

MU vet school is ending live-dog surgeries, euthanasia

Live pigs, raised specifically for the purpose, will be used instead for teaching students.

By **MARÁ ROSE WILLIAMS**

For decades, veterinary students at the University of Missouri operated on live dogs. Then they euthanized them.

That will end this summer.

Now it's the pigs' turn.

The MU College of Veterinary Medicine is phasing out the use of live dogs to teach surgeries such as spaying and neutering. The change, the school says, is intended to acknowledge that people look at farm animals differently from Fido.

It's because, a university spokeswoman said, "of the sensitivity."

"People perceive that surgeries being done on companion animals are worse than on other animals like swine," said Mary Jo Banken, university spokeswoman.

It doesn't hurt, she added, that pigs are cheaper.

Banken said she suspects that MU has used live dogs to teach surgeries — it's perfectly legal — ever since the vet school existed on the Columbia campus.

"It's been a practice for as long as there have been veterinary colleges," she said.

Officials at the university's veterinary college declined to discuss the practice, referring all calls to Banken.

An official at the American Association of Veterinary Medical Colleges declined to comment on this issue. Instead, he referred to the association's policy on the use of animals in training.

The policy of AAVMC, which includes MU, says live animals should be used for instructional purposes that result in their death only “at the minimum level necessary to meet the educational objectives. ... Using live animals should be critical to the training program, and only when no reasonable alternatives to live animal use exist.”

The use of live animals in science has made some colleges and universities the subjects of protests from animal-rights organizations.

Other vet schools in the region, including Kansas State University, Oklahoma State University, and the University of Nebraska-Lincoln said they do not use live dogs in training that ultimately leads to euthanizing the animals.

The dogs MU has purchased for surgeries were raised “specifically for this purpose,” Banken said. She said 117 dogs were put down after student-performed surgeries at MU last school year. The pigs the school will buy also will have been raised for teaching purposes at vet schools.

Banken said the school has been in the process of phasing out the practice for nearly three years.

“But it takes a while,” she said. “We have to buy new lab equipment,” arrange shipping and designate a place to keep the pigs before the surgeries begin.

The third-year students in the school’s surgery and anesthesiology lab class, where the surgeries are done, are not forced to operate on live animals that they know will be killed afterward, Banken said. They have the option of using cadavers instead. But, she said, operating on live animals is “just more realistic.”

This year, as a new training effort, MU partnered with the Central Missouri Humane Society to give students practice in spaying and neutering dogs and cats.

Those operations are done free for the Humane Society in Columbia. That frees up money for other community animal services, and it’s easier to find adoptive homes for spayed and neutered dogs, said Humane Society shelter coordinator Colin LaVaute.

LaVaute said the Humane Society “honestly did not know” about the school’s live-dog surgeries and euthanasia practice before entering into the spay/neuter partnership.

“Our partnership has nothing to do with the university’s other practice,” LaVaute said.

But he said the Humane Society does consider it “necessary for veterinary school students to get hands-on experience using live animals.

“At the end of the day,” he said, “we are really happy about the opportunity for the shelter and the university to be able to enter into a mutually beneficial relationship.”



Nuclear institute responds to proposal with questions

Nuclear Science and Engineering Institute professors at the University of Missouri say they're willing to be moved into the College of Engineering but need assurances before doing so.

Any faculty involved in a future nuclear engineering program should have interest and experience. Research activities should be reflected honestly. Future endeavors should not jeopardize the institute's current accreditation for its medical physics degree.

Those were conditions outlined in a letter from the institute to engineering Dean Jim Thompson yesterday. The memo was in response to an offer Thompson made last month that the institute's professors help him create new emphasis areas for more nuclear engineering degrees.

Perhaps the toughest hurdle to cross before the institute and Thompson can successfully work together is trust. "There is a history of actions against our faculty over the years, and we are wanting to make sure present thinking that one gets away from those kinds of situations," said Sudarshan Loyalka, a curators professor of nuclear engineering.

In March, MU administrators told faculty that their institute, now under the MU Graduate School, would be closed to make way for an interdisciplinary program. The four core faculty members have two years to find new academic homes.

Last month, Thompson began developing new nuclear engineering degrees that would be separate from the degrees offered by the institute. He began that process without the institute's input but on May 18 sent a memo asking for its cooperation.

In the memo from the institute, faculty members expressed concerns about the college's true interest in nuclear engineering and future engineering faculty who have been tapped to be involved in the discipline.

"Before we could seriously consider engaging with another group of faculty in a discussion regarding the future of nuclear engineering on the MU campus, we would certainly want to fully understand their individual degrees of interest in the subject," they wrote. "We would need to know their individual levels of professional standing in the field."

The letter also asks Thompson to clarify the amount of research activity happening in the college. According to an attached chart provided by Graduate School Dean George Justice, the College of Engineering's total instructional and research expenditures last year totaled about \$19.6 million, which the institute says is a different figure than Thompson has previously indicated.

The institute's 2011 instructional and research expenditures totaled \$2.26 million — which is higher than 10 of the college's 14 departments and centers.

Thompson had asked the institute to submit ideas for new nuclear engineering degree programs to him by June 15. The institute does not plan to do so, Loyalka said. "Our preference is that the points we have made in our letter be addressed before any serious discussions begin," he said.

The memo to Thompson includes a copy of a letter that went to the system's Board of Curators last month decrying the closure of the institute as a violation of the university's policies. Administrative action to close an academic institute violated a rule requiring programs to be audited by a faculty committee before being closed, wrote Eddie Adelstein, associate pathology professor and president of MU's American Association of University Professors.

Adelstein asked the board to investigate and undo the decision, but it's unlikely that curators will intervene.

ST. LOUIS POST-DISPATCH

Letters to the editor, June 10

Posted: Sunday, June 10, 2012 12:00 am | [\(4\) comments](#).

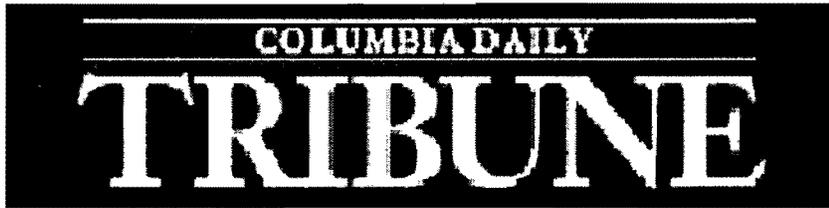
Missouri should be at the forefront of small-reactor development

Pursuing the development of small modular reactors for Missouri would fit well with the energy needs of the state ("Energy firms discuss nuclear plans with Mo. panel," June 7). Being able to add electrical capacity in smaller increments, instead of building very large 1,000-megawatt nuclear plants, has many advantages.

The cost per unit is smaller, so it is easier to raise the capital. Units can be added as needed to accommodate growth in demand. The shorter construction time means greater certainty in deployment. Finally, getting federal dollars to help support this development will be a boost for the state. Small reactors probably will become part of the mix of future electricity sources, and Missouri would do well to be near the forefront in their development."

William H. Miller • Columbia, Mo.

Professor Emeritus, Missouri University Research Reactor, Nuclear Science and Engineering Institute, University of Missouri-Columbia



Too close for comfort

Fan's drug arrest at team hotel is concern for MU athletic department.

By Steve Walentik

Mike Alden had finished his workout March 16 and walked with associate athletic director Mark Alnutt through downtown Omaha, Neb., from their hotel to Starbucks in search of their customary morning pick-me-up.

An eventful day awaited with the Missouri basketball team set to begin the NCAA Tournament that afternoon against Norfolk State. Frank Haith's squad, fresh off its Big 12 Tournament championship, was at the CenturyLink Center going through its final shootaround with tipoff less than seven hours away.

But the MU athletic director's attention was about to be pulled away from March Madness. He and Alnutt returned to the team hotel, the Hilton Garden Inn, and were alerted to news that FBI agents had arrived at the hotel at around 9 a.m. in search of Levi McLean Franklin Coolley.

They found him there and arrested him as part of a wider bust targeting nine individuals — eight from Columbia and another from Kansas City — for their alleged roles in a Boone County cocaine ring. Coolley has been indicted on one count of distributing cocaine and another of possession with intent to distribute and also faces charges of conspiracy to distribute cocaine and marijuana, all felonies.

"First of all, I was shocked. Shocked," Alden said in an interview last month. "I wasn't surprised. I was shocked about that — and because I had no clue of something like that."

Coolley was not a faceless figure to Alden or others around the Missouri program.

Flight manifests obtained by the Tribune through an open records request show that Coolley flew with the team on previous NCAA Tournament trips to Boise, Idaho, and Phoenix in 2009; to Buffalo, N.Y., in 2010; and to Washington, D.C., last year and that he accompanied the team on a flight back from Austin, Texas, in January.

The Buffalo News, in a story about college basketball fans descending on western New York during the 2010 tournament, quoted Coolley as he looked out over Niagara Falls. His words also appeared in a Kansas City Star story published the night before his arrest that detailed the interaction between Missouri and Kansas fans forced into close quarters in Omaha.

A separate records request showed that one or more players left him complimentary tickets to eight games at Mizzou Arena during the 2008-09 season and one more in the 2009-10 season.

Alden's sense of shock after learning of Coolley's arrest gave way to feelings of disappointment.

"We're there for an NCAA Tournament. We're excited about that. We've had a wonderful season, and all of the sudden, we have this distraction, which none of us would have known anything about," Alden said. "So I was disappointed, and then I think other emotions take over after that."

Among them was concern about Coolley's potential association with MU athletes. In the days after the arrest, the athletic department launched an internal review to determine the depth of Coolley's involvement with the program and whether laws or NCAA rules were broken.

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Schools have always had a responsibility to keep their periscopes up to monitor the people who have access to their programs.

The history of NCAA enforcement is littered with cases of agents, bookmakers and overzealous boosters compromising players' eligibility or, worse, leaving them on the wrong side of the law.

In one extreme example from the past year, the NCAA and the University of Miami are investigating allegations that convicted Ponzi schemer Nevin Shapiro provided extra benefits — including nightclub outings, sex parties, cars and other gifts — to 72 Hurricanes athletes between 2002 and 2010. The school could be subject to NCAA major sanctions if any of the charges leveled in a Yahoo! Sports story last August are substantiated.

Among the first questions addressed when assessing Coolley's involvement with the Missouri program was how he gained his access.

"Levi Coolley is not a donor to our program, nor is he a season ticket holder," Alden said.

Coolley accompanied the team on flights as a guest of Jay Lindner, the president of the Forum Development Group and a major donor to the athletic department.

Alden said major donors will often contact the school and can purchase seats on the team plane when flying to bigger events. They are permitted to purchase up to two tickets and can bring a guest. Those individuals undergo standard TSA screenings, but the school does not perform any additional background checks.

"It's not customary anywhere to do something like that," said Mary Austin, Missouri's senior associate athletic director for compliance.

"We do trust our donors to bring a guest that we think we're comfortable with," said Sarah Baumgartner, the director of the Tiger Scholarship Fund.

Lindner said he has known Coolley for several years. Coolley, one of the owners of Midwest Audio Visions, a custom car stereo business, rents his space in south Columbia from Forum Development Group. Lindner said he and Coolley struck up a friendship after Lindner invited him as a guest to a Missouri athletic event.

"Levi shared the same passion for Mizzou sports that we had, which is kind of why we hit it off," Lindner said.

Lindner was hanging out with Coolley in Omaha, and Lindner was also quoted in the Kansas City Star story published the night before Coolley's arrest. They traveled independently of the team, which bused to the NCAA Tournament instead of flying because of the proximity of the host city to Columbia.

Lindner said it was not uncommon for him and Coolley to hang out but that he had no idea of Coolley's alleged involvement in a drug ring. Lindner said he was surprised on the morning of March 16 — which happened to be Coolley's 33rd birthday — when he awoke to news of the arrest without hearing what led to it.

"Our initial reaction was of shock, of why in the world would this have happened?" Lindner said. "It wasn't until later that evening or maybe even the next morning that I think a story came out in the Tribune. That was the first time we had actually heard any details."

Asked if he believes in Coolley's innocence, Lindner said, "One would like to think so, but honestly, I don't have any clue, and that's really up to the legal system."

Coolley spent 11 days in custody in Omaha after his arrest but has been released while waiting for the legal system to run its course. Attempts to reach him at his apartment and his business were unsuccessful. A person who answered the phone at Midwest Audio Visions said Coolley only stops by infrequently.

His attorney, Jeff Hilbrenner, said his client has waived his right to a speedy trial.

Missouri officials moved forward with their own review, speaking with current players and some members of past teams, though Austin declined to say how far back they went with those inquiries.

One former player, J.T. Tiller, whose playing career ended in 2010, said he wasn't contacted by MU and that he wasn't aware of anything improper involving Coolley.

Alden said he notified Arkansas Coach Mike Anderson, who was in charge of the program when Coolley's name began appearing on flight manifests.

"Out of courtesy to Coach and given the fact that we worked together for a long time, we gave him the heads up," Alden said, "because he had no idea that something like this happened."

It was clear Coolley did have contact with players, but based on her discussions, Austin said she wouldn't describe them as "close."

"We knew he was around our program," she said. "Yeah, they meet the people that are. There's a lot of people that go on away trips, and they get there on their own, and so the players are friendly and they talk to the people that are their supporters and everything, but I wouldn't say close."

Alden and Austin said none of the conversations athletic department staffers had with players led them to suspect they were involved in wrongdoing involving Coolley.

Asked specifically if the complimentary tickets might have been in exchange for gifts — which would be an NCAA violation — both said no and pointed to audits that have been done on the department's ticketing procedures. One such audit occurred in 2010 in the wake of a ticket scandal involving five athletic department staff members at Kansas.

"We do the review to where we make sure that the i's are dotted and the t's are crossed and everything," Austin said, "and we felt comfortable after we went through the process."

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Missouri administrators haven't felt compelled to make any sweeping changes to the way they monitor their programs in the wake of Coolley's arrest.

"We feel pretty comfortable with our procedures," Alden said, though he acknowledged the events of March 16 did serve as a reminder to him and his staff that they are always on call and expected to be paying attention to what goes on.

But Alden knows schools will never know about every person with whom their players come in contact.

"It can be virtually impossible to be able to determine the backgrounds of every single person that has an affinity for your program," Alden said. "I think you have a high level of responsibility, but certainly there's also a high level of inability to be able to monitor every single person that has access to your kids.

"So what do you do? You just constantly educate. You constantly communicate. You constantly try to monitor. You constantly have a heightened sense of skepticism, and that can be challenging, because I think our human nature is we want to be people that are trusting people.

We want to be people that believe, especially believe in your donors and the people that your donors bring toward your program and associate with you."

MISSOURIAN

Decision to close University of Missouri Press meets with backlash

Sunday, June 10, 2012 | 6:00 a.m. CDT

COLUMBIA — University of Missouri System president Tim Wolfe's May 24 announcement that University of Missouri Press will close at the end of the month has received attention from around the country.

Wolfe said in a statement that beginning July 1, the UM System will no longer provide its annual \$400,000 subsidy to the publishing house, which, in addition to the subsidy, has been operating with a deficit of \$50,000 to \$100,000 per year for the past "several years," Jennifer Hollingshead, system spokeswoman, said.

With the closing of the press, 10 employees will lose their jobs. These employees, though, have not received any more information than the public has, Beth Chandler, marketing manager, said.

Chandler said the press is important for a research institute because it is the vehicle for publishing, among many other works from around the world, the work of the university's professors.

Ned Stuckey-French, an English professor at Florida State University who published his first book at University of Missouri Press, said the operation publishes books that provide a great service to Missourians.

"It has a focus on the state, yet it represents Missouri nationally and internationally," he said.

Peter Givler, executive director of the American Association of University Presses, said this is true of many university publishing houses. A press, he said, spreads the reputation of a school, showcases its academic standards and "is a way to burnish the image of a university."

Stuckey-French said Wolfe "made a short-sighted decision, and he's going to damage the brand of the university."

To express these feelings, Stuckey-French wrote a letter denouncing the decision to close the press and sent it to various outlets, including newspapers, education committee members in the Missouri House and Senate and Wolfe himself. He started [a petition to stop the closing of the press](#) as well.

Stuckey-French also teamed up with Bruce Miller, a publishing representative in Chicago who created the [Save the University of Missouri Press Facebook page](#). The page encourages people to "write to Tim Wolfe directly and let him know he needs to rescind his order to close the press," a May 28 post said.

On the page, which had 1,536 likes as of Friday, people from around the country have posted the letters they have written to Wolfe, urging him to reconsider.

Professors at MU also have expressed their dismay at the press's closing.

English professor Tom Quirk, a noted Mark Twain scholar, has written or edited five books that have been published by University Press. He said he was surprised by Wolfe's announcement.

"Times are tough, but I would have hoped they could come to a different decision," Quirk said.

Quirk said he is concerned about it because university presses publish scholarly works about people, places, history, architecture and more about their respective states that might otherwise not be published.

[According to previous Missourian reporting](#), books that University Press would normally print will now be printed at other similar presses around the country.

Chandler said these books are in danger of not being printed at all, as commercial publishers are more concerned with sales. University Press often publishes books for much smaller audiences.

"There may be only 400 people who want to read some of our more scholarly publications," Chandler said. "But it's still 400 people."

"University presses matter because they make available the latest research without the pressure to conform to intellectual or commercial fashions," said E.J. Levy, who formerly taught creative nonfiction at MU and is scheduled to have a memoir published by University Press.

Levy said closing the operation is "an effort to solve a short-term economic crunch in a way that sacrifices in the long run the most fundamental mission of a research institution — the creation and dissemination of new knowledge."

The closing of University of Missouri Press is atypical of university presses around the country, Givler said.

"Scholarly publications are grappling with the transition from print to digital," Givler said. But in general, he said, presses are a "fairly stable community" and seem to be doing well.

He said he could only think of two or three university presses that have closed in the past 10 years.

One of those presses is the Eastern Washington University Press, which stopped operating in 2010 because of a budget deficit. The university had to reduce its budget by \$26 million, so the press was cut, Dave Meany, director of media relations for Eastern Washington, said. But that decision did not elicit a strong response.

"People who were tied to the press were disappointed — mostly faculty and staff," Meany said. "But there wasn't much backlash beyond the literary community."

Despite the backlash in regards to University of Missouri Press, though, Hollingshead said Wolfe is not reconsidering his decision to phase out the current model of the press.

A new, more sustainable model continues to be discussed, she said.

Supervising editor is Elizabeth Brixey.

MISSOURIAN

MU researchers find correlation between sexual orientation fluctuation, alcohol misuse

Friday, June 8, 2012 1:52:20 p.m. CDT; updated 3:19 p.m. CDT, Saturday, June 9, 2012
BY MAOLING XIONG

COLUMBIA – Young adults who are actively exploring their sexual identities in college might be more likely to misuse alcohol, a newly published study by MU researchers found.

The study showed that college students whose sexual identification was not exclusively heterosexual or homosexual – such as bisexual men and women or mostly straight men and women – tended to misuse alcohol more frequently than students who identified themselves as exclusively homosexual or exclusively heterosexual.

Amelia Talley, the lead researcher for the study and a research assistant professor in psychological sciences at MU, said the comparison among groups did not reveal differences in the amount or frequency of alcohol use, but rather, in the reasons for drinking and its consequences.

The study was published in the March issue of the Journal of Studies on Alcohol and Drugs, which publishes peer-reviewed studies on topics related to alcohol consumption and drug use. Talley said those people who are still exploring their sexual identities, or who might not yet feel entirely comfortable with their sexual orientations, might be more likely to have "maladaptive reasons for drinking."

"They may drink because they are in bad mood or they are upset," said Talley. These sexual minorities may also report drinking to try to fit in with a certain group, she said.

Those groups, compared to strictly heterosexual or homosexual students, attributed higher levels of their drinking to alleviating anxiety and depression. "They may feel stigmatized by both groups," Talley said.

On the other hand, those who are more certain and firm about what their sexual identities are, either heterosexual or homosexual, tend to drink for more common reasons such as to socialize or to feel happier.

"Bisexual men and mostly straight women whose sexual orientation was in fluctuation during the college years reported the most negative consequences from alcohol misuse," Talley said.

The study analyzed data from 2,068 MU students for four years starting in their freshman year in the fall of 2001. They were surveyed about their sexual self-identification, sexual attraction and sexual behavior every semester in their first four years of college.

The survey also asked about frequency of alcohol use, motivations for drinking and negative consequences resulting from alcohol use.

Kenneth Sher, an MU curators' distinguished professor in psychological sciences, oversaw the data collection, which is ongoing.

The intention in gathering the broad range of data is to better understand patterns of alcohol use among undergraduate students and why they start drinking. Talley drew from a sub-sample of students who answered questions about sexual orientation.

Talley said sexual minorities' maladaptive coping efforts and the negative consequences they have resulted in indicate that some were going through a difficult time emotionally during their college years.

Struby Struble, coordinator of MU's Lesbian, Gay, Bisexual, Transgender & Queer Resource Center, said it's "sad but true" that women questioning their sexuality are more accepted by society when they are misusing alcohol than when they are sober.

"It can be seen as a celebration in our society," Struble said. "Flirting or even kissing when they are drunk will be easier for them. They won't be hated or ostracized by their friends. Being drunk can be an excuse for them."

Struble said the study affirmed the resource center's efforts to provide programs that support people who are not clear about their sexualities are necessary.

"Be nice to your friends. Be open about your friends' sexual orientation. And, take it seriously," Struble said.

Talley said she hopes this study can encourage people to pay more attention to the diversity of sexual minorities.

"They can be mostly straight or mostly homosexual," she said. "They are all valid and acceptable."

Talley said that sexual minorities need to realize they have the option to not define themselves under a rigid sexual orientation.

Currently, Talley and her team are conducting a survey on mostly straight women, trying to research this group in depth.



Tiger Town plans come together as first SEC game nears

By Jacob Barker

Plans are coming together for Tiger Town as organizers hustle to firm up details before the University of Missouri's first Southeastern Conference home football game Sept. 8.

The Downtown Community Improvement District executive committee discussed the current shape of Tiger Town on Monday and released details in a blog post Thursday. The event's footprint still is planned to be Eighth Street between Elm Street and Broadway, and there are plans for a band near the Broadway end as well as a children's area with activities such as face painting and a bounce house. Plans are in the works for shuttles from downtown to the game and a "Tiger Trail" that will take people from downtown to the stadium.

Tiger Town has scrapped ideas for Friday night festivities and an open container waiver, although other groups or the university still might pursue some events the day before the game. Tiger Town itself will operate only on game days, probably beginning about four hours before kickoff and dismantling afterward.

The CID, set to vote Tuesday on a street closure recommendation for the downtown pre-game party, sent a 10-question survey to downtown businesses, property owners and residents Thursday. Already, about 60 responses have been received, CID Director Carrie Gartner said, and they will be used to mold the final shape of Tiger Town.

"It's still evolving," Gartner said. "We just want to make sure people have information but realize it's not set in stone yet."

The most angst about the event emerged over the idea of vendors selling beer and food in the Tiger Town footprint. Someone even went as far as to tape up posters on the doors of downtown businesses warning that Tiger Town's game day parties would take customers away on some of the biggest days of the year for merchants.

"You can never do an event that is going to do what everybody wants it to," Gartner said. "But I think the organizers are doing a very good job of balancing interests."

Tiger Town organizers tried to get downtown merchants more involved in the planning process after that, and Greg Steinhoff, one of the principal organizers, stressed that the survey and input from businesses will set the operating rules for beer and food tents. Tiger Town, a not-for-profit entity, is leaning toward operating the beer tents itself and using the proceeds to operate and market Tiger Town.

"It was kind of the fairest and most logical way to do it," Steinhoff said.

As for the food tents, details still are being worked out on how to prioritize which restaurants get the chance to operate them. But he said the committee wants "light fare" so people come back downtown and try the local restaurants after the game.

Tiger Town already has hired an event planner, Bryan Schulte of St. Louis-based Exclusive Events Inc., and is soliciting sponsors for the events.

Schulte estimates a rough budget of about \$350,000 for the season, but "we could be surprised \$100,000 either way."

Asked whether he thinks the committee can pull off the event before the first SEC game, Steinhoff said he thinks there's still a lot of work to be done.

"I just know we need to pedal hard and keep pedaling hard all the way through Sept. 8," he said.

ST. LOUIS POST-DISPATCH

Report shows increase in Missouri's graduation rate

BY JESSICA BOCK • jbock@post-dispatch.com > 314-340-8228 |

NO MU MENTION

A national report released today shows that Missouri's graduation rate has increased.

Missouri's public high schools graduated 79.3 percent of its students in 2009, an increase of 2.4 percent over the previous year, according to "Diplomas Count," an annual report by Education Week. The data is based on graduates in 2009.

The nation's graduation rate has risen to 73 percent. The report shows that the nation's public schools will generate about 90,000 fewer dropouts than the previous year. Nationwide improvements were driven, in large part, by impressive gains among Latino students.

"We are always pleased to see our students, teachers and local school districts making progress," said Missouri Commissioner of Education Chris L. Nicastro. "Our statewide goal is to improve the graduation rate by at least 2 percent annually, so the numbers indicate we are taking steps in the right direction. That being said, our work continues to ensure all students in Missouri graduate from high school ready for success."

The graduation rate for Hispanic students increased 11 percentage points from 2008 to 2009 in Missouri. The rate for black students increased 3.1 percent.



This March ranks among warmest winter months

By Janese Silvey

March will go down in the history books as one of the warmest winter months ever recorded in the Midwest, second only to December of 1889.

"If you look at the record since 1889, those are two months that stand way out as being 15 degrees above normal or more," said Tony Lupo, chairman of the University of Missouri's Department of Soil, Environmental and Atmospheric Sciences.

The average temperature in March was 59.7, about 15 degrees above normal, while 1889 ended with temperatures roughly 18 degrees above average.

Certain patterns were evident in both years that likely played a role in the unusual weather. In both cases, the warmest months were preceded by three months with little precipitation, Lupo said.

Both were La Nina years with strong Arctic oscillations, or patterns of pressure that wrap around the North Pole. With oscillations keeping cold air north, both years showed a strong ridge over central North America that brought heat into the Midwest.

The discovery of the similarity between the two months might help scientists better understand variability and assist with future weather prediction models, MU spokesman Christian Basi said.

In the short term, it means conditions are ripe for a thirsty summer.

"Generally, our warm dry summers are preceded by drier winters and springs," Lupo said.

"Drought is a cumulative thing, and we're in a drought now."

The fact that winter 1889 remains one of the warmest does not provide any insight into global warming, Lupo said. "It's just one of those things that happens every so often."