



AGROSYM

BOOK OF PROCEEDINGS



*XVI International Scientific Agriculture Symposium
"Agrosym 2025"
Jahorina, October 2-5, 2025*



AGRO 2025
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“AGROSYM 2025”**



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FOREWORD

The world is facing a range of crises that require policymakers to base their decisions on scientific data and evidence to effectively address them. Issues such as climate change, loss of biodiversity, degradation of natural resources (e.g. land and water), ongoing conflicts, persistent inequalities, and economic disruptions are progressively weakening the ability of agri-food systems to ensure food security and nutrition for all. Research plays a vital role in providing evidence and technical expertise, acting as a facilitator and policy broker in the development of agri-food strategies, investment planning, innovation policies, and other important policy processes. Additionally, research is essential for generating the knowledge, evidence, and resources required to promote responsible and inclusive innovation. It also offers support to a range of stakeholders, including farmers' organizations, businesses, and civil society groups. Integrating research with long-term policy strategies can enhance the acceptance and adoption of innovations in the agri-food sector, particularly when these innovations are promoted through inclusive platforms. To achieve a sustainable impact at scale, it is essential to improve collaboration in agri-food research and innovation. Scientific events and gatherings can be crucial in reaching this objective.

The International Agriculture Symposium AGROSYM has served as an annual forum for sixteen years, facilitating global scientific discussions on agriculture, food, rural development, the environment, and forestry. This symposium offers an excellent opportunity to share ideas, strengthen existing networks, establish new academic connections, and stimulate dialogue among academia, public institutions, the private sector, and civil society organizations. Participants engage in discussions about recent global and regional trends in the agri-food sector. The multidisciplinary findings presented at AGROSYM contribute to the dissemination of knowledge and best practices among all stakeholders in the agri-food chain, including farmers, extension agents, researchers, and policymakers. Additionally, the symposium emphasizes the importance of agriculture and food science as vital components of many national research strategies, impacting the broader community as well.

This Book of Proceedings from the 16th International Scientific Agricultural Symposium “AGROSYM 2025” encompasses articles which illustrate a wide range of research and insights across the comprehensive spectrum of agricultural disciplines. These articles address the following themes: 1) Plant production, 2) Plant protection and food safety, 3) Organic agriculture and agroecology, 4) Environmental protection and natural resources management, 5) Animal husbandry, 6) Rural development and agro-economy, and 7) Forestry and agroforestry.

We wish to express our heartfelt appreciation to all authors, reviewers, and colleagues who assisted in preparing this Book of Proceedings. Our special thanks go to co-organizers, partners, and sponsors for their unwavering support and collaboration.

We hope this multidisciplinary and international collection of research findings serves as a valuable resource for all stakeholders and encourages continuous dialogue and exchange to facilitate the transition towards sustainable, resilient, and inclusive agri-food systems.

East Sarajevo, 1 November 2025

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STRENGTHENING ORGANIZATIONAL QUALITY THROUGH ISO 9001 AND ISO 10005 INTEGRATION

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Abstract

Presented research has been conducted with the aim of analyzing two international standards in the field of quality management: ISO 9001:2015 and ISO 10005:2021, which provides guidance on creating and using quality plans. The emphasis is on the ways in which these two standards can enhance one another, particularly within the larger context of the organization quality management systems (QMS). In the agricultural sector, where production processes are increasingly complex and regulated, the implementation of robust quality management frameworks is essential for ensuring food safety, sustainability, and market competitiveness. The idea behind this comparison is to show how ISO 10005 can be used to strengthen and support existing ISO 9001 frameworks. By examining how the two standards align, this paper aims to offer practical advice for improving internal incorporation processes. Effective quality management is based on ISO 9001, emphasizing continual improvement, customer satisfaction, and risk management. ISO 10005 is specifically related to quality planning. A comprehensive examination of the two standards has been carried out in this study, with a special focus on their overlapping and potential for merging. The practical advantages of combining ISO 10005 with ISO 9001, such as more consistent documentation, simpler planning, and improved risk management, are among the key lessons acquired. This research is intended to serve as a useful resource for any organization looking to incorporate ISO 10005 into its existing ISO 9001-based quality system, with the goal of achieving sustained improvements in performance.

Keywords: *Continuous improvement, Internal audits, ISO 10005, ISO 9001.*

Introduction

The International Organization for Standardization (ISO) brings together national standards bodies from different countries to develop internationally applicable standards. These are shaped by expert working groups made up of professionals with both technical knowledge and practical experience in the relevant fields. The incorporation of standards into the business sector helps organizations increase their effectiveness, consistency, and accomplishing tasks with better results. Standards incorporation enables organizations to structure their internal processes, operate more consistently, and achieve outcomes that are easier to monitor, follow and replicate. Customers and stakeholders' trust is improved, while supporting legal compliance and risk management. Over time, this structured approach leads to improvement of overall performance and competitiveness. Among ISO's many standards, ISO 9001:2015 is one of the most widely implemented within quality management (ISO, 2015; Czödörövá & Gnap, 2023). It offers a practical framework for developing and maintaining a Quality Management System (QMS), with a strong focus on meeting customer needs and promoting ongoing improvement (ISO, 2021; Sandle, 2021; Perović and Todorović, 2023). The standard is based on seven principles: leadership, customer focus, involvement of people, process approach, evidence-based decision making, continual improvement, and relationship management (Perović and Todorović, 2024). ISO 9001's main point is its risk-based thinking, which

encourages organizations to align quality-related goals with broader strategic plans. As a result, businesses can respond to change more effectively and maintain control over performance. While the standard outlines what should be achieved within a QMS, it leaves room for organizations to choose how they want to implement those processes. In this context, ISO 10005:2021 serves as a helpful companion to ISO 9001. It focuses specifically on quality planning and can either support an existing ISO 9001 system or be used independently in situations where structured planning is needed, such as temporary projects or specialized activities. Unlike ISO 9001, ISO 10005:2021 is not a certifiable standard, but its value lays in offering step-by-step guidance in order to set and achieve clear objectives, planning resources, assigning responsibilities, and defining how quality will be monitored and evaluated. ISO 10005 is also based on the Plan-Do-Check-Act (PDCA) cycle and emphasizes continuous improvement supported by proper documentation and risk awareness. Its detailed focus on planning makes it especially useful in project-oriented environments, where clear structure and accountability are essential for delivering consistent results. This study explores how ISO 10005 can be integrated with ISO 9001, aiming to identify practical similarities as well as differences between the two. The goal of this research is to show how organizations already working within an ISO 9001 framework can benefit from the added structure and clarity that ISO 10005 brings to the planning process.

The comparison is particularly useful for organizations operating in agriculture and agri-food sectors, where complex or project-based workflows require robust quality planning to ensure reliable, safe, and traceable outcomes. By looking at how ISO 10005 expands on the planning aspects of ISO 9001, this research provides useful guidance for improving documentation, role definition, and overall system effectiveness. While the practical relevance of ISO standards is well established, there is comparatively limited academic research that systematically analyzes how ISO 10005 complements ISO 9001 within different organizational contexts. This paper therefore contributes to the academic literature by: clarifying the conceptual linkages between ISO 9001 and ISO 10005, identifying planning mechanisms that can enhance organizational learning and knowledge transfer, and situating quality planning within broader discussions of risk-based thinking, continuous improvement, and strategic management.

The comparison is particularly relevant for agriculture systems, which are often underrepresented in the quality management literature despite their complexity and socio-economic importance.

Materials and Methods

The research conducted involved a comparative analysis of two important international standards: ISO 9001:2015 and ISO 10005:2021. The main objective was to identify clear relationships, overlaps, and unique aspects between these standards and to demonstrate how ISO 10005 can be used in a practical way to support and enhance an existing ISO 9001-based Quality Management System (QMS).

Both standards' main requirements, structure, and scope were thoroughly examined. Particular attention was paid to determining not only the similarities between the two texts but also the ways in which ISO 10005 enhances ISO 9001 by offering more comprehensive guidance, particularly with regard to quality planning activities. While ISO 10005 focusses especially on how to plan for quality in an organized and methodical manner, ISO 9001 addresses quality planning at a more general level and includes it as one of its components. It became evident from this comprehensive evaluation where the standards are similar and where they differ in terms of applicability and focus. For instance, while ISO 9001 outlines what should be achieved in a QMS, ISO 10005 provides useful advice on how to approach specific planning processes,

such as setting quality objectives, managing resources, and defining responsibilities within a quality plan.

The findings of this analysis are intended to serve as a practical tool for organizations that already apply ISO 9001 and are looking for ways to strengthen or formalize their approach to quality planning. Integrating ISO 10005 into an existing QMS can help improve documentation consistency, planning clarity, and overall effectiveness of the quality management process, especially in project-based or complex operational environments.

Results and Discussion

The first stage in integrating ISO 10005 into an existing ISO 9001-based QMS is to determine how the requirements of ISO 10005 differ from those of the current established system. This includes identifying any components of quality planning that are not present, such as resource planning documents, risk management protocols, or quality goals. To make the most of the integration, organizations should map their current ISO 9001 processes and use that as a baseline to find and address the gaps highlighted by ISO 10005.

To formally implement ISO 10005, the QMS documentation will need to be reviewed and updated. This includes creating standardized templates for quality plans, defining the quality planning processes in more detail, and adjusting documentation control procedures to meet the expectations of ISO 10005. It's also important to provide staff with training on quality planning principles and practices. Employees should understand not just how to use quality plans, but also why they matter and how they can be incorporated into daily operations. When the reasoning behind quality planning is understood, applying ISO 10005 in real situations becomes much easier. Regular internal audits are necessary to confirm that ISO 10005 has been properly integrated and is working as intended. These audits help track performance, identify areas for corrective actions, and support the process of continuous improvement. They also ensure that quality-related metrics are being monitored and measured consistently.

Annex D of ISO 10005:2021 clearly shows how the standard aligns with ISO 9001:2015 in both methodology and principles. Both standards emphasize the importance of structured process management to achieve consistent, reliable results. These standards encourage organizations to spot possible problems in time and take action in advance. A strong focus on documentation, particularly in relation to planning, is another shared feature, as is the emphasis on continual improvement through ongoing monitoring and corrective action.

Since ISO 10005 is meant to support and complement ISO 9001, it fits naturally within existing QMS frameworks. For organizations already familiar with ISO 9001, ISO 10005 provides clear, practical guidance to take their quality planning efforts further. Table 1 provides a detailed comparison between ISO 10005 and ISO 9001 clauses, highlighting their alignment and focus areas within quality planning and management processes.

Table 1. Concise Cross-Reference of ISO 10005:2021 and ISO 9001:2015

ISO 10005 Clause	ISO 9001 Clause(s)	Clause Focus
5	4.1, 4.2, 6.1, 7.1.1, 8.1	Quality planning process
6	7, 8, 9, 10	Plan content overview
6.1	8.1	Scope definition
6.2	4.3, 8.2	Input requirements
6.3	8.1, 8.2, 8.6, 9.1.1	Quality objectives
6.4	6.2, 9.1.1	Process structure
6.5	5.3	Roles and responsibilities
6.6	7.5	Document control
6.7	7.1	Resources

6.7.1	7.1.1	General resourcing
6.7.2	8.2	Customer communication
6.7.3	7.1.2, 7.2, 7.3	Human resources
6.7.4	7.1.3, 7.1.4	Work environment
6.7.5	7.1.5	Monitoring equipment
6.8	7.4, 8.2.1, 8.4.3	External suppliers
6.9	8.3	Design and development
6.9.1	8.3.1 to 8.3.5	Design planning
6.9.2	8.3.6	Design changes
6.10	8.4	Supplier control
6.11	8.5.1, 8.5.5, 8.5.6	Production control
6.12	8.5.2	Traceability
6.13	8.5.3	Customer property
6.14	8.5.4	Product preservation
6.15	8.7, 10.2	Nonconformities
6.16	8.1, 8.6, 9.1	Measurements and control
6.17	9.2	Internal audits
7	7, 8, 9, 10	Plan implementation
7.1	7.5.2, 8.1, 8.2.1, 8.2.3	Plan communication
7.2	7.2, 7.3, 7.5.3, 8.1, 9.1.3, 9.2	Training and awareness
7.3	7.5.3, 8.2.4, 8.5.6	Work conditions
7.4	9.3, 10.1	Performance and improvement

ISO 10005 and ISO 9001 have a similar structure and cover related issues; however they differ in intent and depth. ISO 9001:2015 is a certification-based standard that provides a broad framework for building, maintaining, and upgrading a Quality Management System (QMS). It defines what has to be done but does not provide information on how to approach each component of the system. In contrast, ISO 10005:2021 serves as a guidance document focused specifically on quality planning. It is not certifiable, but it does include thorough guidance on how to build, structure, and implement quality plans inside the ISO 9001 quality management system framework. This includes defining quality targets, identifying risks, assigning resources, and documenting tasks in a clear and systematic manner. ISO 10005 offers a practical extension by addressing planning activities more detailed, whereas ISO 9001 just makes a passing reference to quality planning. Within the framework of a quality plan, it addresses topics like supplier management, customer property control, communication with customers, traceability, and resource planning (human resources, infrastructure, and work environment). Consequently, even though ISO 9001 and ISO 10005 are very similar, ISO 10005 enhances ISO 9001 by providing specific recommendations for businesses looking to improve their quality planning strategy. Because of this, it is a useful tool for people who are already familiar with ISO 9001-based QMS and want to increase the efficacy and consistency of their planning. The chart presented in Figure 1 shows the number of ISO 9001:2015 clauses that correspond to each clause in ISO 10005:2021. Each bar represents one clause from ISO 10005, and its length indicates how many ISO 9001 clauses are linked to it. The labels describe the focus of each ISO 10005 clause. This visualization helps highlight areas of stronger alignment between the two standards.

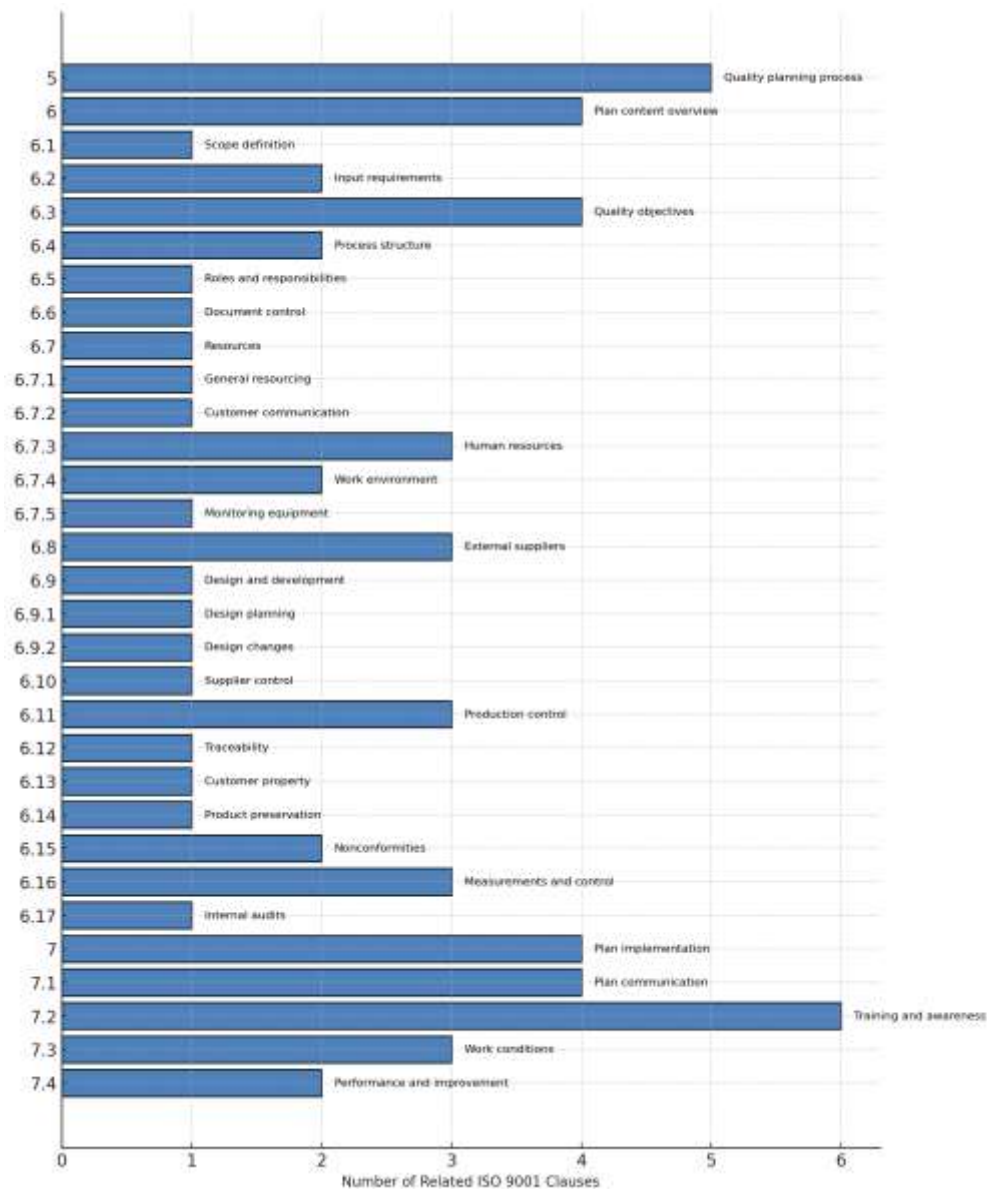


Figure 1. Mapping of ISO 10005:2021 Clauses to Related ISO 9001:2015 Requirements

Conclusions

Integrating ISO 10005 into an existing ISO 9001-based quality management system offers a practical approach to improving how quality is planned and managed. ISO 10005 provides more detailed guidance on setting quality objectives, managing risks, and standardizing procedures, which is particularly valuable in the agricultural and agri-food sectors where reliability, traceability, and compliance are essential for sustainable and competitive production. In modern agriculture, where producers face increasing regulatory demands, market pressures, and the need for food safety assurance, structured quality planning has become a critical component of operational success. To implement this integration effectively, organizations should first assess their current quality system against ISO 10005 guidelines to identify gaps and opportunities. This process facilitates the development of standardized templates, clearer role definitions, and improved document control. Staff training should cover both technical procedures and the strategic importance of quality planning to ensure consistent understanding and application. Regular internal audits then help monitor implementation, verify compliance, and drive

continuous improvement. Overall, combining ISO 10005 with ISO 9001 strengthens operational performance, supports collaboration, and fosters long-term growth.

Beyond its practical benefits for organizations, this integration also brings attention to the often-overlooked academic side of quality planning, positioning it as a distinct and promising area within quality management research. By looking at this relationship through the lens of the agricultural and agri-food sectors, the paper adds to the academic discussion by linking quality planning with risk-based thinking, sustainability, and systems integration. The findings show that ISO 10005 should not be viewed only as a technical set of rules, but as a framework that strengthens organizational learning, knowledge sharing, and continuous improvement. Future research could expand on these findings by examining, in practice, how adopting ISO 10005 shapes organizational behavior, decision-making, and long-term competitiveness in different industries. In doing so, this study offers both practical guidance for organizations and a stronger academic basis for understanding the evolving role of planning standards in quality management.

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