Why is freezing undesirable?

When water freezes, it forms ice crystals. When tissue is frozen, the water inside of it also freezes resulting in ice crystal formation within the tissue. As the crystals form, they expand resulting in clefts within the tissue. They remain once the tissue is processed in the laboratory. This is what is commonly referred to as “freeze artifact.”

How do we prevent freezing of tissues when in transit?

Appropriate packaging is the most important factor in preserving samples. The best practice for packaging would be to use a box with insulation which helps keep the cold out in the winter. Additional measures include filling the box with additional insulation as well as refraining from shipping over weekends and holidays to minimize the time the box sits idle in the cold.

To prevent freeze artifact in tissue samples, you can add a small amount of alcohol to your formalin. There are several alcohols that can be used, including isopropyl, methanol, and ethanol. The proper mixture to prevent freezing is 1-part alcohol to 9-parts formalin.

What are the negative side effects associated with prevention?

A negative side effect to using alcohol on tissue is that it can dry out very small samples. This can be minimized by not adding more than the recommended amount of alcohol, as described above.
Amanda Williams
Receiving

Amanda began working at the VDL four years ago. She is the Receiving Supervisor in the Mailroom. The best part of her job has been building relationships with other labs and VDL clientele.

Prior to coming to the VDL, she worked for Patterson Logistics (Patterson Dental/Veterinary) for 11 years where she managed inventory and handled all of the damaged freight and Hazardous Materials as a receiving and shipping clerk.

She was born in Wyoming, most of her family still live there, before moving to Iowa when she was 12. Growing up, she spent a lot of time in the Black Hills where her dad lives. She has 5 brothers and 5 sisters (Biological, Half, and Step). She graduated from Boone High School and attended ICC for Carpentry.

Today, she lives on a small farm with her husband, Tony, and son, Cash, who is 10 and in 5th grade. Her son has a small herd of Hereford cattle that he uses for 4-H. Amanda is a 4-H leader for the Westside Hustlers in Ogden. As a family, they love to go camping, fishing, and show livestock.

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To find your Best Practice Dashboard, navigate to your ISU VDL Client Web Portal and click on Custom Reports. For questions related to your Best Practice Dashboard, please call the ISU VDL (515-294-1950) and ask to speak with a Client Services specialist Dr. Katie Woodard or Jordan Kraft.

Questions?
Please contact ISU VDL Client Services
515-294-1950 isuvdl@iastate.edu

ANNOUNCEMENTS:

Upcoming University Holidays:

New Year’s Day — Tuesday, January 1st
MLK Jr. Day — Monday, January 18th

HATS will be closed on New Year’s Day, but will be open for drop off cases on MLK Jr. Day.

New ISU VDL Update

Ground Breaking Ceremony

A groundbreaking ceremony for the new state-of-the-art diagnostic laboratory occurred on October 30th.

Iowa State University’s President Dr. Wendy Wintersteen, and Dr. Dan Grooms, the Dr. Stephen Juelsgaard Dean of Veterinary Medicine were in attendance along with various donors.

This initial building construction will house the new ISU VDL diagnostic laboratory. The lab will provide enhanced infrastructure for sample receiving and processing, pathology, bacteriology, necropsy, histopathology and an incinerator while also addressing the critical need for high quality space.

Construction will officially begin in early 2021 with a scheduled opening sometime in 2023.

For more information at https://vetmed.iastate.edu/node/12913