



ALL THAT GLITTERS IS NOT GOLD. SOMETIMES IT IS COPPER. OFFICIAL CONTROLS AND FOLLOW-UP ACTIONS ON MAXIMUM RESIDUE LIMIT BREACHES

Chiara Federici¹, Sveva Magnanelli², Fausto Scoppetta¹

¹Servizio Veterinario di Igiene degli Alimenti di Origine Animale (IAOA), Italy; ²Servizio Veterinario di Igiene degli Allevamenti e delle Produzioni Zootecniche (IAPZ) - Usl Umbria 2, Terni, Italy.

Purpose. Copper is an unusual trace metal because it is at once a pesticide, a nutrient, and a feed additive, and naturally accumulates in the liver (especially in sheep). The aim of this work is to evaluate the follow-up actions taken by the Competent Authority (CA) following the detection of copper (copper compounds) levels exceeding the limits (MRLs) established by Regulation (EC) 149/2008 amending Regulation (EC) 396/2005, prior to the entry into force of Regulation (EU) 2026/840, which raised the MRLs from 30 mg/kg to 300 mg/kg in ovine and bovine livers.

Methods. Official controls (OCs) carried out in accordance with Regulation (EU) 2017/625, and subsequent enforcement actions as regulated by Law 283/1962 and Legislative Decree 150/2022. Within the framework of the Multiannual National Control Plan, IAOA Service collected 3 samples in 2025 to test for multi-residue pesticides, polar pesticides, and copper compounds; 2 in small ruminants and 1 in bovine livers. All the farms were located in Umbria, operating under semi-extensive conditions with animals predominantly at pasture and receiving sporadic feed supplementation.

Results. All samples yielded non-compliant results for copper compounds, exceeding the maximum residue limit of 30 mg/kg. Consequently, an investigation was launched in collaboration with the IAPZ Service to identify the source of contamination. Sampling was performed on feed and drinking water, while also evaluating the potential presence of pasture vegetation with naturally high copper concentrations. All analytical tests yielded negative results. Although

the 3 epidemiological investigations failed to identify the cause of the threshold breach, they allowed to reasonably exclude any negligent or intentional liability of the Food Business Operator (FBO). Therefore, the provisions outlined in ministerial notes regarding maximum residue limit breaches for plant protection products were applied, assessing acute toxicity to determine whether to trigger the rapid alert system. Although the evaluation confirmed a risk of acute toxicity, the alert system was not activated because the food products had already been fully consumed by the time the analytical results were received. Discussions are currently ongoing with the competent local Public Prosecutor's Offices regarding the application of Article 5, letter h) of Law 283/1962, particularly concerning the proportionality of the CA's actions in relation to the public health risk level.

Conclusions. In accordance with Regulation (EU) 2017/625 and Legislative Decree 27/2021, Veterinary Services are required to perform OCs, including sampling, to assess the presence of hazards and the ability of FBOs to manage them through a risk-based approach. However, in certain instances, the presence of a hazard cannot be directly attributed to negligent or intentional misconduct by the FBO. This contribution highlights the critical importance of the technical-scientific independence of the CA in conducting sampling and evaluating results, applying a risk-based and proportional approach to follow-up actions after a non-compliance is identified. Furthermore, during the planning phase of official sampling and risk assessment, it is essential to adequately identify potential scenarios resulting from unfavourable analytical outcomes, aiming to support operators while safeguarding public health.