exudate of simple carbohydrates (glucose , fructose, sucrose) and free amino acids. Within 48 to 72 hours of germination, surviving Salmonella or STEC cells undergo exponential binary fission , amplifying by 3 to 6 orders of magnitude (10 3 to 10 6 CFU/g of finished sprouts) and forming biofilm matrices across emerging root hairs (rhizoids) and cotyledons that cannot be removed by consumer washing [5, 6] .

Non-O157 STEC Evasion and Home-Sprouting Surveillance Gaps

The two 2026 outbreaks expose distinct structural blind spots in Subpart M of the FDA Food Safety Modernization Act (FSMA) Produce Safety Rule (21 CFR 112.141-112.150), which governs commercial sprout operations [2, 5] :

* Non-O157 Shiga Toxin Serotypes in Spent Irrigation Water: Under 21 CFR 112.144, commercial sprout operations must test spent sprout irrigation water (SSIW) from every production batch for Salmonella species and E. coli O157:H7. However, the alfalfa seed lot SAL2-24JB carried three non-O157 STEC serogroups (O26:H11 , O103:H25 , and O168:H8) encoding bacteriophage -borne Shiga toxin genes (stx1

and/or stx2) alongside the locus of enterocyte effacement (eae intimin) [1, 3] . Rapid immunoassays tuned narrowly to the O157 lipopolysaccharide O-antigen can miss non-O157 serogroups unless broad PCR screening for stx1/stx2 or chromogenic agar panels are deployed alongside Salmonella enrichment.

* E-Commerce Home-Sprouting Seed Packets: In the Salmonella Bovismorbificans broccoli sprout outbreak, contaminated seed lot #W4105 bypassed commercial Subpart M testing entirely when repackaged into consumer gardening pouches sold on online marketplaces [4] . Home sprouters germinate seeds in countertop mason jars without calcium hypochlorite seed treatment or spent-water microbiological testing, turning trace seed-lot contamination directly into household exposure.

FDA Traceback Secrecy and Confidential Commercial Information Rules

While downstream sprouters (Everything Sprouts, LLC) and regional seed distributors (Berlin Seeds and International Specialty Supply) were publicly named in recall notices for alfalfa seed lot SAL2-24JB, the FDA declined to disclose the identity of the upstream agricultural producer that grew and harvested the contaminated seed lot [1, 3] . Under federal regulations governing Confidential Commercial Information (21 CFR 20.61) and the Trade Secrets Act (18 U.S.C. 1905), the FDA treats supply-chain distribution invoices and upstream grower identities as proprietary commercial records unless disclosure is deemed strictly necessary to enable consumer recalls of labeled retail products [2, 3] .

Food-safety epidemiologists and legal analysts note that once a seed lot is withdrawn at the wholesale level, the agency rarely names the originating seed farm or conditioning facility [3] . However, because a single commercial seed harvest is frequently blended, split, and brokered across multiple domestic and international distributors under different sub-lot codes, withholding the upstream seed producer's identity makes it harder for independent sprout growers, food-safety auditors, and state agriculture departments to evaluate multi-year contamination patterns at the farm of origin [3, 5] .

References & Primary Sources

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* [3] Food Safety News. CDC declares end to outbreak traced to sprouts; FDA still refuses to name seed supplier (November 10, 2026). -- https://www.foodsafetynews.com/

* [4] Centers for Disease Control and Prevention (CDC). Salmonella Bovismorbificans Outbreak Linked to Broccoli Sprouts and Imported Seed Lot #W4105 (Closed November 4, 2026). -- https://www.cdc.gov/salmonella/outbreaks/index.html

* [5] National Advisory Committee on Microbiological Criteria for Foods (NACMCF).

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* [6] Electronic Code of Federal Regulations (eCFR). 21 CFR Part 112 Subpart M -- Sprouts (Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption). -- https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-112/subpart-M