

Enhancing dairy safety with AI

What artificial intelligence may mean for the dairy sector, with **Kimberly Coffin** of LRQA



With challenges in dairy supply chains, producers are looking towards artificial intelligence (AI) to bolster safety. Kimberly Coffin, technical director of supply chain assurance, at LRQA, a provider of certification, inspection, training, assurance and verification, discusses the implications of AI for the dairy industry with *Dairy Industries International*.

Q. Much has been written about AI. For the dairy sector, what potential does it have for improving safety?

AI holds immense potential for improved dairy safety. It could revolutionise our approach, allowing rapid analysis of vast amounts of data and identifying patterns that might go unnoticed by even the most experienced professionals to trigger interventions. For an industry highly dependent on testing and lag indicators for decision making this would be a significant change if applied across the supply chain. Used effectively, AI can also shift our perspective on risk management and lead to significant cultural changes, transitioning from a reactive approach to a proactive one in ensuring food safety.

Q. You mentioned culture. What does food safety culture mean to you?

Food safety culture is about communicating what team members need to do and why; the why is crucial to fostering behavioural change and broader organisational accountability for product safety. Implementation can be as straightforward as talking with both farmers and production staff about the reasons behind tasks, processes and critical controls.

Q. What advantages does better communication offer? Can AI help maximise these advantages?

Communication ensures a common value set and understanding of interdependencies across the value chain, which is particularly important for dairy product safety. Through value chain collaboration, organisations can best evaluate whether processes are fit for purpose because the ability to proactively manage risk starts with all stakeholders being well-

informed. Businesses may need to re-evaluate parts of their operations, especially temporary measures introduced during the pandemic. Assessing processes using education, experience, and technologies, including AI, can identify areas that require improvement.

Q. If dairy industry employees are well informed, do they really need AI for self-evaluation?

As staff members self-evaluate, it's essential for them to consider whether decisions are based on data; are data monitoring and collection methods up to date? Are they taking advantage of all appropriate tools? AI can increase transparency of raw milk shipments across the supply chain, forecast inventories and farmer payments, and enhance safety through real time temperature monitoring of milk receipt, pasteurisation and storage, among other product safety processes that dairy companies could

adopt. Ultimately, businesses should ask the question consumers may ask of them: Are you fulfilling your obligations to ensure food safety?

Q. Is it possible that AI is just a passing trend?

These technologies are here to stay, so it's essential to leverage them effectively to enhance the safety of dairy products. The rise of AI can be compared to the rise of the internet in the 1990s – a huge permanent change to the way we work.

Q. With so much change happening, is now the right time to rethink culture?

It's due to such constant change that rethinking safety culture is imperative. We're not returning to 'normal,' and a strong safety culture makes challenges more manageable. Understanding processes and the potential impact of interruptions prepares a business to respond swiftly when disruptions occur. AI can aid in predicting and mitigating these disruptions, making our responses more agile, improving our ability to take action to prevent risk.

Q. Is AI likely to influence existing food safety standards in the future?

Safety standards are crucial and must be maintained at all levels of dairy manufacturing, supply, and retail. As AI improves, supply chain auditors may be able to conduct risk-based assessments and provide early warnings of potential safety issues.

Considering its potential, we would be unwise not to embrace AI wherever possible. Supply chain audits won't rely on mere checkbox compliance, but will include comprehensive and rapid analyses, making recommendations based on data. It makes sense that food safety standards will rise to meet what technology makes possible. Ultimately, the goal is to foster a culture that identifies weaknesses and exceeds current standards. By intelligently using data and the latest technologies, such a culture can be effectively established, improving food safety. **DI**

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Kimberly Coffin. Credit: LRQA