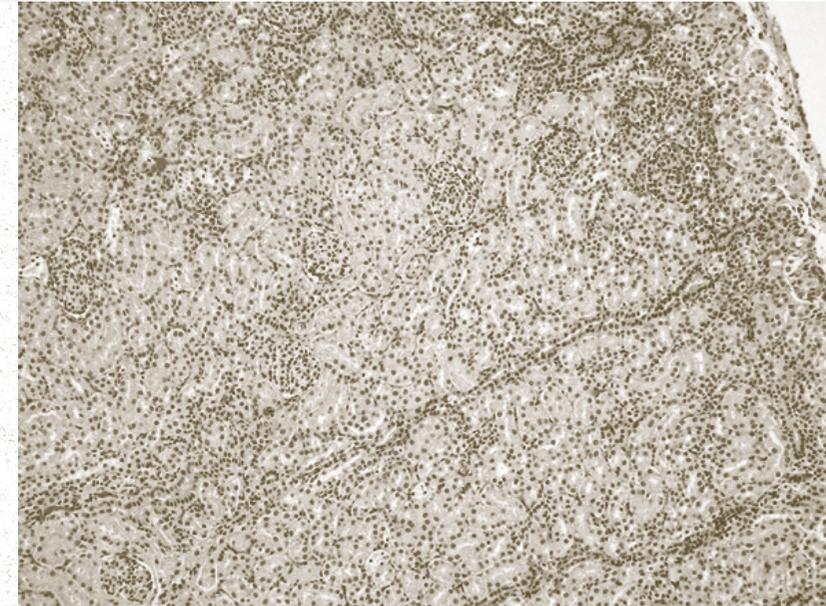


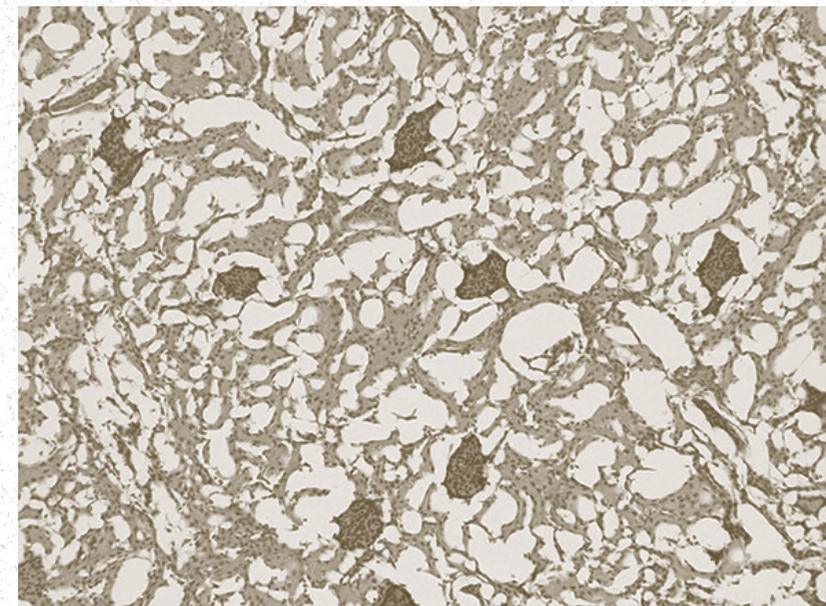
# WINTER IS COMING... but not the freeze artifact

The pictures below are of an H&E stained kidney at 10x magnification displaying the effects of freezing as seen under the microscope. The top image exhibits no freeze artifact while the slide on the bottom has been frozen and exhibits freeze artifact.

▼ no freeze artifact



▼ freeze artifact



Iowa winters can be harsh, and we are already beginning to see cold temperatures roll in for the winter. With those cold temperatures, it becomes important to think about shipping samples, especially tissues destined for histopathology. It is important to think about how best to send them without compromising the sample.

When sending tissues for histopathology, consider: **1) why freezing is undesirable, 2) how to prevent freezing, and 3) any negative side effects of that prevention.**

## 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.



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Winter — 2020

**IOWA STATE UNIVERSITY**  
**College of Veterinary Medicine**

# NEWSLETTER



## 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.

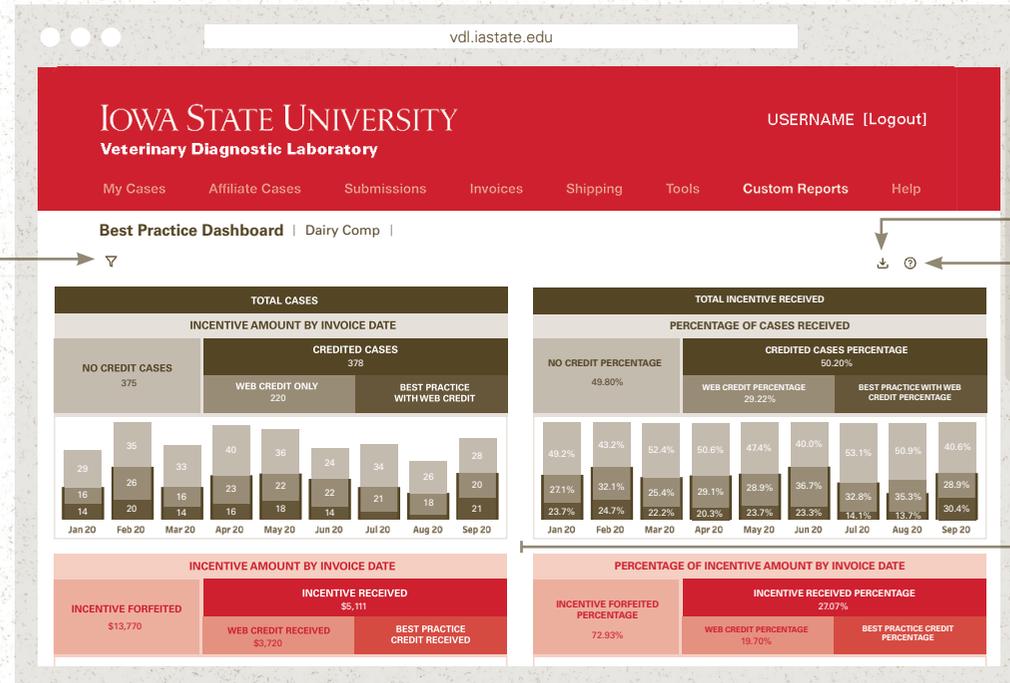
Prior to coming to the VDL, she worked for Patterson Logistics (Patterson Dental/Veterinary) for 11 years where she managed inventory and handled all of the damaged freight and Hazardous Materials as a receiving and shipping clerk.

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 ICCC for Carpentry.

Today, she lives on a small farm with her husband, Tony, and son, Cash, who is 10 and in 5th grade. Together, they have a small herd of sheep that they raise for 4-H lambs. 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.

## STAFF HIGHLIGHT

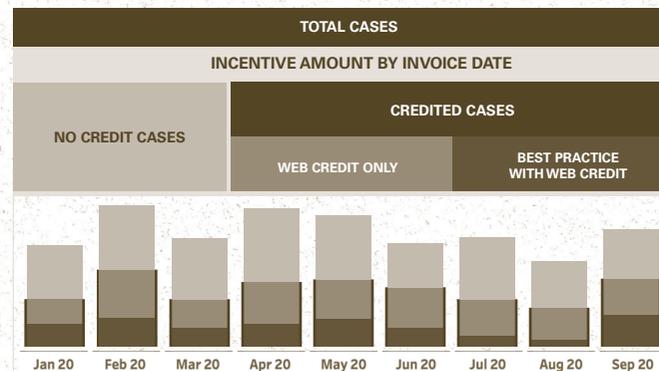
Ability to filter by:  
Time Period  
Species  
Vet  
Bill Party



Export charts to PDF

More information

Graphs on the right show the same information as that on left, but in percentage format



### Total Cases:

Total number of cases for the given time period  
*No Credit Cases + Credited Cases*

### Credited Cases:

Total Number of cases that received some form of credit

### Web Credit Only:

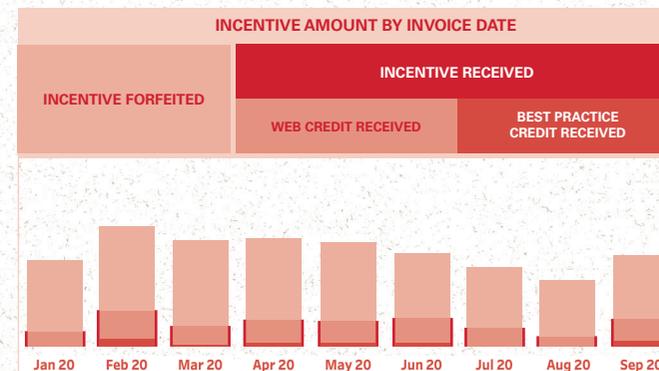
Number of cases that received \$10 Web Credit only. *Cases did not receive Best Practices credit*

### No Credit Cases:

Number of cases that did not receive the \$10 Web Credit or Best Practices Credit

### Best Practices with Web Credit:

Number of cases that received both the \$10 Web Credit and Best Practices Credit



### Incentive Forfeited:

Total amount forfeited.

### Incentive Received:

Total incentive amount received for a given time period.  
*Web Credit Received + Best Practice Credit Received*

### Best Practice Credit Received:

Total best practices amount received for a given time period

### Web Credit Received:

Total web credit amount received for a given time period.

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).

## 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 G. Juelsgaard Dean of Veterinary Medicine were in attendance along with various donors.

This initial building construction will house 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.

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

Questions?

Please contact ISU VDL Client Services  
515-294-1950 — [isuvdl@iastate.edu](mailto:isuvdl@iastate.edu)