

J.A. King's Calibration Program Audit Saves Ingredion Over \$200,000 in Potential Audit Findings

Ingredion's facility in Winston-Salem, North Carolina takes raw corn and processes it into liquid sweeteners. It is both ISO 9001 and FSSC 2200 accredited and therefore its quality system undergoes frequent audits. The quality group performs both in-process and finished product measurements, using all types of equipment, including HPLCs, balances, vacuum ovens, protein analyzers and more.

Said Mark Jordan, Ingredion's Manager of Quality Assurance & Control,



“Calibration was a common audit finding and it is always critical from both a quality and food safety perspective. I didn't want any more audit findings. They were getting annoying and I wanted my system to be fully compliant. The internal audit program was working but it wasn't identifying all the issues.”

Jordan contacted precision measurement company J.A. King, based in Greensboro, NC, to provide a third party assessment of their calibration program. “I didn't know this type of service existed. I needed an expert to come in, from start to finish, from top to bottom with a very detailed eye, someone with an expert's eye. J.A. King is a leader in the field of calibration and that's why I went to them,” Jordan said.

John King, J.A. King's CEO conducted the audit. “The quality manager asked us to take a deep dive into their quality system,” he said. “They wanted a subject matter expert to look at every piece of equipment they were calibrating to:

1. Identify potential audit findings
2. Validate calibration procedures, frequencies, providers and the equipment itself. They wanted to know if it was the right equipment to perform the particular task.
3. Determine if the calibration program was state of the art and if not, how they could make it better.”

By eliminating the 14 findings in their audit report, Ingredion potentially saved over \$215,000. The company should also realize other cost savings by extending calibration cycles.

Working with the quality team, J.A. King first delved into families of equipment, then looked at each piece individually. It started by conducting a detailed audit of each equipment record and procedure, going through them line by line, before investigating the equipment itself. J.A. King also talked to the employees who were taking the measurements to find out how they went about it. "He was very hands on," said Jordan. "It was very much a 'show me' type of investigation. He talked to people about how the instrument is used, whether it was a process or for finished goods. He had to understand the risk of failure in order to make a recommendation on the calibration and frequency."

After J.A. King conducted its investigation, it compiled a report detailing observations, audit findings, potential findings, suggestions for correcting these findings and opportunities for improvement. The company then followed up with a Q&A style meeting, to ensure Jordan and his team understood all

facets of the investigation. In total, J.A. King found fourteen audit findings or potential findings, over 30 observations, both positive and negative, and numerous opportunities to extend the calibration cycle.

The entire process lasted less than a a week, which surprised Mark Jordan. "For such a detailed report, I was expecting significantly longer. It was really important and helpful that it came in so quickly, so we could act on the action items while the details were fresh in our minds."

After the audit, Ingredion put all of the findings into their preventative and corrective action system. They assigned owners to each action item and corrected them. They also put all of J.A. King's observations into the system and elevated the ones which they felt worth pursuing.

Said Mark Jordan, "The audit was 100% worthwhile! It improved our system and made our calibration program more robust. Our most recent ISO audit had zero calibration findings for the first time. It also reduced the workload by reducing the calibration on some equipment."

Keen Strategy, an independent market research firm, concluded that the average cost of an audit finding is \$15,500 in cost, lost product and lost time. By eliminating the 14 findings in their audit report, Ingredion potentially saved over \$215,000. The company should also realize other cost savings by extending calibration cycles.

Ingredion now has a state-of-the-art calibration program. It is robust, compliant and will help them to continue to provide high quality ingredients to their customers. "Calibration failures can be potentially devastating, in terms of product recall, cost, image and of course, with the customer," said Mark Jordan. "For anyone who has a calibration system, this service from J.A. King will definitely provide value."

J.A. King is a 75 year old leader in the precision measurement and calibration field. The company sells, calibrates, and services a range of measurement equipment in the automotive, food, aerospace, life sciences, chemical, energy and consumer products fields. J.A. King also provides consulting services that include audit prep, quality systems evaluation, Six Sigma, as well as a variety of calibration and quality training. For more information, please visit www.jaking.com.