NOTIFICATION

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| **1.** | **Notifying Member:** UGANDA  **If applicable, name of local government involved:** |
| **2.** | **Agency responsible:** Uganda National Bureau of Standards |
| **3.** | **Products covered (provide tariff item number(s) as specified in national schedules deposited with the WTO; ICS numbers should be provided in addition, where applicable):** Insects, fit for human consumption (HS code(s): 041010); Other standards related to farming and forestry (ICS code(s): 65.020.99) |
| **4.** | **Regions or countries likely to be affected, to the extent relevant or practicable:**  **[X] All trading partners**  **[ ] Specific regions or countries:** |
| **5.** | **Title of the notified document:** DUS DARS 2050:2024, Edible insects — Edible dried caterpillars — Specification, First edition. **Language(s):** English. **Number of pages:** 36  <https://members.wto.org/crnattachments/2024/SPS/UGA/24_06614_00_e.pdf> |
| **6.** | **Description of content:** This Draft Uganda Standard specifies the requirements for sampling and test methods for edible dried caterpillar intended for human consumption.  Note: This Draft Uganda Standard was also notified to the TBT Committee. |
| **7.** | **Objective and rationale: [X] food safety, [X] animal health, [ ] plant protection, [X] protect humans from animal/plant pest or disease, [ ] protect territory from other damage from pests.** |
| **8.** | **Is there a relevant international standard? If so, identify the standard:**  **[ ] Codex Alimentarius Commission *(e.g. title or serial number of Codex standard or related text)*:**  **[ ] World Organization for Animal Health (OIE) *(e.g. Terrestrial or Aquatic Animal Health Code, chapter number)*:**  **[ ] International Plant Protection Convention *(e.g. ISPM number)*:**  **[X] None**  **Does this proposed regulation conform to the relevant international standard?**  **[ ] Yes [ ] No**  **If no, describe, whenever possible, how and why it deviates from the international standard:** |
| **9.** | **Other relevant documents and language(s) in which these are available:**   1. AOAC 984.27, Calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium, and zincin infant formula— Inductively coupled plasma emission spectroscopic method 2. AOAC 2001.04, Determination of fumonisins in corn and corn flakes — Liquid chromatography with immunoaffinity column cleanup 3. AOAC 2015.01, Heavy Metals in Food — Inductively Coupled Plasma–Mass Spectrometry 4. AOAC 2020.07,Available carbohydrates in cereal and cereal products, dairy products, vegetables, fruit and food products, and animal feeds 5. ARS 53, General principles of food hygiene— Code of practice 6. ARS 56, Pre-packaged foods — Labelling 7. ARS 1292, Edible insects— Good agricultural and wild collection practices 8. ARS 1295, Edible insects — Guide on good hygiene practices for insect production 9. ARS 1713 Nutrition labelling— Requirements 10. ARS 1715, Use of nutritional and health claims — Requirement 11. CODEX STAN 192, General standard for food additives 12. CODEX STAN 193, General standard for contaminants and toxins in products intended for human and animal consumption 13. ISO 936, Meat and meat products — Determination of total ash 14. ISO 937, Meat and meat products — Determination of nitrogen content — Reference method 15. ISO 1442, Meat and meat products — Determination of moisture content — Reference method 16. ISO 1443, Meat and meat products — Determination of total fat content 17. ISO 1444, Meat and meat products — Determination of free fat content 18. ISO 4833-1, Microbiology of the food chain-Horizontal method for the enumeration of microorganisms Part 1: Colony count at 30 ºC by the pour plate technique 19. ISO 5983-1, Animal feedingstuffs — Determination of nitrogen content and calculation of crude protein content Part 1: Kjeldahl method 20. ISO 5985, Animal feedingstuffs — Determination of ash insoluble in hydrochloric acid 21. ISO 6633, Fruits, vegetables and derived products - Determination of lead content - Flameless atomic absorption spectrometric method 22. ISO 6496, Animal feeding stuffs - Determination of moisture and other volatile matter content 23. ISO 6579, Microbiology of food — Horizontal method for the detection of *Salmonella* spp. 24. ISO 6888-1, Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration ofcoagulase-positive staphylococci (*Staphylococcus aureus* and other species) - Part 1: Technique using baird-pac 25. ISO 7251, Microbiology of food — Horizontal method for the detection and enumeration of suspected *Escherichia coli* — Most probable number technique 26. ISO 10272-1, Microbiology of the food chain-Horizontal method for detection and enumeration of *Campylobacter* spp. — Part 1: Detection method 27. ISO 11290-2, Microbiology of the food chain-Horizontal method for the detection and enumeration of Listeria monocytogenes and of *Listeria* spp. — Part 2: Enumeration method 28. ISO 13547-2, Copper, lead, zinc and nickel sulphide Concentrates — Determination of arsenic — Part 2: Acid digestion and inductively coupled plasma atomic emission spectrometric method 29. ISO 16050, Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products — High-performance liquid chromatographic method 30. ISO 16649-2, Microbiology of food and animal feedingstuffs — Horizontal method for the enumeration of B-glucuronidase-positive *Escherichia coli* — Part 1: Colony-count technique at 44 using membranes and 5-bromo-4 31. ISO 21527-1, Food microbiology — Horizontal method for the enumeration of yeasts and moulds — Part 1: Colonycount technique in products with water activity greater than 0.95 32. ISO 21527-2, Microbiology of food and animal feedingstuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95 33. ISO 23776, Meat and meat products — Determination of total phosphorous content 34. ISO 22964:2017 Microbiology of the food chain — horizontal method for the detection of *Cronobacter* spp. 35. ISO 27085, Animal feeding stuffs — Determination of calcium, sodium, phosphorus, magnesium, potassium, iron, zinc, copper, manganese, cobalt, molybdenum, arsenic, lead and cadmium by ICP- AES 36. Kusia, E.S., Borgemeister, C., Khamis, F.M., Copeland, R.S., Tanga, C.M., Ombura, F.L. et al. (2021) Diversity, Host Plants and Potential Distribution of Edible Saturniid Caterpillars in Kenya. Insects, **12**, 600. <https://doi.org/10.3390/insects12070600> 37. Anvo, M.P.M., Toguyéni, A., Otchoumou, A.K., Zoungrana-Kaboré, C.Y. and Essetchi Paul, K. (2016) Nutritional Qualities of Edible Caterpillars *Cirina butyrospermi* in Southwestern of Burkina Faso. International Journal of Innovation and Applied Studies, ISSR Journals. **18**, 639–45. 38. Igbabul, B.D., Agude, C. and Inyang, C.U. (2015) Nutritional and Microbial Quality of Dried Larva of *Cirina forda*. International Journal of Nutrition and Food Sciences, Science Publishing Group. **3**, 602– 6. <https://doi.org/10.11648/j.ijnfs.20140306.28> 39. Hlongwane, Z.T., Slotow, R. and Munyai, T.C. (2020) Nutritional Composition of Edible Insects Consumed in Africa: A Systematic Review. Nutrients, Multidisciplinary Digital Publishing Institute. **12**, 2786. <https://doi.org/10.3390/nu12092786> 40. Foliart, G.R.D. (2002) The Human Use of Insects as a Food Resource: A Bibliographic Account in Progress. University of Wisconsin. 41. Kelemu, S., Niassy, S., Torto, B., Fiaboe, K., Affognon, H., Tonnang, H. et al. (2015) African Edible Insects for Food and Feed: Inventory, Diversity, Commonalities and Contribution to Food Security. 42. Journal of Insectsas Food and Feed, **1**, 103–19.   <https://doi.org/10.3920/JIFF2014.0016>   1. Latham, P. (2015) Edible Caterpillars and their Food Plants in Bas-Congo Province, Democratic Republic of Congo. 3rd Ed. Mystole, Perthshire, United Kingdom. 2. Figueirêdo, R.E.C.R. de, Vasconcellos, A., Policarpo, I.S. and Alves, R.R.N. (2015) Edible and Medicinal Termites: A Global Overview. Journal of Ethnobiology and Ethnomedicine, **11**, 29. <https://doi.org/10.1186/s13002-015-0016-4> 3. Lautenschläger, T., Neinhuis, C., Monizi, M., Mandombe, J.L., Förster, A., Henle, T. et al. (2017) Edible Insects of Northern Angola. African Invertebrates, **58**, 55–82. <https://doi.org/10.3897/afrinvertebr.58.21083> 4. Tanga, C.M., Magara, H.J.O., Ayieko, M.A., Copeland, R.S., Khamis, F.M., Mohamed, S.A. et al. (2018) A New Edible Cricket Species from Africa of the Genus Scapsipedus. Zootaxa, **4486**, 393–392. <https://doi.org/10.11646/zootaxa.4486.3.9> 5. Fogang Mba, A.R., Kansci, G., Viau, M., Rougerie, R. and Genot, C. (2019) Edible Caterpillars of *Imbrasia truncata* and Imbrasia *epimethea* Contain Lipids and Proteins of High Potential for Nutrition. 6. Journal of Food Composition and Analysis, **79**, 70–9.   <https://doi.org/10.1016/j.jfca.2019.03.002>   1. Ngute, A.S.K., Dongmo, M.A.K., Effa, J.A.M., Onguene, E.M.A., Lontchi, J.F. and Cuni-Sanchez, A. (2020) Edible Caterpillars in Central Cameroon: Host Plants, Value, Harvesting, and Availability. Forests, Trees and Livelihoods, Taylor & Francis. **29**, 16–33. <https://doi.org/10.1080/14728028.2019.1678526> 2. Ishara, J., Cokola, M.C., Buzera, A., Mmari, M., Bugeme, D., Niassy, S. et al. (2023) Edible Insect Biodiversity and Anthropo-Entomophagy Practices in Kalehe and Idjwi Territories, D.R. Congo. Journal of Ethnobiology and Ethnomedicine, **19**,3. <https://doi.org/10.1186/s13002-022-00575-z> 3. Oliveira, J.F.S., Carvalho, J.P. de, Sousa, R.F.X.B. de and Simão, M.M. (1976) The Nutritional Value of Four Species of Insects Consumed in Angola. Ecology of Food and Nutrition, **5**, 91–7. <https://doi.org/10.1080/03670244.1976.9990450> 4. Takeda, S. (2009) Bombyx mori. In: Resh VH, and Cardé RT, editors. Encyclopedia of Insects, 2nd Edition. Academic Press, San Diego. p. 117–9.   <https://doi.org/10.1016/B978-0-12-374144-8.00040-0>   1. Golf, R. (2024) African Moths [Internet]. Afr. Moths. 2. Scalercio, S. and Malaisse, F. (2010) Between species and ethno species: Edible Psychidae in Tropical Africa. Faunistic Entomology. 3. Rémy, D.A., Hervé, B.B. and Sylvain, O.N. (2017) Study of Some Biological Parameters of *Cirina butyrospermi* Vuillet (Lepidoptera; Attacidae), an Edible Insect and Shea Caterpillar (Butyrospermum)   (available in English) |
| **10.** | **Proposed date of adoption *(dd/mm/yy)*:** To be determined.  **Proposed date of publication *(dd/mm/yy)*:** To be determined. |
| **11.** | **Proposed date of entry into force: [ ] Six months from date of publication**, **and/or** ***(dd/mm/yy)*:** To be determined.  **[X] Trade facilitating measure** |
| **12.** | **Final date for comments: [X] Sixty days from the date of circulation of the notification and/or *(dd/mm/yy)*:** 8 December 2024  **Agency or authority designated to handle comments: [ ] National Notification Authority, [ ] National Enquiry Point. Address, fax number and e-mail address (if available) of other body:**  Uganda National Bureau of Standards  Plot 2-12 ByPass Link, Bweyogerere Industrial and Business Park  P.O. Box 6329  Kampala, Uganda  Tel: +(256) 4 1733 3250/1/2  Fax: +(256) 4 1428 6123  E-mail: [info@unbs.go.ug](mailto:info@unbs.go.ug)  Website: <https://www.unbs.go.ug> |
| **13.** | **Text(s) available from: [ ] National Notification Authority, [ ] National Enquiry Point. Address, fax number and e-mail address (if available) of other body:**  Uganda National Bureau of Standards  Plot 2-12 ByPass Link, Bweyogerere Industrial and Business Park  P.O. Box 6329  Kampala, Uganda  Tel: +(256) 4 1733 3250/1/2  Fax: +(256) 4 1428 6123  E-mail: [info@unbs.go.ug](mailto:info@unbs.go.ug)  Website: <https://www.unbs.go.ug> |