Honey authenticity: technical update

26 October 2026 | Prepared for technical discussion | GHIC

This note records current laboratory information and selected official-control statistics. It is not a new validation study, a regulatory instruction or an endorsement by the organisations cited.

1. Current JFRL service: scope and limitations

JFRL advised GHIC on 23 October 2026 that its Native-PAGE activity-staining screen reports not detected, detected or inconclusive. Detected and inconclusive screens are followed automatically by LC-QTOF/MS confirmation. Botanical limitations listed for the screen are Manuka, buckwheat, Jarrah, cherry blossom, jujube and fir honey. [E1]

JFRL states that heat treatment or low initial enzyme activity can cause false-negative activity-screening results. Its confirmation method identifies source-specific tryptic peptides and MS/MS spectra after protein preparation; JFRL describes this service as applicable to all honey types. Both methods require at least 50 g of honey stored at room temperature according to its response. These service statements do not establish equal detection performance in every matrix. [E1]

The two specific foreign-amylase procedures described are outside JFRL's ISO/IEC 17025 accredited scope. JFRL does not currently offer HBG-III measurement as a service. Analytical findings are reported separately from buyers' commercial acceptance decisions. These points are attributed to JFRL with its express permission. [E1]

2. Validation and routine proficiency testing differ

The published 2025 Native-PAGE collaborative validation involved 12 laboratories and targeted amylases from Aspergillus and Geobacillus. JFRL's separate statement that proficiency testing or interlaboratory comparisons are not currently implemented for the described service must not be presented as an absence of published collaborative validation. GHIC has prepared a clarification request about that operational distinction. [P1; E1]

3. Interpretation must remain limited to the test

A negative foreign-enzyme screen does not establish overall honey authenticity. An activity result, identification of a protein and attribution of the route of introduction answer different questions. Low activity can have more than one explanation and requires appropriate follow-up. [E1; GHIC interpretation]

Published HBG-III work concerns A. mellifera-derived markers and describes a potential complementary authenticity indicator. The authors caution that HBG-III alone cannot identify every syrup-adulterated sample and that the selected markers are not transferable without qualification to honeys from other bee species. An analytical quantitation limit must not be repurposed as a universal authenticity decision threshold. [P2; GHIC interpretation]

4. CAFIA: corrected aggregate inspection data

CAFIA authorised publication of specified aggregate information and corrected figures in its email of 22 October 2026. Its dataset concerns official samples selected for control, not a representative market survey. [E2]

Measure	CAFIA data
Collection period	1 January 2025 to 15 September 2026
Samples taken	44
Analyses completed by cut-off	34
Foreign-amylase positives	19 of 34 completed analyses (55.9%, calculated)
Corrected sample categories	13 A. oryzae only; 2 B. amyloliquefaciens only; 4 both
Other reported tests	Only one further non-compliant parameter was identified: HMF. Other reported parameters were compliant.

The three enzyme categories total 19 samples. Samples with both sources must not be counted twice when reporting the number of positive honeys. The corrected total replaces an earlier chart that omitted one A. oryzae result because information-system updates were asynchronous. [E2]

5. Questions for laboratory and purchasing controls

For each lot, document the sample-to-delivery link, matrix suitability, method and laboratory scope, screening-to-confirmation rule, and handling of inconclusive or conflicting findings. Define what evidence supports the acceptance decision. A compliant result for one marker panel is not proof that every possible authenticity concern has been excluded. [GHIC recommendations]

Sources and attribution

E1. Yushi Takahashi, JFRL, email to GHIC dated 23 October 2026: Response to Enquiry on Foreign-Amylase Screening and Confirmation Methods. Public attribution explicitly permitted. GHIC register: GHIC-EM-20261026-042.

E2. Ondřej Mikeš, CAFIA, email dated 22 October 2026: acknowledgement and one data clarification. Use here is limited to the released aggregate text and corrected statistics. GHIC register: GHIC-EM-20261026-034. The original correspondence is not reproduced.

P1. Fujita et al. (2025), Food Hygiene and Safety Science 66(5), 118-123. https://doi.org/10.3358/shokueishi.66.118 - published abstract and study details checked 26 October 2026.

P2. Takahashi et al. (2025), Journal of Applied Glycoscience 72, 7202106. https://doi.org/10.5458/jag.7202106 - published study checked 26 October 2026.

No claim about a universal Japanese import-testing requirement is made. Permission to quote these sources does not imply their endorsement of GHIC's recommendations.