Eggplant

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Abstract

Eggplant in the HMI library has 303 reported results for lead, cadmium, total arsenic, inorganic arsenic, dimethylarsinic acid, monomethylarsonic acid, total mercury, nickel, chromium, aluminum, tin, antimony, uranium, Co, Cu, Fe, Mn, Zn, V, Se, Ag, As, B, Ba, Hg, Mo, Sr and Ti from 27 sources. WHO gems/food submissions reported lead in eggplant as sold from 244 results in 3 reporting regions, with a subgroup median of 5 µg/kg. In the US Total Diet Study, cooked eggplant had a median lead result below 4 µg/kg across 6 composites from 2017-2018.

1 | Eggplant overview

Across 8 other studies of ordinary farms and markets, reported lead means and medians on a dry-weight basis ranged from 10 µg/kg (Saleem et al. 2025) to 62,500 µg/kg (Younis et al. 2023).[8,9] For cadmium, 2 studies on an as-sold or fresh-weight basis reported means and medians from 11 µg/kg (Spungen et al. 2024) to 40 µg/kg (Guerra et al. 2012).[3,10] Higher results came from contaminated or exposed settings rather than ordinary supply. Eggplant as sold from Location B1 (industrial-affected area) had total mercury higher at 43.4 µg/kg, against 0.43 µg/kg for Control (grocery store >55 km from any power plant) in the same study.[7]

For a buyer the practical points are the form bought, the basis a result is reported on, where the eggplant came from and the laboratory's reporting limit. Testing finds contamination but does not remove it.

2 | What counts as eggplant

This page covers eggplant in 2 forms kept separate in every comparison: eggplant as sold (285 results) cooked and eggplant (18 results).[1,2,3,4,5,6]

Results stay on the basis each source reports: as sold or fresh weight, dry weight, or unstated. Dry-weight, as-sold and unstated results are never pooled, and no moisture conversion is applied.

3 | How metals reach eggplant

The evidence on how metals reach eggplant comes from studies that compared exposed and ordinary settings. Eggplant as sold from Location B1 (industrial-affected area) had total mercury higher at 43.4 µg/kg, against 0.43 µg/kg for Control (grocery store >55 km from any power plant) in the same study.[7]

These are observational comparisons from single studies; the size of the difference depends on the site, metal and distance.

4 | Which forms and regions measured lower

For cadmium, the HMI reference median was lowest for eggplant as sold (10.8 µg/kg) and highest for eggplant as sold (600 µg/kg); forms differ in water content, so this compares foods as sold or eaten, not uptake.[1,5,14,15] The hmi reference for lead in eggplant as sold pools 7 subgroup units from 3 sampling families, with a median of 3,960 µg/kg and a middle half spanning 2,000 (lower quartile) and 102,000 µg/kg (upper quartile).[5,14,15] cooked for lead in eggplant, the reference median was below 4 µg/kg, with a middle half from below 4 to below 4 µg/kg across 29 units.[2,10] for lead in eggplant as sold, the reference median was below 7 µg/kg, with a middle half from below 4 to below 7 µg/kg across 24 units.[1]

Among GEMS/Food reporting regions, eggplant as sold had the lowest cadmium subgroup median in EMRO (3.91 µg/kg) and the highest in WPRO (39 µg/kg); reporting regions are markets, not growing areas.[1]

In one study, lead across 6 groups of eggplant ranged from 260 µg/kg (Sesh More (SM) bazar, occasion 3) to 300 µg/kg (Kamal Ranjit (KR) market, occasion 3); the lowest is the lowest observed in that study, not an established sourcing preference.[16] In another study, lead across 4 groups of eggplant ranged from 1,200 µg/kg (Nelamangala taluk market, Bangalore Rural) to 8,200 µg/kg (Doddaballapura taluk market, Bangalore Rural); the lowest is the lowest observed in that study, not an established sourcing preference.[14]

5 | Processing, cooking and preparation

No processing study for metals in this food is in the library yet.

6 | Mitigation for eggplant

Lot testing against the applicable limit is the check that can be verified.

7 | Trade-offs and limits of controls

Avoiding exposed growing areas lowered the metal measured in the studies available, but no study measured the cost or supply effect of doing so.[7] Metals do not move together, so a lot that passes a lead limit says little about cadmium, arsenic or nickel unless those are tested as well.

8 | Testing eggplant for metals

Results depend on the method and its reporting limit. Reporting limits for lead ranged from 0.5 µg/kg (Al-Salimi et al. 2026) to 3,000 µg/kg (WHO GEMS/Food), so a non-detect from a less sensitive method says much less.[1,17] Reporting limits for cadmium ranged from 0.1 µg/kg (Al-Salimi et al. 2026) to 10 µg/kg (Liang et al. 2019), so a non-detect from a less sensitive method says much less.[11,17] Reporting limits for total arsenic ranged from 0.4 µg/kg (Liang et al. 2019) to 3 µg/kg (FDA Total Diet Study), so a non-detect from a less sensitive method says much less.[2,11]

A useful lot result names the form, the basis and a quantification limit well below the limit that applies.

9 | Buying and verifying eggplant

No maximum level for metals in eggplant was verified from primary text for this page; buyers should confirm the limit that applies in the destination market.

10 | Exposure from eggplant

No source in the library converted eggplant concentrations into a verified estimate of intake for a defined population. Concentrations describe the food, not individual risk.

11 | Evidence review and remaining gaps

Every source record that names eggplant was decided on its content: 27 occurrence extracted, 27 records in all. The occurrence table renders every extracted result; held values remain visible with their reason.

References identify the sources used in these answers. The Sources index preserves additional discovery links; inclusion there does not mean a source has been reviewed for this assessment. Corrections, completed searches, new direct evidence and changes in requirements should reopen the relevant answer.

12 | Eggplant FAQs

The library reports lead, cadmium, total arsenic, inorganic arsenic, dimethylarsinic acid, monomethylarsonic acid, total mercury, nickel, chromium, aluminum, tin, antimony, uranium, Co, Cu, Fe, Mn, Zn, V, Se, Ag, As, B, Ba, Hg, Mo, Sr and Ti in eggplant, most often lead, cadmium and total arsenic.[1,2,3,4] WHO gems/food submissions reported lead in eggplant as sold from 244 results in 3 reporting regions, with a subgroup median of 5 µg/kg.[1]

In the studies available, eggplant from contaminated or exposed settings carried more metal than eggplant from the same study's control.[7] eggplant as sold from Location A1 (industrial-affected area) had total mercury higher at 42.4 µg/kg, against 0.43 µg/kg for Control (grocery store >55 km from any power plant) in the same study.[7]

For cadmium, the HMI reference median was lowest for eggplant as sold (10.8 µg/kg) and highest for eggplant as sold (600 µg/kg); forms differ in water content, so this compares foods as sold or eaten, not uptake.[1,5,14,15]

Among GEMS/Food reporting regions, eggplant as sold had the lowest cadmium subgroup median in EMRO (3.91 µg/kg) and the highest in WPRO (39 µg/kg); reporting regions are markets, not growing areas.[1]

Inorganic arsenic, the more toxic form, was measured in 5 results from 3 sources, far fewer than total arsenic.[1,18,19] Laizu 2007 reported inorganic arsenic at 800 µg/kg (mean ± 1,000 SD) in eggplant as sold from fruiting vegetables, local market, Dhaka.[18]

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GOVERNMENT

STATUS AND LICENCE

Editorially reviewed in-house; no external peer review has been completed on this ingredient profile. Published as an institutional technical report with its review state tracked on the article page. Released under CC BY 4.0.

COMPETING INTERESTS

The Heavy Metal Index reports what the peer-reviewed and regulatory literature supports. It is operated separately from any certification program, does not evaluate or endorse brands, and does not use certification thresholds as evidence for the statements made here.

DATA AVAILABILITY

Every source behind this ingredient profile is listed with its own source record at https://heavymetalindex.com/ingredients/eggplant#sources.

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