

SOUTH DAKOTA BOARD OF REGENTS

Committee on Academic and Student Affairs

AGENDA ITEM: II – G

DATE: October 8-9, 2014

**SUBJECT: Naming Request – South Dakota State University, Edgar S. McFadden
Biostress Laboratory**

South Dakota State University requests ratification of renaming the Northern Plains Biostress Laboratory as the “Edgar S. McFadden Biostress Laboratory,” in honor of Dr. Edgar S. McFadden, who received an honorary doctorate from SDSU in 1950 for his research in the field, which included the development of the wheat varieties “Hope” and “H-44.”

Board Policy No. 1:27 (1) and (3) state the pertinent standards for naming:

1. When naming a facility or programmatic unit for a person, family, or organization where there is no gift, the proposed honoree shall have achieved distinction in one or more of the following ways:
 - A. serving the university in an academic or administrative capacity with high distinction, or
 - B. by contributing in other exceptional ways to the welfare and reputation of the university, to education, or to the community in general.

2. Prior to recommending to the Board the naming of a facility or programmatic unit for a person, family or organization, the president or superintendent shall have a reasonable assurance that:
 - A. the proposed name will bring additional honor and distinction to the institution,
 - B. the recognition implied by the naming is appropriate for the behavior exhibited by the individual, family, or organization, and
 - C. any philanthropic commitments connected with the naming can be realized.

For the reasons detailed in the attached correspondence, the university recommends approval of the proposed names under these guidelines without hesitation or reserve.

(Continued)

RECOMMENDED ACTION OF THE EXECUTIVE DIRECTOR

Ratify renaming the Northern Plains Biostress Laboratory on the campus of South Dakota State University as the “Edgar S. McFadden Biostress Laboratory.”

Naming Request – SDSU

October 8-9, 2014

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Because this facility is to be named for an individual alumnus, now deceased, it is not expected to present any immediate or future private use concerns.



South Dakota
State University

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SEP 12 2014

SD Board of Regents

Office of the President

Administration 222, Box 2201
South Dakota State University
Brookings, SD 57007-2298
Phone: 605-688-4111
Fax: 605-688-4443

September 10, 2014

Jack Warner, Ed.D.
Executive Director
South Dakota Board of Regents
306 E. Capitol Avenue, Suite 200
Pierre, South Dakota 57501

Dear Jack,

In accordance with South Dakota State University's naming policy and the Board of Regents' naming policy, I am forwarding for formal public approval by the South Dakota Board of Regents at the October 8-9, 2014 meeting to officially name the Northern Plains Biostress Laboratory as the *Edgar S. McFadden Biostress Laboratory*.

Details on the naming are presented in the attached June 2, 2014 memo from Kevin Kephart to Provost Nichols and the June 26, 2014 memo from Provost Nichols to me.

I approve the naming request.

Thank you for your consideration.

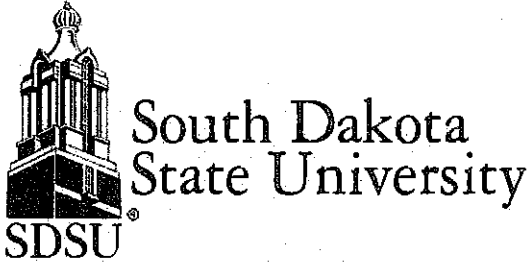
Sincerely,

David L. Chicoine, Ph.D.
President

DLC:lrs

Attachments

cc Laurie Nichols, Provost/Vice President for Academic Affairs
Kevin Kephart, Vice President for Research
✓ Jim Shekleton, Regents' Counsel



Office of Academic Affairs

Provost and Vice President for
Academic AffairsBox 2201
SDSU
Brookings, SD 57007-2098
Phone: 605-688-4173
FAX: 605-688-6582

June 26, 2014

To: David L. Chicoine, President

From: Laurie Nichols, Provost *Laurie Nichols*

RE: Recommendation for renaming the Northern Plains Biostress Laboratory

The South Dakota State University Naming Committee has reviewed and recommended approval of the request to rename the Northern Plains Biostress Laboratory to the Edgar S. McFadden Biostress Laboratory. In compliance with the university's naming policy and the BOR Naming Policy 1:27, I am transmitting the request to you and ask that you recommend the request to the Board of Regents for approval.

This request was made by Vice President Kevin Kephart and Dean Barry Dunn to bring recognition to one of South Dakota State University's most impactful alumnus. Kephart and Dunn also articulated that McFadden's work was a near perfect fit with the mission of the Biostress Lab. Dedicated in 1993, the vision for the laboratory was to conduct research to assist the state's rural citizens who endure floods, drought, and every day "biostresses". It was also the first research laboratory designed to facilitate interdisciplinary and multidisciplinary research.

Edgar McFadden and his development of "Hope" wheat was a superb example of what biostress research could exemplify and achieve. McFadden was born near Webster, SD and attended South Dakota School of Agriculture from 1911 to 1914, studying genetics and plant pathology. In 1924 he bred the wheat varieties "Hope" and "H-44" which were immune to all known races of stem rust. These germplasm were then used by Norman Borlaug who won a Nobel Prize for his work.

To recognize McFadden, USDA awarded him the Distinguished Service Medal in 1949 and SDSU honored him with an honorary doctorate in 1950. He was a fellow of the American Society of Agronomy and a Fellow of the American Association for the Advancement of Science. McFadden died in 1956.

Attached to this document is the letter of nomination from Dr. Kephart with more details about McFadden's accomplishments. Vice President Kephart has requested that, if approved by you, this request be placed on the August Board of Regent's agenda for approval. As you know, a McFadden symposium is being planned for September and they had hoped to include an official naming event sometime during the symposium.

Please let me know if you have any questions or would like additional information.

Approved by:

David L. Chicoine, President

6-26-2014

Date

Office of the Vice President for Research

Box 2201
 SDSU
 Brookings, SD 57007-1998
 Phone: 605-688-5642

Kevin.Kephart@sdstate.edu



South Dakota State University

DATE: June 2, 2014

TO: Laurie S. Nichols, Ph.D.
 Provost and Vice President for Academic Affairs

FROM: Kevin D. Kephart, Ph.D.
 Vice President for Research

RE: Request to rename the Northern Plains Biostress Laboratory

I am writing to request to the University Naming Committee that the name of the Northern Plains Biostress Laboratory be changed to the Edgar S. McFadden Biostress Laboratory. McFadden was one of South Dakota State's most impactful alumni. I believe that the enduring mission of the laboratory and McFadden's career are complementary. Renaming the Biostress lab would bestow honor on Dr. McFadden and would bolster the mission and vision of the lab.

The Northern Plains Biostress Laboratory was dedicated September 17, 1993. The vision for the laboratory is usually attributed to the late Dr. Ray Moore, former Director of the South Dakota Agricultural Experiment Station and Associate Dean for Research in the College of Agriculture and Biological Sciences. Dr. Moore's vision was presented in his comments published in the South Dakota Farm and Home Research South Dakota Farm and Home Research, Agricultural Experiment Station, South Dakota State University, vol 44, no. 2, Summer 1993.

Some key points of Dr. Moore's Biostress Vision include:

- The University must conduct research to assist the state's rural citizens endure through floods, droughts, and everyday "biostresses".
- The future will demand more multidisciplinary research and teaching. Multidisciplinary work is at the heart of the Biostress Vision and was included in the design of the laboratory.
- The impacts of biostress research will reach beyond the state's borders.
- Reducing the impacts of stress will always be an important element of research in the Northern Plains. Dr. Moore viewed biostress as any condition that prevents living organisms – humans, plants, and animals – from achieving their true potential. Therefore "biostress" had to be a part of the building name.

Dr. Moore often referred to Edgar McFadden and his development of 'Hope' wheat as a superb example of what biostress research could exemplify and achieve. During the last two years, significant biographical research on McFadden has revealed much about McFadden and his career. Briefly, some key points include:

- He was born in a homestead shanty in 1891 near Webster, SD.
- He was a range rider in Texas prior to 1910 and encountered Poncho Villa.
- He attended the South Dakota School of Agriculture from 1911 to 1914 and subsequently attended South Dakota State College from 1914 to 1918, earning a BS degree in Agriculture. He had a close relationship with his faculty mentor, Manly Champlin.
- Throughout his time in Brookings, he studied genetics and plant pathology.

- As early as 1913, he began preparations to conduct a plant breeding experiment to transfer genetic resistance to stem rust from emmer into common bread wheat. He planned the experimental design and made other preparations from his own initiative and in spite of many scholars deeming his plans as fruitless and impossible.
- In 1916, he successfully crossed emmer with hard red spring wheat. This was one of the first successful interspecific crosses.
- In 1924, the wheat varieties Hope and 'H-44' resulted from the 1916 cross. These varieties were immune to all known races of stem rust until 1950 and was used as the most valuable source of germplasm in the Nobel Prize-winning work of Dr. Norman Borlaug.
- It is often said that wars are won with guns and butter. Because of Hope and H-44, the U.S. was able to feed Allied troops and civilians in war-torn areas of the globe during World War II. By 1945, it was estimated that Hope and H-44 saved the lives of 25 million people.
- McFadden was a close colleague of Norman Borlaug, Earnest Sears, Elvin Stakman, Nicolai Vavilov, I.M. Atkins and many other important scientists around the globe from the 1920s until his death in 1956.
- In the 1930s and 1940s, McFadden and Sears demonstrated the likely evolutionary processes for common wheat and other *Triticeae*.
- McFadden was honored in 1947 in his home town of Webster, SD where a granite monument was erected in his memory.
- In 1949, McFadden received the USDA Distinguished Service Medal. In 1950 he was honored by South Dakota State with the Honorary Doctorate of Science degree. In 1955 he received the prestigious John Scott Medal.
- He was named as a fellow of the American Society of Agronomy in 1948 and a fellow of the American Association for the Advancement of Science in 1951.
- The August 16, 2013 issue of *Science* magazine reflected on the continuing importance of the *Sr2* gene complex that was transferred from emmer in McFadden's breeding work in Brookings.

Edgar McFadden groundbreaking vision and career exemplifies the Biostress Vision. McFadden's contribution to science, economic prosperity, food security, and nutrition are uniquely significant. Increased public awareness of McFadden's life and contributions will inspire students and staff and many people beyond our borders.

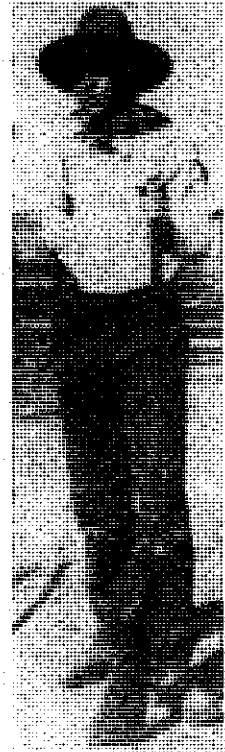
Thank you for considering this request and please let me know if the committee has any questions.

CC: Dean Barry Dunn

SOUTH DAKOTA
STATE UNIVERSITY
FOUNDATION

IMPACT *Greatness*

Edgar S. McFadden
Endowment in Wheat Improvement



The World Needs Wheat

Global population will reach 9 billion by 2050 and we'll need more wheat than has ever been grown in the history of agriculture. Wheat is second only to rice as a human food crop. South Dakota State will step forward to help meet this grand challenge by continuing the 100-year legacy of Edgar S. McFadden and by building upon the University's global reputation of greatness in wheat research. The McFadden Endowment will:

- Memorialize Edgar S. McFadden and his contributions to addressing human hunger;
- Diversify funding for a vitally important wheat research program;
- Endow chairs to conduct applied and translational wheat research; and
- Conduct an annual symposium to learn from world leaders in wheat technology and related fields.

"Having received a fair education in the school of practical experience and the university of hard knocks at which institutions I learned that it is usually the man with the scientific college training who comes out ahead in all fields of human endeavor, I have come to the conclusion that zeal without knowledge will achieve great things only with difficulty." –Edgar S. McFadden

How to Give

Edgar S. McFadden will live on not only in the bread on the shelf, but also in the lives of future wheat researchers. To donate to the endowment toward its goal of \$5 million or for speaking engagements, contact SDSU Foundation (1-888-747-7378) or Kevin Kephart, Vice President for Research (Kevin.Kephart@sdstate.edu or 605-688-5642).

From a Single Seed

A century ago as today, the world relied on South Dakota and the northern Great Plains to grow the best quality wheat. A single disease, black stem rust, was carried by the winds and threatened wheat crops from Mexico to the Canadian prairies. Stem rust infestations caused lost farm income, declined rural communities, and hunger. As a student at South Dakota State in 1916, Edgar McFadden envisioned and accomplished the first major breakthrough in conferring genetic resistance to stem rust. From a single seed, his work is still making a critical difference today, feeding billions of people.

Edgar S. McFadden (1891 – 1956) was a remarkable scientist who made breakthroughs in wheat genetics in South Dakota and in Texas. McFadden (widely known as “Mac”) was born and raised on a homestead in Day County, South Dakota. Stem rust was the most threatening disease of wheat and caused as much as 70% crop loss.



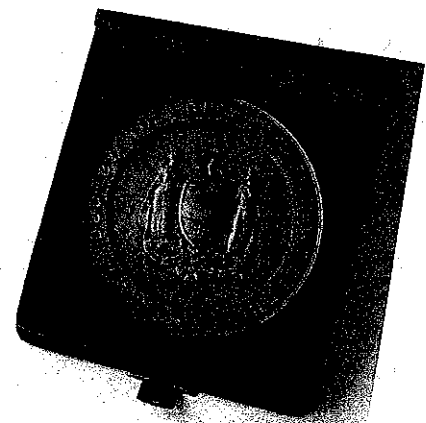
Edgar S. McFadden and Norman E. Borlaug, 1951

By 1913 he was conducting an aggressive breeding program in wheat, oats, corn and barley and by the age of 34, he accomplished what became the centerpiece of his career. From a single seed he developed a spring wheat variety that was immune to stem rust. Aply, he named it ‘Hope’. Hope wheat was the first successful mating between common wheat and an ancestral wheat species, an accomplishment that most scientists of the time believed was impossible. This accomplishment set the stage for greater wheat production during World War II, the recovery years afterward, and the Green Revolution. After graduating in 1918 from South Dakota State with a B.S. degree in Agriculture, McFadden began a career with the USDA Bureau of Plant Industry and later became an enabling colleague with Norman Borlaug during the Rockefeller Foundation wheat improvement program in Mexico from 1944 to 1955.

In order to recognize the important contribution of Edgar McFadden and to continue his legacy, South Dakota State University has established the Edgar S. McFadden Endowment for Wheat Improvement to continue research on new varieties and other technologies that serve wheat producers.

Honors & Recognitions

- 1945 *McFadden's Hope* by A.W. Erickson
- 1946 Reader's Digest: Exceptional Meritorious Contributions to the Public Welfare
- 1946 Farm Journal: The Man Who Gave Us Bread: The Story of a Miracle- Hope Wheat, by J.D. Ratcliff
- 1947 Texas Chemurgic Society Scroll of Honor
- 1947 October 10, McFadden Appreciation Day in Webster, SD
- 1948 American Agricultural Editors Association: Distinguished Service- “Burbank of the Wheat Fields”
- 1948 Fellow of the American Society of Agronomy
- 1949 USDA Distinguished Service Medal: “For the betterment of rural life via his Hope wheat variety”
- 1950 South Dakota State College; Honorary Doctorate of Science
- 1950 Dearborn Motors Corporation: “Waves of Green” film that documented accomplishments of Land-Grant Universities
- 1950 Progressive Farmer; Man of the Year in Service to Southern Agriculture
- 1951 Fellow of the American Association for the Advancement of Science
- 1955 John Scott Medal



IMPACT *Greatness*