



MU News Bureau

Daily Clips Packet

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Decision on new University of Missouri chancellor coming soon

By Rudi Keller

The University of Missouri will have a new permanent chancellor soon, but it won't be interim Chancellor and Provost Garnett Stokes.

During a forum on campus budget issues Tuesday, Stokes said she expects a new chancellor will be named within the next two weeks. Asked afterward if she is a candidate for the job, Stokes said no.

Stokes took over as interim chancellor on May 3, the day former interim Chancellor Hank Foley departed to become president of New York Institute of Technology. Foley had said several times since taking the interim post in November 2015 that he wanted the job on a permanent basis. Stokes did not say she has not sought the job, but said she is not currently a candidate.

MU is planning for a 12 percent cut in general fund spending in the coming fiscal year and expects first-time freshman enrollment to decline 18 percent. Overall enrollment is expected to decline 7.4 percent and the campus is creating committees to study finance, enrollment and campus reorganization.

The new chancellor will not try to start the process over, Stokes said.

“I am not a candidate for that position, but what I do know is that candidates for this position are committed to what this campus needs to do,” Stokes said. “So, I don't think we are going to miss a beat as we move forward with our planning for fiscal year '18 and '19.”

A 22-member Chancellor Search Committee began meeting in January. The timeline for its work called for a new chancellor to be named by late spring or early summer.

Stokes spoke at the second two-hour budget forum this week. She answered questions about how the cuts are being handled and gave general answers, but no detailed plans are being made public.

All four UM System campuses are working under a directive from system President Mun Choi to plan for cuts of 8 to 12 percent in campus budgets. The budget proposals are due Friday, with Choi scheduled to announce his decisions on June 2.

The goal for MU is to find \$55 million: \$24 million to cover the deficit in tuition revenue and state support, \$7.7 million for unavoidable increases in expenses and \$23.7 million for new initiatives and program investments. About 400 jobs will be eliminated, including about 100 employees who will be laid off.

“I know you are looking for more information than I am giving you,” Stokes said. “There is no doubt in my mind.”

The university’s leaders are trying to be as transparent as possible, but no final decisions have been made, she said.

“There is a balance between transparency and respecting the affected personnel in this budget crisis,” Stokes said.

The cuts for the coming year are not the only changes coming to MU. Stokes said she is close to completing the roster of committees studying enrollment, finances and program offerings. Those committees will make recommendations for long-term changes at the university, she said.

The committee members have been asked to put personal preferences aside and look at the good of the whole university. Programs will be evaluated for their contributions to the university and its goals, according to Choi’s directives.

“Do the faculty in small departments need to get packing? I sure hope not,” Stokes said.

If projections hold, MU will have the smallest campus since 2009. A big portion of the enrollment problem is public perception created by the November 2015 protests and resignation of system President Tim Wolfe.

The university is stepping up its marketing effort, said interim Vice Chancellor for Marketing and Communications Jennifer Hollingshead. In the past, MU has not spent large amounts on marketing because it had no problem attracting students, she said.

“If you are an organization or a business and you are not marketing, it is like winking to a girl in the dark,” Hollingshead said. “You know you are doing it, but nobody else really knows about it.”

Stokes made her comments about the pending chancellor selection when asked about plans for administrative consolidation. The question asked whether there should be fewer vice chancellors or whether jobs should be combined, such as provost and chancellor or UM System president and chancellor.

“I think everything has to be on the table for this institution,” Stokes said.

Stokes said she is uncertain about combining jobs, especially system president and Columbia campus chancellor.

“That’s been talked about for quite some time. I don’t know whether it’s actively being considered at this point,” Stokes said. “It seems a little odd, given that I expect we’re going to name a new chancellor sometime in the next week or two and I know that process has been firmly going forward.”

Choi is paid \$530,000 a year with deferred compensation and other benefits adding another \$80,000 annually to the cost. The current salary for the chancellor is \$459,000, with \$50,000 deferred compensation per year.

If serious consideration was being given to combining posts, Stokes said, “we would have already done it rather than engaging in the search process.”

T COLUMBIA DAILY **TRIBUNE**

Sterk calls MU athletics a ‘cash cow’ at second budget forum

By Rudi Keller

Intercollegiate athletics pays about \$16 million annually to the University of Missouri for tuition, utilities and other expenses and receives no general revenue funds, Athletics Director Jim Sterk said Tuesday during a campus budget forum.

“From a business standpoint, we are kind of a cash cow,” Sterk said.

Sterk was responding to a question asking why his department doesn’t turn over surpluses to the campus for academics and other operations. He was also asked to justify salaries that pay top coaches up to \$3 million annually.

As a member of the Southeastern Conference, Sterk said, MU is in the most competitive athletic conference in the nation. Coaches’ salaries at MU are about mid-scale for the conference, he said.

“It is market driven and it is a blessing and a curse,” Sterk said.

MU is facing a budget crunch because of falling enrollment and cuts in state support. Administrators set a target of cutting 12 percent from general fund expenses for academic and administrative operations. The cuts exempt auxiliary activities, such as athletics and MU Health Care.

The drop in enrollment can be traced largely to the campus demonstrations in November 2015. When students in a group called Concerned Student 1950 formed a campsite and graduate student Jonathan Butler began a hunger strike, the Tiger football team announced it would boycott future athletic activities unless then-University of Missouri System President Tim Wolfe resigned as demanded.

The football team's participation attracted worldwide attention, first from sports journalists and then from news reporters. Freshman enrollment fell more than 20 percent in fall 2016 and is expected to decline almost 18 percent in August. Overall enrollment is expected to be more than 13 percent below 2015 levels.

The only support from the campus to the athletics department is a waiver of out-of-state tuition costs, worth about \$1 million on paper, Sterk said. The figure does not represent any cash transfers, he said.

According to the latest financial report filed with the NCAA, MU athletics' revenue was a record \$97.3 million in the year that ended July 1, with \$94.3 million in expenses. Major revenue sources include \$33.5 million in media rights to broadcast games, \$19.2 million from ticket sales and \$8.5 million from net conference revenue.

The expenses include \$11.25 million in student aid to pay tuition for scholarship athletes. Another \$1 million is paid for on-campus housing for student athletes.

"We really don't subsidize athletics at all," interim MU Chancellor Garnett Stokes said during the forum. "Athletics is really an auxiliary that has to generate its own revenue."

During a Monday budget forum, Vice Provost for Enrollment Management Pelema Morrice said "the vast majority of our undergraduate enrollment concerns" are caused by public perception. That can be traced to the demonstrations and their aftermath.

Just as the football team helped draw attention to the protests, athletics can be part of the solution, Stokes and Sterk said.

Stokes called athletics "one of the windows into Mizzou." Sterk said winning will help bring students back.

"We want to be visible and I think we can really help the university come back from this lull in admissions," Sterk said. "If we're successful, I think overall it helps the university's overall impression in the state."

MU already gets more from athletics than many SEC schools, Sterk said, using the University of Alabama as example. That university spends about \$8 million subsidizing athletics, he said.

"We're trying to do as much as we can and we are going to try to do more in the future," Sterk said.

MISSOURIAN

Sterk: Athletics helps MU raise revenue, boost enrollment

ANDREW KESSEL, 11 hrs ago

COLUMBIA — **MU held its second public forum Tuesday about the fiscal year 2018 budget proposal, and some of the attention turned to the role athletics plays in the current financial picture.**

MU Athletics Director Jim Sterk, one of the campus leaders who took questions during the forum, was asked at one point whether the university subsidizes athletics.

It doesn't, Interim Chancellor and Provost Garnett Stokes told the audience of about 50.

Athletics does receive about \$1 million in tuition waivers for out-of-state recruits, Sterk said, but in return, his department pays the university more than the cost of waivers.

In addition to providing tuition costs, room and board and fees for student athletes, the department pays building expenses, including electricity and other upkeep. That adds up to more than \$16 million annually, Sterk said.

"From a business standpoint, we're kind of a cash cow," he said. "I think if we're successful, overall it helps the university's overall impression in the state."

Sterk spoke at the [second of two forums](#) at MU this week to address the campus-wide 12 percent cuts needed to keep pace with enrollment and state-funding shortfalls.

The four UM System campuses released proposals on May 10 for public comment, and final budget submissions are due Friday to UM President Mun Choi.

Sterk was also asked about coaches' salaries and why coaches are among the most expensive employees at MU.

Missouri pays its coaches according to market value, Sterk said. The athletics department's goal is to keep coaches' salaries near the middle of the pack compared to the university's SEC counterparts.

"It's a blessing and a curse," Sterk said. "We're in the SEC, and it's the most competitive conference in the country, and we're not paying the highest salaries. We're trying to stay right in the median level, (that) is where I'd like to get our coaches."

The two highest-paid coaches on the athletics staff are the football and men's basketball coaches. Barry Odom, who took over as Missouri's football coach before the 2016 season, is the [lowest-paid football coach](#) in the SEC. He [makes \\$2.3 million](#).

Cuonzo Martin, [hired in March](#) to revive Missouri's basketball program, will earn about \$3 million a year. That would be the [second-highest salary](#) in the conference, behind Kentucky's John Calipari, who is set to make \$7.75 million this upcoming season.

Sterk argued that athletic success generates revenue and increases student enrollment for MU. Over the past three years, he said, ticket sales have declined by \$2.3 million. Since hiring Martin, that trend has begun to shift.

Martin was born in St. Louis, which Sterk pointed to as one reason for the uptick.

Martin has also made a splash with his first recruiting class, headlined by the country's top-rated player, [Michael Porter Jr.](#), and recently bolstered by [Jeremiah Tilmon](#), a four-star center from East St. Louis.

The class is currently rated the sixth-best in the country, [according to 247Sports](#).



Univ. of Missouri to cut upwards of 400 jobs amid budget shortfall

Watch the story: <http://fox2now.com/2017/05/16/univ-of-missouri-to-cut-upwards-of-400-jobs-amid-budget-shortfall/>

COLUMBIA, MO (KTVI) – **The University of Missouri has been trying to figure out how to make-up for a \$55 million budget shortfall. One proposal includes the elimination of hundreds of jobs at the university.**

Mizzou officials have to submit a new budget proposal in three days. They insisted the quality of a students' education will not be negatively impacted.

“We’re going to tackle some really hard things,” said Dr. Garnett Stokes, interim Chancellor, Provost, and Executive Vice Chancellor for Academic Affairs at the University of Missouri.

Stokes spent a second day answering questions from Mizzou staff and faculty. Those really hard things she mentions were the millions in decline in revenue.

“It’s really the double whammy of two things converging,” she said.

The first whammy is fewer dollars from the legislature. The second is a drop in enrollment of 2,500 students, which translates into a drop in tuition payments.



MU administrators hold budget forums amid announced cuts

Watch story: <http://krcgtv.com/news/local/mu-administrators-hold-budget-forums>

By Mark Slavit

COLUMBIA — MU Interim Chancellor Garnett Stokes said any budget cuts at Mizzou were still in the planning stages.

The general revenue budget is shrinking at 12 percent for each school, college and division on the MU campus.

Stokes said there were two main reasons for Mizzou's money problems. A drop in enrollment took away significant tuition funding, and Missouri lawmakers cut back on state funding for the entire University of Missouri System.

Some proposed MU cuts included the elimination of about 400 jobs. About 300 of those positions were involved with people already leaving campus for various reasons without getting a replacement. The remaining 100 jobs would likely result in layoffs. Stokes said final plans for the shortfall were still up in the air.

"I don't think the faculty should be worried, and the staff," Stokes said. "They are all going to be part of what we are going to do going forward. The numbers of potential layoffs are not firm at this point. Nothing has been approved. We're talking about plans that have come from our campus leaders."

MU administrators offered an online budget suggestion box for their employees.

MU leaders planned to submit their budget plan to University System President Mun Choi on Friday.

The University of Missouri Board of Curators could vote on a final budget as soon as June 2.



Stokes: 350-400 Positions Likely to be Part of 12 Percent Cut

By Elena Rivera

Over 300 faculty, staff and students filled Stotler Lounge in Memorial Union on MU's campus to attend a budget forum led by MU Interim Chancellor Garnett Stokes on Monday afternoon.

Every chair was occupied, and people stood in the back of the room for the duration of the two-hour forum to hear Stokes discuss the short-term proposed plans for the 2017-2018 budget.

Stokes spoke about the 12 percent cuts across all departments, including 350 to 400 position reductions at MU.

She estimated that less than 100 people in sitting positions would be laid off, and the rest of the reductions would be done through retirements and not filling currently vacant positions.

She also cited the need to consolidate operation space, postpone some renovation and improvement projects, and reorganize academic and administrative roles.

Stokes took questions from those present at the forum through note cards and online through a web portal. Many questions were centered on specifying what a 12 percent cut would look like across the board.

Some audience members asked about leaders on MU's campus taking salary cuts to help offset expenses. Stokes said that was not a viable plan because the school hired leaders at competitive rates and needs to retain them.

“As a strategy, in the long run, it's not been found to be the most effective strategy for really thinking about the institution's future,” said Stokes.

Stokes also spoke about non-tenure track faculty and their important role in departments across MU. She said non-tenure track faculty who have already received a contract renewal will not be impacted by the projected layoffs.

Stokes says no information about layoffs and who might be affected will be released before the final UM system budget presentation June 2.

Audience members also asked about enrollment for the next school year, and MU's plans to increase enrollment. Vice Provost for Enrollment Management Pelema Morrice said there is already research that has shown why enrollment has declined.

"The vast number of our undergraduate enrollment concerns are closely tied to some of our public perception issues throughout the state and throughout the country," said Morrice.

Morrice said it might be time for MU to think about a new way to measure success that isn't simply increasing enrollment numbers.

Beyond the immediate budget, Stokes said future plans for re-imagining what MU could look like as a campus include reviewing the graduate student tuition waiver, research incentives and academic programs, as well as overall administrative structure.

Stokes said she was encouraged by the MU community's engagement.

"It makes me optimistic for where we're headed, though I don't want to diminish in any way the tough things we're gonna have to do to get there," said Stokes.

There is a second and final budget forum Tuesday before Stokes and other committee members present a finalized budget to UM System President Mun Choi on Friday.



[AIG's new CEO is 70 — why older corporate leaders are now the exception](#)

Story mentions News Bureau press release: [Zuckerberg or Buffett — Is Youth or Experience More Valuable in the Boardroom?](#)

BY JACOB PASSY May 16, 2017

American International Group's AIG new chief executive has been around the block.

On Monday, the insurance giant named 70-year-old Brian Duperreault as its next leader. A veteran of AIG, Duperreault has also served as the founder and CEO of Bermuda-based Hamilton Insurance Group Ltd. and led the turnaround of consulting and insurance-brokerage company Marsh & McLennan Cos. MMC, +0.31% , among other accomplishments.

Duperreault is nearly 15 years older than the average CEO. CEOs of S&P 1500 companies are, on average, 56 years old, according to data collected by Brandon Cline, an associate professor of finance at Mississippi State University who has researched the impact of a CEOs' ages on firms' performance.

News of Duperreault's appointment garnered a mixed-to-positive reaction among analysts. Many cheered his background in data-based underwriting, but others expressed concern over his advanced age. While CEOs over the age of 65 are by no means a rarity, those at the helm later in life are survivors of an increasingly age-conscious corporate culture, which has become particularly youth-focused in Silicon Valley.

For a start, being a CEO past retirement age like Duperreault is no easy feat — in large part because many companies simply don't allow it. Nearly three-quarters of S&P 500 firms and roughly half of S&P 1500 companies have bylaws that require CEOs to retire at a certain age, typically 65. (AIG in 2005 instituted a mandatory retirement age of 73 for the company's directors.)

But he's also in some esteemed company. Other successful CEOs who are up there in age include Berkshire Hathaway BRK.A, -0.09% chief Warren Buffett, 85, and Penske Automotive PAG, +0.71% CEO and chairman Roger Penske, 80. And, of course, Donald Trump became the oldest person ever elected to a first term as president in November, also at the age of 70. On Harvard Business Review's 2016 list of the 100 best-performing CEOs globally, 23 of the business leaders were at or above the age of 65.

It's harder for anyone over the age of 50 to get a new job due to persistent ageism in the workplace, studies show. More than 60% of workers have seen or experienced age discrimination, according to the AARP Public Policy Institute. Career experts say most applicants' resumes should not go back further than 10 years and, while it's not a one-size-fits-all scenario, focusing on your most recent experience is a no-brainer.

What's more, being old as a CEO has other age-related challenges and may be regarded as a vulnerability by competitors or, indeed, corporate predators. Companies with CEOs who work past retirement age (between 64 and 66) are 32% more likely to field takeover and merger offers, according to a 2015 study from researchers at the London School of Economics and Dartmouth College. Health — be it mental or physical — can be another challenge for business executives of an advanced age, making it all the more important that they maintain their fitness and acuity.

Companies with experienced younger CEOs tend to outperform those with older CEOs, according to research by Cline and University of Missouri professor Adam Yore. Young

CEOs who had industry- or firm-specific experience generated a 16% larger return for their firms than CEOs above retirement age — in part a reflection of how younger CEOs gravitate toward faster-growing companies.

As for older CEOs, they demonstrated less activity in the way of hiring, firing, mergers, etc. And their firms' value dropped 0.3% for every additional year in age, particularly in cases where they had worked across multiple companies or industries in their career. "Performance does deteriorate with age," Cline said. "But if a CEO has acquired significant firm- or industry-specific capital, that deterioration effect is mitigated."

Don't miss: The boards of America's most powerful foundations are filled with wealthy, privately-educated white men

With younger chief executives, the energy at a company may be higher as firms with younger leaders tend to embrace change more readily and successfully, said Orlando, Fla.-based executive coach John Mattone. The same is not necessarily true of a CEO over the age of 65, who may be predisposed to fall back on old habits, he added. "They tend to be more rigid and inflexible," Mattone said. "Younger CEOs are more innovative — and they're not afraid to be disruptive."

That mindset has guided many of Silicon Valley's brightest stars, from 40-year-old Twitter TWTR, +1.38% and Square SQ, +0.44% CEO Jack Dorsey to 35-year-old Airbnb co-founder Brian Chesky. (Of course, being young isn't a one-way ticket to success — just ask Theranos founder Elizabeth Holmes, whose company has been embroiled in legal and regulatory challenges.)

But older CEOs are unlikely to get into the kind of high-profile tiffs that have dogged some of Silicon Valley's younger leaders. "Silverback" CEOs may be better able to withstand and deal with any unexpected crises. Past failures can drive future success for CEOs, according to the CEO Genome Project, a study conducted by researchers at Chicago-based consulting firm ghSmart.

Managers in their 60s and 70s can become role models for their (mostly) younger employees, which is not always easy if an employee in his or her 40s or 50s is reporting to, say, a Silicon Valley CEO in his or her 20s and 30s, experts say. That helps cast a more positive light on their past experience. "They can help the younger people find their way," Mattone said, which can stave off the negative reaction people may have to their advanced age.

What's more, past experience may allow CEOs to act more agilely and with confidence — another quality correlated with success in business management. "The older CEOs tend to have established a platform for being courageous," Mattone said. "They're not afraid of making tough calls."

MU collects \$729K in Rhoades buyout money

By Blake Toppmeyer

Missouri collected more than \$700,000 in buyout money after former Athletic Director Mack Rhoades' exodus.

Rhoades' contract stipulated that he owed \$800,000 for leaving his post in July 2016 to become the AD at Baylor. Rhoades was Missouri's AD for 14½ months.

Beginning in October, Missouri began receiving monthly installments of \$17,371.39, according to documents obtained by the Tribune on Tuesday through an open-records request. It received six of those installments before the university and Rhoades reached an agreement in March that he would pay the university a lump sum of \$625,000, which would end his buyout obligation.

The university deposited that \$625,000 on March 24, according to a document outlining MU's deposits of Rhoades' buyout payments.

That lump sum combined with the six previous installments amounted to a total buyout of \$729,228.34.

“Upon” the “University’s receipt of the negotiated lump sum, along with amounts previously received, Rhoades’ obligation to the University with respect to liquidated damages under the Contract for Employment shall be satisfied,” the agreement reached by the university and Rhoades stated.

Rhoades' annual base salary at MU was \$600,000. Essentially, Rhoades' buyout money offset the base salary he earned throughout his tenure.

Rhoades' tenure will be remembered by many Missouri fans for his being twice blindsided by athlete protests.

In November 2015, more than 30 African-American MU football players announced a boycott of team activities amid campus unrest that included student protests of the school's racial climate. Gary Pinkel supported his players' boycott. Two days after the boycott started, it ended with the resignations of Tim Wolfe, who was the university system president, and R. Bowen Loftin, who was MU's chancellor.

The next spring, the MU softball team's unity council announced a protest before the team's senior-day game. In a letter, the unity council blasted Rhoades and the athletic department's

investigation of softball Coach Ehren Earleywine. The protest made public the investigation, which started after some players complained to Rhoades about Earleywine's conduct, and the sour relationship between Rhoades and one of his most successful coaches. The investigation wound up in MU's Title IX Office and lasted 4½ months, but Earleywine survived after it was found he committed no Title IX violations. By then, Rhoades was gone to Baylor, replaced by Jim Sterk.

MISSOURIAN

South Korean childhood pointed the way toward career in textile and apparel management

ASHLI ELLERMAN, 1 hr ago

COLUMBIA — When she was about 6 years old, Jung Ha-Brookshire stepped into an American clothing factory for the first time. Growing up in Daegu, South Korea, she had never experienced anything like it. Her distant aunt, who worked there, took her to a Children's Day party the factory was putting on.

When the girl arrived, she was astonished. She had never seen green grass, a paved road or indoor plumbing before. The factory had all of those.

The American manager there greeted the children and handed them a gift.

"They gave us a Hershey chocolate bar, and that was the first time I ever, ever, ever had chocolate," Ha-Brookshire recalled.

Those impressions stuck.

"I just said, 'I don't know who that person is. I want to be just like that guy,'" she said. "I never forgot that image."

Ha-Brookshire, 45, is the associate dean for research and graduate studies in MU's College of Human Environmental Sciences as well as an associate professor and director of graduate studies in the Department of Textile and Apparel Management. In her teaching and research, she is able to

draw from her youth in South Korea and early career as a New York-based global sourcer in the textile and apparel industry. Her overarching hope is that she can give back on behalf of those who have helped her along the way.

She recalled growing up in an impoverished environment. Her mother had married young through an arranged marriage. Her father fought in the Vietnam War, where he was exposed to Agent Orange.

“He came back, and then I was born within a year or so, But he was going through the psychological problems, and he became an alcoholic,” Ha-Brookshire said. “He had been injured so he had a limp, and the Korean society didn’t welcome that, and he became depressed.”

When she was in fifth grade, her parents divorced. “It was social shame when you’re divorced,” Ha-Brookshire said of the culture then.

Afterward, she was no longer allowed to live with her mother, as women didn’t have custody of their children in Korean society at that time. She was raised by her grandparents, and her mother came to visit her late at night and left before daybreak so none of the neighbors would see her.

When Ha-Brookshire saw her aunt working in the clothing factory, it was the first time she had seen a woman in what seemed to be a powerful position.

“Women in the home were supposed to be submissive,” Ha-Brookshire said. “But my aunt was suddenly getting a paycheck and making money. She was going to school at night because the factory will have evening classes for workers.”

This generated a spark in the girl to make something of herself.

Although she wanted to become the American manager in the factory, she didn’t know exactly how to do that. One person she looked to was her middle school teacher.

“She said, ‘You’re a girl from rural Korea. The only way to become like him is for you to work hard, study hard and go to a good university,’” Ha-Brookshire recalled her teacher saying.

Her teacher told her that even though she was from a “broken family,” if she was a good student, she’d be fine.

“That’s where she gave me the hope that I couldn’t afford,” Ha-Brookshire said. “She somehow convinced me, and I trusted her.”

STORY CONTINUES: http://www.columbiamissourian.com/news/higher_education/south-korean-childhood-pointed-the-way-toward-career-in-textile/article_c0db8478-3101-11e7-b4db-637328ab1c20.html



Should you invest in expensive dog food?

By Kevin Holmes and JoAnne Purtan

Nearly half of us own pets. They're a huge part of our families, but for many of us, making sure they're fed is making a huge dent on our wallets.

But, have you ever given food for thought about your dog's food?

Walk down any pet food aisle and you'll find regular dog food, organic dog food, certified organic, and frozen dog food. The prices are all over the place.

"These days there's a pretty big trend toward feeding our pets the way we feed ourselves," said Allison Wara, a veterinary nutritionist at the University of Missouri.

Some vets say price point and presentation don't mean as much as what's on the bag.

“On the back of every label you should find a nutritional adequacy statement, and that statement will say whether or not the pet food is complete and balanced,” she said.

Pet food in the U.S. is regulated by FDA. The FDA representatives serve on the AAFCO, or the Association of American Feed Control Officials, board.

“Complete” means the product contains all the nutrients required.

“Balanced” means the nutrients are present in the correct rations.

Otherwise, Wara says, it'll say something like "intermittent," or "for supplemental feeding."

Other experts say measuring your pet's food is key.

But do pets really need organic, certified organic or completely raw?

Most experts agree that's a want and not a need.

A study by Consumer Reports finds higher prices can mean better ingredients and better quality control during manufacturing.

The same study shows pets can still thrive on inexpensive food or become sick from pricey food.

Bottom line: if your pet is active and healthy, then no matter the price point, the food is doing its job.



How the first broad-spectrum antibiotic emerged from the Missouri dirt

By William Rosen

The perennial known as timothy grass, which grows from two to five feet tall, covers thousands of acres of the American Midwest. It is famously hardy, resistant to both cold and drought, and prospers in almost any kind of soil, from the heaviest bottomland to the poorest sands. Like many New World plants, it is a relatively recent invader, introduced to colonial America by European settlers— one popular theory suggests that the name comes from an eighteenth-century New England farmer named Timothy Hanson—and it is widely grown as animal feed for everything from domestic rabbits to cattle and horses.

Timothy grass was and is important enough as a commercial commodity that agronomists at the University of Missouri started planting it in Sanborn Field, the university's agricultural test station, as soon as it opened in 1888. They were still experimenting with it—

testing varieties for improved yields, or more weather hardiness—in 1945 when William Albrecht, a soil microbiologist, received a letter from a former colleague, now working in New York. The letter included a request that Albrecht obtain soil samples from a dozen different Missouri locations, including Sanborn Field's Plot 23. Its author was a botanist and mycologist named Benjamin Minge Duggar.

Duggar was then seventy-three years old and an accomplished and respected plant pathologist. Ever since receiving his PhD in 1898, he had studied fungi and disease, more or less nonstop, at the Department of Agriculture and at a number of prominent land-grant universities including Cornell, the University of Wisconsin, Washington University in St. Louis, and, of course, Missouri.¹ In 1944, he departed his last academic post and joined Lederle Laboratories to work under its remarkable head of research, Dr. Yellapragada Subbarao.

Lederle Antitoxin Laboratories, as it was originally known, had been founded in 1904 by Dr. Ernst Lederle, a former New York City health commissioner, to produce an American version of the diphtheria vaccine developed by Emil Behring, Paul Ehrlich, and Robert Koch at the end of the nineteenth century, one they could sell to American physicians and hospitals royalty free. Vaccines and antitoxins, for tetanus, typhoid, anthrax, and smallpox, remained the company's primary business for the next forty years, through the death of its founder in 1921, its subsequent acquisition by the agricultural chemicals manufacturer American Cyanamid in 1930, and the hiring of Subbarao in 1940.

Subbarao, an Indian-born physician and physiologist, arrived in the United States as a penniless immigrant in 1923, but with an admissions letter to Harvard University's School of Tropical Medicine, a division of the university's medical school. His tuition expenses were paid by his father-in-law, but in order to pay for his room and board he was given a job at Harvard Medical School, where he spent the next seventeen years. His achievements were nothing short of stellar; among other endeavors, he isolated the components of adenosine triphosphate, or ATP, the fuel for all cellular respiration. In fact, a complete account of Yellapragada Subbarao's accomplishments is almost literally too long to list—not only fundamental discoveries about ATP, creatine, and of B12, but half a dozen chemical breakthroughs still in use today, including discovering how a mimic of folic acid known as antifolate could be used to combat leukemia. Despite that, U.S. immigration law's baroque (among other things, immigrants from British India were allowed to stay only if they fell into professional categories that the State Department deemed valuable. . . a list that changed regularly) required him to register as an alien for his entire professional career.

The most consequential result of Subbarao's problematic immigration status is that one of the university's most brilliant investigators was denied tenure. Academia's loss was industry's gain; in 1940, he left to join Lederle as its director of research. A year after that, he represented Lederle at the first meetings of the Committee on Medical Research called by A. N. Richards to discuss what would become the penicillin project. Three years after that, he hired Benjamin Duggar.

By this time, Selman Waksman's researches at Rutgers were making him the most famous soil scientist in the world; more, they were inspiring everyone in the entire discipline to emulate his

approach: testing literally thousands of actinomycetes for antibacterial properties. It certainly inspired Subbarao and Duggar, who initiated a global program of soil collection. Remarkably enough, in the middle of the world's largest war, they successfully recruited dozens of soldiers and sailors to seek out soil samples everywhere from the Caucasus to North Africa to South America. In 1945, they hit pay dirt—literally—closer to home, with the sample from Plot 23 at Sanborn Field. Living in Plot 23 was a yellow actinomycete, a relative of Selman Waksman's *Streptomyces griseus* that they designated A-377. It took nearly three years of testing and experiment before Duggar announced his discovery to the world in an article in which he named his newly discovered organism *Streptomyces aureofaciens*: the “gold maker.”

The name was almost certainly an attempt to describe the appearance of the bacterium, but Duggar's employers at Lederle may have had a different meaning in mind. *S. aureofaciens* produced a chemical of unknown identity and structure, but one that checked the activity of an enormously wider variety of bacteria than either penicillin or streptomycin. The substance, which Duggar christened Aureomycin (aurum is Latin for gold), was effective against Gram-positive and Gram-negative bacteria, including the pathogens responsible for common ailments like urinary tract infections, and rare ones like bubonic plague. It even seemed to have a powerful effect against a number of viruses. The first broad-spectrum antibiotic had been discovered.

In 1948, after a series of highly successful animal experiments, Aureomycin was ready for clinical investigation in humans. The facility chosen was Harlem Hospital, where Louis Tompkins Wright had spent years studying the treatment of diseases, such as the sexually transmitted lymphatic infection caused by the bacterium known as *Chlamydia trachomatis*. Wright—the most famous African American physician in the United States, the first admitted to the American College of Surgeons—succeeded brilliantly, not just against chlamydia, but also on the variety of pneumonia caused by a virus, rather than the pneumococci bacteria.

Aureomycin looked like a true magic bullet: the hoped-for drug that would cure nearly everything. The Harlem Hospital results didn't convince everyone; Maxwell Finland of Harvard Medical School, perhaps the country's most respected expert on infectious disease, found that Wright's reports were “tinged with enthusiasm,” and he didn't mean it as a compliment. In 1948, this made him a voice in the wilderness. Lederle promoted it as “the most versatile antibiotic yet discovered, with a wider range of activity than any other known remedy.” It wasn't just that it was superior to existing antibacterial treatments in treating disease (though it was). Unlike Prontosil, or penicillin, or—thanks to George Merck—even streptomycin, Aureomycin was patentable, and, on September 13, 1949, it was granted U.S. patent number 2,482,055. Even before the patent had been approved, in 1948 the company spent a then-unheard-of \$2 million shipping samples of their gold maker to 142,000 doctors. Lederle had the first blockbuster drug in history, but it wouldn't have the stage to itself for long.