NAPSO News

Leading the future of potato storage!

Welcome to the NAPSO Newsletter!

The North America Potato Storage Organization (NAPSO) is pleased to welcome you to the second edition of our quarterly newsletter—designed to equip storage managers, growers, and industry professionals with practical insights and timely guidance as we navigate the demands of late-season storage.

As the season shifts and storages reach critical holding phases, the importance of careful environmental control, disease prevention, and quality preservation becomes more urgent than ever. Through expert contributions, research-backed strategies, and community updates, this issue reflects our ongoing commitment to knowledge-sharing and collaboration across the North American potato storage sector.

We thank you for being part of our growing community, and we hope this issue provides you with some useful tools.

Warm regards,

The NAPSO Team

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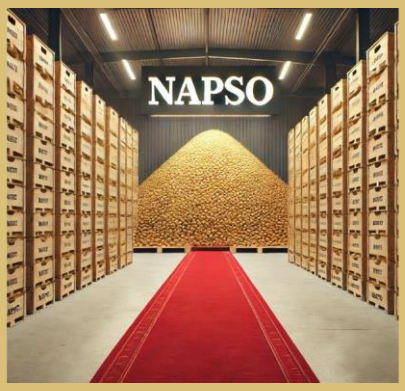


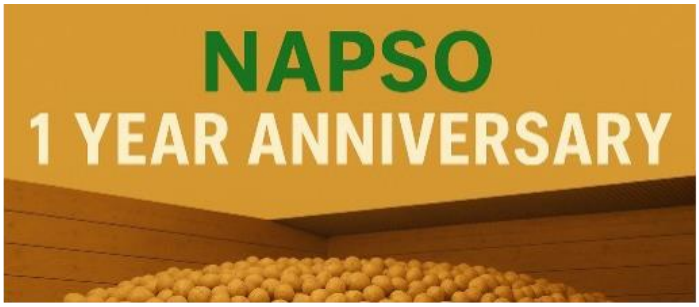
NAPSO: One Year of Impact

NAPSO proudly marked its first anniversary in April, celebrating a year of transformative contributions to the potato storage industry across North America. Since its founding in April of 2024, NAPSO has emerged as a vital potato storage resource for potato farmers, agronomists, researchers, and industry professionals. In just one year, NAPSO has achieved remarkable milestones.

NAPSO's webinars have been a cornerstone of its educational efforts, offering practical, research-based strategies for potato storage.

NAPSO has amplified its impact through expert panels and trade show participation, connecting with industry professionals and showcasing storage expertise.

NAPSO encourages industry professionals to explore its resources, share webinar links, and engage with its growing community: www.napso.info and contact@napso.info - our Communications Coordinator Emily Merk will respond.



"Nothing like mashed potatoes when you're feeling blue. Nothing like getting into bed with a bowl of hot mashed potatoes already loaded with butter, and methodically adding another thin, cold slice of butter to every forkful."
Nora Ephron

NAPSO Events

Important upcoming NAPSO events include a technical symposium at the Potato Association of America's annual meeting in July in Madison, Wisconsin. The 2025 PAA Symposium brings together leading potato storage experts from academia, industry, and international research to discuss the latest insights in storage chemistry, structure design, and regulatory impacts.

NAPSO will host a dedicated symposium titled "***Spotlight on Storage***" on the first day of the PAA event in Madison, WI on July 28th. Dr. Kurt Demeulemeester from Inagro, Belgium will be our international speaker.

Webinar: '*The Final Countdown: Smart Storage Strategies for Late Season Potatoes*'

NAPSO hosted its latest industry webinar on May 15, 2025, drawing participation from growers, storage managers, and researchers across North America and beyond. The webinar featured two in-depth presentations focused on extending quality and minimizing loss during the critical final stretch of potato storage.

Smart Tactics for Late-Season Storage: Keeping Potatoes Cool, Stable, and Profitable

Eric Evans, President of Agri-Stor Companies, brought over 30 years of post-harvest storage experience to the NAPSO webinar stage with a focused and highly practical presentation titled "*Maximize Your Potato Storage Late Season*." Drawing on his company's deep roots in ventilation, refrigeration, and climate control solutions, Evans outlined critical strategies for extending potato quality and minimizing risk during the most volatile storage period of the year. His central message was clear: be proactive, not reactive. Once warm spring temperatures take hold, storage managers who aren't prepared will find themselves chasing problems that could have been avoided with timely intervention. Eric can be reached at eric@agri-stor.com for further information.

Temperature Management:

* Avoid warm air infiltration at all costs.
* Turn refrigeration on before you need it—falling behind is the most common mistake.
* Use return air as the control reference instead of outdoor air; this increases system runtime and stability.

Delta-T Monitoring and Airflow Control:

* When Delta-T exceeds 2°C, immediate action is necessary.
* Adjust setpoints strategically to maintain desired runtime without inviting external heat.
* Run fans 24/7 at minimal effective speeds to avoid temperature swings. When using refrigeration, fan speeds must align with evaporator coil specifications.

CO2 and Humidity Considerations:

* Monitor CO2 closely. Levels should stay below 2,500–3,000 ppm. Use automatic purge systems if available.
* Aim for maximum humidity without condensation. Moisture control is vital for reducing shrink and maintaining firmness.

Late-Season Hazards: Sprouting, Disease, and Sugar Accumulation

* Potatoes are naturally trying to sprout this time of year. Stay on top of sprout control and consider applying a dormancy enhancer.
* Temperature fluctuations increase disease pressure. Disinfectants such as PAA or chlorine dioxide should be used strategically.
* For processing potatoes, sugar accumulation can jeopardize fry quality. Evans advised regular sampling and lab testing to catch issues early.

Energy Efficiency Without Sacrifice

While energy savings are always a consideration, Evans reminded attendees not to "step over dollars to pick up dimes." Maintaining stable conditions and quality must come first.

Understanding Physiological Stress in Storage: Managing Quality from Bin to Bag

Dr. Sastry Jayanty, a respected postharvest specialist from Colorado State University, presented practical insights into the physiological challenges potatoes face during extended storage. His talk emphasized how storage strategies must evolve late in the season to prevent hidden quality losses such as pressure bruising, black spot, and sprouting. He can be reached at sastry.jayanty@colostate.edu for further information.

Core Storage Phases and Late-Season Priorities

* Wound Healing (First 3 Weeks)
Warm temps (~65–55°F) and high humidity (95%) are needed to heal tuber skins and reduce disease risk.
* Holding Period (3–9 Months)
Storage should be maintained at ~38–48°F with 7–8 CFM/ton ventilation. Sprout inhibitors should be applied as required, especially as dormancy breaks down late in storage.
* Removal and Shipping
Sudden temperature changes—like fluming warm tubers in cold water—can cause rot, particularly in poly bags.

Ventilation Strategy Matters

Dr. Jayanty shared findings from multi-year trials comparing fan speeds and airflows:
* Continuous low-speed airflow reduced sprouting while minimizing weight loss.
* High continous airflow resulted in more shrink, and greater risk of softening and internal defects.
* Variable drive fans help in reducing energy costs while maintain tuber quality.

Key Late-Season Issues

As storage duration extends into the final months, physiological stress on tubers intensifies, increasing the risk of quality degradation through a range of interconnected factors.
* Tuber Softening: Loss of turgor and increased membrane permeability make potatoes more vulnerable to black spot bruising.
* Pile Pressure: Higher piles (15–16 feet) contribute to pressure flattening.
* Moisture Management: Avoid dehydration by fine-tuning airflow while maintaining humidity near 95% through the storage season.

Final Advice

Late-season storage is a *high-stakes balancing act*. Dr. Jayanty urged managers to minimize stress at every point—from storage to washing and shipping—and to monitor pile conditions closely, as even minor changes can signal serious quality threats.

"*Late-season storage isn't just about keeping potatoes cool—it's about managing a living system under stress,*" *Dr. Jayanty emphasized. "Understanding how tubers respond to time, temperature, and handling is essential for preserving quality right through to delivery.*"