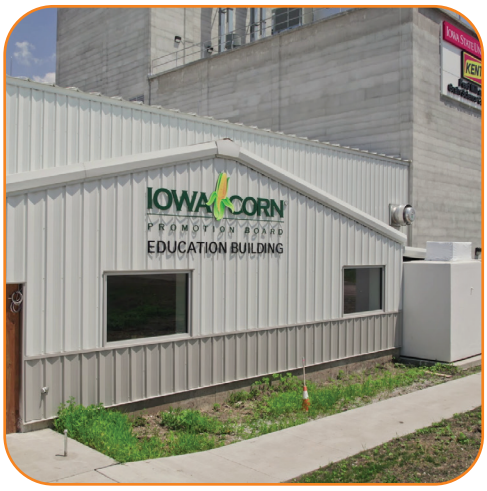
Enhancing Dust Mitigation at Iowa State University

CASE HISTORY

As the agricultural industry continues to evolve with new technologies, it's crucial for educational institutions to provide students with state-of-the-art facilities that align with real-world practices. This is precisely what Iowa State University has achieved with the ISU Kent Feed Mill and Grain Science Complex. The complex serves as a training ground for students and industry personnel and as a hub for cutting-edge research in feed and grain.



The facility's design considered dust control and mitigation systems carefully. Dust can pose challenges in an agro-industrial setting, from safety concerns to operational inefficiencies. By incorporating advanced dust control, like SonicAire dust control fans, Iowa State University has created a safer and more productive environment.

A Facility at the Forefront of Industry Representation

Iowa State University is setting a new standard in agricultural education with the Kent Corporation Feed Mill and Grain Science Complex—the first university-owned feed mill in the state of Iowa. Designed to provide students with unmatched hands-on experience, this state-of-the-art facility will support the university's new feed and grain technology minor as well as several agricultural majors. Under the guidance of Dr. Dirk Maier, Professor and Director of Agricultural Biosystems Engineering at ISU, the complex functions as a platform for conducting cutting-edge research related to feed and grain. Incorporating essential elements into the complex's design, including effective dust control and mitigation systems, was vital to fully capturing the industry's reality.

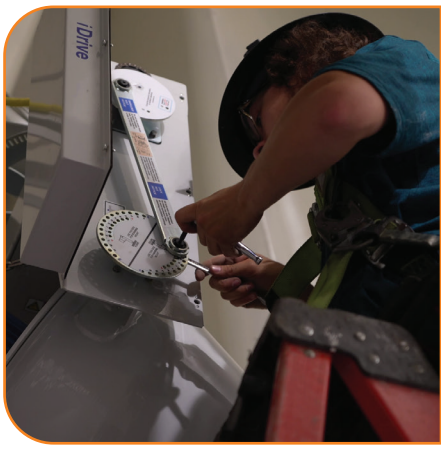
Fugitive Dust Challenges in an Agro-Industrial Setting

Operating in an agro-industrial environment brings numerous complexities. Handling raw materials like grain and soybean meal and processes involving air and steam further contribute to the intricacies involved. Effective dust control becomes paramount to safeguarding these environments.

> "From our perspective, there's always going to be some dust in the air. Anytime you open up a bag, you open up a tote, you do some hand mixing operation. Inevitably, when you're dealing with these types of ingredients, some will become fugitive."
>
> - Professor Dirk Maier

A Proactive Approach to Dust

Proper dust mitigation requires an understanding of the factors contributing to particle dispersion within agro-industrial settings. At the ISU Complex, Maier recognizes the necessity of strategies tailored to the industry's unique requirements. Enter SonicAire dust control fans.



SonicAire Transforms Dust Control in the Feed Mill and Grain Science Complex

One notable component of the ISU Complex is the installation of SonicAire dust control systems throughout the facility. These cutting-edge solutions have been carefully designed to combat airborne dust particles effectively, creating an efficient and safe working environment. This integration is critical in fostering the seamless operation of the facility while embracing best practices utilized across the industry.

Tackle Combustible Dust Hazards Head-On

Preventative measures were woven into the framework from the initial stages of designing the ISU Complex. Recognizing that combustible dust would always be a concern, features were incorporated to mitigate associated risks.

Collaboration between academics, industry experts, and technological advancements allowed the inclusion of safeguards against combustible dust incidents. The safety of personnel, equipment, and the broader environment remains at the forefront of the ISU Complex's core values.

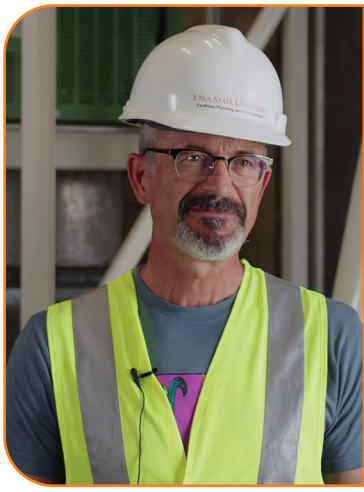
Enhanced Efficiency and Safety with Smart Housekeeping

Besides the safety concerns surrounding dust, inefficient housekeeping practices can add unnecessary financial burdens. The ISU Complex strives to tackle these obstacles head-on by emphasizing the importance of effective dust settlement methods.

> "Anytime we have to sweep, that's labor, right? And so labor is a high-cost component of feed manufacturing."
>
> - Professor Dirk Maier

Reduced reliance on manual intervention results in improved cost-effectiveness, allowing organizations to allocate resources toward other areas of their manufacturing. Promoting efficient housekeeping minimizes disruptions, resulting in heightened productivity and smoother operations within the complex.

Empower Education and Research in Feed Manufacturing



The creation of the ISU Kent Feed Mill and Grain Science Complex sets a new standard for the educational and research opportunities available to aspiring professionals in the field of feed manufacturing. It combines hands-on training and state-of-the-art facilities, aiming to bridge the gap between academia and industry needs, something SonicAire is proud to be a part of and thrilled to support.

Through their pioneering initiatives, Iowa State University establishes a benchmark for agro-industrial facilities, inspiring future generations to embark on impactful careers within the agricultural sector.

SonicAire® Dust Control Innovations™

SonicAire Inc.
3831 Kimwell Drive
Winston-Salem, NC 27103-6707 USA
(336) 712-2437
moreinfo@sonicaire.com
www.sonicaire.com