City students dig up facts about decomposition

Irene Caldera, a Pocatello High School applied biology student, weighs meat for an experiment her class is doing on forensics. Journal photo by Doug Lindley.

POCATELLO - The crime scene: A sunny south Pocatello backyard.

Evidence: Rotting slabs of deer and elk meat stashed in cages and hung from a tree, partially buried in the turf, and scattered around the yard. Conclusion: Forensic science is hot.

Wearing white plastic gloves, about two dozen Pocatello High School students picked up the dark, slick slabs of deer and elk meat Thursday morning and placed them in small animal traps to be left out in the elements for four weeks. With guidance from Pocatello High School advanced biology and chemistry instructor Eric Rude and Rene Horton, an Idaho State University doctorate candidate and GK-12 fellow, the two classes of juniors and seniors will analyze these simulated "corpses" to determine the rate of decomposition, what happens to a body when it decomposes, and the role insects play in the process.

"Some of the students are just disgusted by (the forensic entomology experiment), and hopefully they will learn something anyway," Horton said. "Some are interested in it but not excited by it, and then some students are morbidly fascinated by it, even thinking up things like multiple stab wounds. We had a group that actually stabbed the samples before we put them out. The whole 'CSI' craze has definitely infested the entire population." With a plethora of crime shows to watch every week on TV, Rude said students are flocking to his class, more interested than ever in studying forensic science.

Pocatello High School junior Tony Musetti said he's a fan of "CSI" and his father is a police officer, so he is looking forward to learning more about forensics and is even considering it as a career. His group decided to see what would happen to the "corpse" after slashing it with a butcher knife and leaving it in the sun.

"It will be very interesting to learn about the time of death and everything," he said. "This is a great class and I am really thinking about going into forensics." Katey Smalley, also a junior, said she is really excited to see what happens to their sample, also put in the sun, and what kind of insects infest it.

"I am interested in this," she said, admitting she is also a fan of "CSI," "I am interested to see
what really happens when people die, because meat is on people." Although Smalley and Musetti's enthusiasm is not shared by everyone in the class, Rude said a lot of students sign up for his class specifically because they are interested in forensics.

He has at least one former student who is now studying forensic science at the University of Idaho. Rude expanded the forensics unit in his advanced biology and chemistry course from the two week overview he offered eight years ago into what is now a 10-week forensics unit. "Studying forensics shows how science has real-world applications," he said. "It teaches them to experiment and think like a scientist. It makes things like what happens on CSI more real, not just something that happens on TV."

Over the next four weeks, Rude's high school students will come back to the samples in both Rude and Horton's backyards to weigh them, collect insects that have infested the meat and make observations about how the samples are decaying.

"I would like (the students) to come away with the idea of how bodies break down after people or animals die and this includes nutrient cycling throughout the whole ecosystem," Horton said. "This is a natural process and insects are definitely a part of the process."

With a master's degree in entomology, which gave her the opportunity to take several forensic entomology courses, as well as taking the Penn State forensics entomology course offered to law enforcement officers, Horton is a good match for the class.

She is one of 16 ISU graduate and undergraduate students funded by a $1.9 million GK-12 grant funded by the National Science Foundation to serve as visiting scientists to southeast Idaho classrooms.

Rude and Horton plan to lead students through a Portneuf River survey, classroom experiments including a simulated river and a terra-aqua column, and are applying for additional grant money to fund a study of human cranium sizes from models of modern and ancient skeletons.

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