

## The challenges of a small culture collection toward accreditation

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Culture collections (CCs) provide authentic biological materials, having a public service role dedicated to support a variety of microbiological work, providing solid assurance of continuity through preservation and delivery of strains described or cited in publications. Moreover, CCs often maintain novel microorganisms awaiting future exploitation by biotechnology, guaranteeing an active role in R&D activities. The size and complexity of CCs can differ greatly, ranging from private to public, from basic operational resources to high-quality standard conditions, with either certification, accreditation or both in place.

The case of Micoteca da Universidade do Minho (MUM) is rather unique – it operates under high-quality standards and has its Quality Management System (QMS) certified under the ISO 9001 norm. Nevertheless, it is a small collection that continues to grow due to the efforts of a reduced multitasking team dedicated to continuous improvement through new deposits, services, and projects.

To be certified, CCs need to demonstrate to a third party that they have an effective QMS in place. The process conformity is monitored to prevent deviations in the final product and to ensure client satisfaction. Critical points identified in the risk analysis must be addressed and preventive measures put in place.

In an accreditation system, other challenges arise. CCs must provide evidence of competence and impartiality to perform specific technical activities. Therefore, CCs must follow a series of actions to guarantee the quality and validity of the measurements, including equipment calibration, environmental monitoring, technical validation of the methodology, and trained and qualified staff for such activities, which has severe financial implications for CCs activities. In small collections like MUM, this is a challenge that should not be underestimated. The lack of human resources prevents quicker growth and new revenues, creating a classic vicious cycle that can only be broken with full access to external funding that would allow the pursuit of accreditation.

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