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South Dakota Farm and Home Research

SDSU Agricultural Experiment Station

Winter 1993

South Dakota Farm and Home Research

South Dakota State University

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South Dakota Farm & Home RESEARCH

Agricultural Experiment Station • South Dakota State University • Brookings, South Dakota

Volume 43, Number 4, Winter 1993



SPECIAL ISSUE:

**College of Agriculture & Biological Sciences
1993 Calendar**



SOUTH DAKOTA
STATE UNIVERSITY

630.7
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V. 43, no. 4
1993
Winter



SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY



BIOSTRESS CONNECTIONS:

1887 -- Dakota Territory's Agricultural Experiment Station opens at Brookings. It has five scientists: one each in agriculture, botany/horticulture/forestry, entomology, chemistry, and veterinary science.

1910 -- The Agricultural Experiment Station becomes the national leader in research on mechanical milkers. SDSU dairy scientists are pioneers in pasteurization and homogenization work.

New Year's Day

1

2

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

3

4

S.D. Seed
Trade Assoc.
short course,
Brookings

5

6

7

S.D. Pork
Producers Council
annual meeting,
Sioux Falls, Jan. 8-9

8

9

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

10

11

12

SDSU spring
registration &
orientation

13

Ag Expo, Sioux Falls,
Jan. 13-14

SDSU classes
begin

14

15

SDSU Lamb
Bonanza and
dedication of
SDSU Sheep
Barn

16

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

17

Martin Luther King's
Birthday

18

Commercial
pesticide
applicator
recertification,
Yankton

19

Sioux Empire Farm Show,
Sioux Falls, Jan. 19-23

Commercial
pesticide
applicator
recertification,
Sioux Falls

20

Commercial
pesticide
applicator
recertification,
Watertown

21

22

23

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

24

Commercial
pesticide
applicator
recertification,
Mitchell

25

Commercial
pesticide
applicator
recertification,
Rapid City

26

Commercial
pesticide
applicator
recertification,
Pierre

27

Commercial
pesticide
applicator
recertification,
Aberdeen

28

29

30

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

31

No-Till/Ridge Till Conference,
Sioux Falls, Jan. 26-27

SDSU Ag/Bio Career Days

Enrollment at SDSU and in the College of Agriculture & Biological Sciences set all-time highs during Fall 1992. Ag/Bio Ambassadors are majors from the college who talk to high school students about ag careers and play a prime role in attracting students to SDSU. (Photo by Jerry Leslie)

Creating Opportunities for a Lifetime . . .



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	Black Hills Stock Show, Rapid City, Feb. 1-7 1	Aviation Trades Assoc. Workshop, Mitchell, Feb. 2-4 2	3	State Dairy & Forage Conference, Sioux Falls 4	5	Animal & Range Sciences Get Together, Rapid City 6 West River Veterinary Medical Assoc., Rapid City
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 7	Dakota Lakes Research Farm annual meeting, Pierre 8	Ag-A-Rama, Sioux Falls, Feb. 9-11 9	S.D. Soybean Research & Promotion Council annual meeting, Sioux Falls 10 SDSU graduation applications due, Ag Hall 156	11	Lincoln's Birthday 12	Society for Range Management annual meeting, Albuquerque, N.Mex., Feb. 13-19 13
Valentine's Day 14 Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	Washington's Birthday 15	SDSU upperclass scholarship applications due, Ag Hall 156 16 SDSU final fee payment Midwest Poultry Federation meeting, Minneapolis, Feb. 16-19	17	18	19	Herd Health Conference, Brookings 20 SDSU Pork Classic/Clover Classic basketball game, Jacks vs. St. Cloud State, Frost Arena
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 21	Crop & Pest Conference, Brookings, Feb. 22-24 22	23	Ash Wednesday 24	Crop & Price Outlook meeting, Brookings 25	Last day to drop an SDSU course without a "W" grade 26	27
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 28	<div></div> <div>BIOSTRESS CONNECTIONS: 1914 --Smith-Lever Act is enacted by the U.S. Congress establishing the Cooperative Extension Service at all land-grant universities. The first South Dakota Extension office is opened in Brown County. Local Extension offices will number 66 by 1993. 1957 -- SDSU researchers discover cure for parakeratosis, a nutritional disease of swine. Adding zinc to the diet significantly increases growth and eliminates the skin lesions. 1991 -- SDSU veterinary scientists discover the virus which causes Mystery Swine Disease and identify a protein which makes some pigs susceptible to scours.</div>					

South Dakota ranks eighth in the U.S. in hogs on hand. Discoveries at the SDSU Animal Disease Research & Diagnostic Lab are leading to a vaccine for Mystery Swine Disease that will add \$16.2 million annually to swine producers' incomes. (Photo by Kevin Schmidt)

Creating Opportunities for a Lifetime . . .

SDSU

62ND

LITTLE INTERNATIONAL




SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3	Central Crops & Soils Research Station advisory board meeting, Highmore 4	5	6
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 7	SDSU spring break, Mar. 8-14 8	9	10	11	12	13
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 14	15	First half of SDSU semester ends 16	St. Patrick's Day State Extension Advisory Board meeting, Pierre, Mar. 17-18 17	18	19	20
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 21	Midwest Section, American Society of Animal Science and American Dairy Science Assoc. meeting, Des Moines, Mar. 22-24 22	23	24	25	SDSU Little International, Mar. 26-27 26	27
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 28 National 4-H Conference, Washington, D.C., Mar. 28-April 3	29	30	31	 <p>BIOSTRESS CONNECTION: 1941 -- SDSU home economists are among the first in the nation to do research on wool blends. From 1930 to 1970 most textile research is centered on wool.</p>		

1993 marks the 70th anniversary of SDSU's Little International Agricultural Exposition, a student-run event that attracts more than 800 spectators. Competition includes livestock showmanship and fitting; crops, livestock, and meats judging. (Photo by Instructional Media)

Creating Opportunities for a Lifetime . . .





SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY			
	BIOSTRESS CONNECTIONS: 1916 -- Research on corn silage for lambs is released by SDSU. South Dakota is one of the first stations in the country to evaluate corn silage as a feed source for livestock.		1980 -- SDSU animal researchers find that prostaglandin F2a (PGF) helps synchronize estrus in the ewe flock, meaning lambs will be within days of each other in age. This improves lambing supervision, flock management, and marketing for sheep producers.		1	2	3		
Palm Sunday Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	4	Last day to drop an SDSU course Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain SDSU early registration for Fall 1993, April 5-16	5	SDSU NPBL Symposium, stress mechanisms, April 6-7	6	7	Good Friday 8	9	10
Easter Sunday Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	11	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	12	13	14	15	16	17	
State FFA Convention, Brookings, April 18-20 Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	18	SDSU NPBL Symposium, stress responses, April 19-20 Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	19	20	21	SDSU Ag/Bio Scholarship Banquet	22	23	24
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	25	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	26	27	28	29	30		

SDSU's Animal and Range Sciences Department has cattle, horses, swine, sheep, and a meats laboratory where students gain hands-on experience. The department works in close cooperation with the Veterinary Science Department. (Photo by Kevin Schmidt)

Creating Opportunities for a Lifetime . . .





SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY



BIOSTRESS CONNECTIONS:

1905 -- "Farmers Institutes" and "Pure Seed Specials" are held throughout the state by the Experiment Station from railroad cars. College Belle Wayne, one of SDSU's dairy cows, joins the tour in 1914. She milks out 3,338 pounds in 30 days, earning her second place in world records.

1969 -- SDSU ag engineers complete research on reducing tractor cab noise and provide the information on modified mufflers and insulated cabs to the industry.

1986 -- SDSU veterinarians find a new bacterium that contributes to abortion in sheep. The discovery brings them worldwide recognition.

1

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

2

Garden Line, SDPTV,
9 p.m. Central,
8 p.m. Mountain

3

4

5

6

SDSU 39th
Jackrabbit Stampede
Intercollegiate Rodeo,
May 7-9

7

SDSU Graduation,
Frost Arena

8

Mothers Day

9

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

Garden Line, SDPTV,
9 p.m. Central,
8 p.m. Mountain

10

SDSU final exams, May 10-14

11

12

13

14

15

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

16

Garden Line, SDPTV,
9 p.m. Central,
8 p.m. Mountain

17

18

SDSU grades due
in Registrar's Office

19

20

21

22

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

23

NPBL Symposium,
stress management,
May 24-25
Garden Line, SDPTV

24

25

26

27

28

29

Today's Ag,
KELO-TV stations,
10:35 p.m. Central,
9:35 p.m. Mountain

30

Memorial Day

31

In 20 years, soybean production has spread from two counties in the southeast to much of the eastern half of the state, largely due to crop management systems developed at SDSU. This year the Agricultural Experiment Station will have more than 5,500 soybean test plots at six South Dakota locations. (Photo by Stuart Fedt)

Creating Opportunities for a Lifetime . . .






SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
BIOSTRESS CONNECTION: 1918 -- Dr. Edgar McFadden, while still an SDSU student, plants different kinds of wheats in his landlady's garden and produces a rust-resistant spring wheat by crossing distantly related species, a technique considered impossible in scientific circles. Stem rust epidemics had virtually wiped out wheat production in South Dakota.		Great Plains Agricultural Council annual meeting, Rapid City, June 1-3 1	2	3	4	Basic 5 Challenge (Watch for this health/fitness event in your area.) 5
S.D. Veterinary Medical Assoc. summer meeting, Pierre 6 Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	S.D. Stockgrowers annual meeting, Spearfish, June 7-9 7 Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	Youth Range Camp, Sturgis, June 8-11 8	State 4-H Junior Leaders Conference, Brookings, June 9-12 9	SDSU Sheep Day 10	11	12
American Dairy Assoc. meeting, College Park, Md., June 13-16 13 Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 14	15	16	17	18	19
Fathers Day 20 Reciprocal Meat Conference, Lincoln, June 20-23 Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 21	22	Southeast Research Farm spring tour, Beresford 23	Central Crops and Soils Research Station farm tour, Highmore 24 Dakota Lakes Research Farm spring field day, Pierre	25	26
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 27	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 28	29	30	<div></div> <p>McFadden's wheat is named, appropriately, "Hope." Nobel Peace Prize winner for 1970 Norman Borlaug would thank SDSU and Dr. McFadden for Hope, which became a parent of many of the wheats used to ease world hunger.</p>		

SDSU Cooperative Extension Service specialists and agents bring up-to-date and unbiased information on a wide variety of subjects to all South Dakotans. Public tours of Experiment Station and Extension demonstration plots show research results firsthand. (Photo by Jerry Leslie)

Creating Opportunities for a Lifetime . . .





SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		BIOSTRESS CONNECTIONS: 1899 -- The first field station in the Northern Great Plains is South Dakota's 117-acre Highmore station. It is the first station in the United States to test durum wheat, smooth brome grass, Russian olive trees, and yellow-blossomed alfalfa. 1909 -- The very first range research station in the U.S. is established at Cottonwood, S.D.		1	2	3
Independence Day Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	4 American Society of Animal Science, Spokane, Wash., July 5-9	5 Rangeland Days, July 6-7	6	7 Northeast Research Farm tour, Watertown	8	9 10
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	11 Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	12	13 State 4-H Horse Show, Huron, July 14-16	14	15 16	17
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	18 Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	19	20 21	22 23	24	25
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain	26 Poultry Science Assoc. annual meeting, East Lansing, Mich., July 26-30 Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	27	28	29	30	31

SDSU plant science researchers have been instrumental in developing new varieties and better farming practices to improve crop yields. Even a one percent improvement in production efficiency would result in millions of dollars of economic gain for South Dakota and the region. (Photo by Stuart Fedt)

Creating Opportunities for a Lifetime . . .






SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 1	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 2	3	4	5	6	7
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 8	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 9	10	11	12	13	14
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 15	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 16	17	18	Dakota Lakes Research Farm No-Till Day, Pierre 19	SDSU McCrory Gardens Garden Party 20	21
S.D. Veterinary Medical Assoc. annual meeting, Sioux Falls, Aug. 22-24 Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 22	Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 23	SDSU new advisor workshop 24	25	26	27	28
Today's Ag, KELO-TV stations, 10:35 p.m. Central, 9:35 p.m. Mountain 29	SDSU fall semester registration & orientation Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain 30	SDSU fall semester classes begin South Dakota State Fair opens in Huron 31				

BIOSTRESS CONNECTIONS:
1898 -SDSU horticulturist N.E. Hansen returns from a 9-month assignment collecting seeds in Russia, Transcaucasia, Turkestan, and China. He gains worldwide fame as a plant breeder and explorer, introduces crested wheatgrass, smooth brome grass, and Cossack alfalfa to North America.
1984 - "Meadowlark," the first winterhardy forsythia for the Northern Great Plains, is released by SDSU.






SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY			
	BIOSTRESS CONNECTIONS: 1991 -- Ground is broken at SDSU for the Northern Plains Biostress Laboratory. Benefits will include a cadre of scientists trained on the very frontier of agricultural research and research -- now and in the future -- tuned to the needs of South Dakota and the region.		South Dakota State Fair, Huron, Aug. 31-Sept. 6	1	2	3	4		
5	Labor Day Garden Line, SDPTV, 9 p.m. Central, 8 p.m. Mountain	6	7	Antelope Range Livestock Station field day	8	SDSU Ag/Bio Bash Range Station field day, Philip Northeast Farm fall tour Techniques in Improving Profitability (TIPS), Sept. 9-10 N.C. Regional 4-H Leaders Forum, Sioux Falls, Sept. 9-11	9	10	11
12	13	Last day to add an SDSU course & adjust final fees Southeast Research Farm fall tour, Beresford	14	15	State Extension Advisory Board meeting, Sept. 16-17	16	SDSU Northern Plains Biostress Laboratory (NPBL) dedication	17	18
19	20	SDSU graduation applications due in Dean's office	21	State Dairy Assoc. & Dairy Fieldmen convention, Sept. 22-23 Eminent Farmer & Homemaker recognition, Brookings, Sept. 22-23	22	Dakota Lakes Research Farm fall field day, Pierre	23	24	25
26	27	28	29	American Meat Institute Convention/Expo opens in Chicago	30	1992 and beyond -- When researchers bring elements of the environment indoors in the NPBL, isolate stresses, combine them to see their additive effects, and find ways to adjust production practices and manipulate genetic response to stressors, we will be taking giant steps toward a sustainable and profitable agriculture in a difficult climate.			

You are cordially invited to the dedication of the Northern Plains Biostress Laboratory on September 17. The lab represents the commitment of our College to profitable agriculture, a healthy environment, and service to South Dakotans.

Creating Opportunities for a Lifetime . . .



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY			
	BIOSTRESS CONNECTIONS: 1934 -- In one of the most important contributions to the dairy industry nationwide, SDSU research spells out the vitamins A and D requirements of dairy cows. Rickets as a major dairy cattle disease	is eliminated, and milk production per cow doubles in less than 30 years as a result. This SDSU research also paves the way for the eventual elimination of rickets as a human disease.	1987 -- Techniques developed at SDSU in one-of-a-kind bull sperm studies may change both the artificial insemination industry and the medical field of human birth defects, infertility, and toxicology.	American Meat Institute Convention/Expo, Chicago, Sept.30-Oct. 3	1	2			
3	4	5	SDSU Ag/Bio Career Day SDSU Veterinary Diagnostic Update, Animal Disease Research & Diagnostic Laboratory, Oct. 6-7	6	7	Prime Promoters Banquet, Brookings	8	SDSU Beef Bowl football game, Jacks vs. NDSU	9
10	Native American Day	11	12	Last day to drop an SDSU course without a "W" grade Western Junior Livestock & Home Economics Show, Rapid City, Oct. 13-15	13	14	15	16	
17	18	19	20	First half of SDSU Fall 1993 semester ends	21	22	23		
24	25	26	S.D. Wheat Growers Assoc. annual meeting, Aberdeen	27	S.D. Sheep Growers Assoc. annual meeting, Spearfish	28	29	SDSU Hobo Day, Jacks vs. Augustana College	30
Halloween	31								

The Missouri River, here at Eagle Butte, is one of South Dakota's most valuable resources. Both the SDSU Agricultural Experiment Station and the Cooperative Extension Service have made water -- its quality, use, and conservation -- a top priority. (Photo by Emery Tschetter)

Creating Opportunities for a Lifetime . . .



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3	4	5	6
American Societies of Agronomy, Crops, and Soil Science annual meetings, Cincinnati, Ohio, Nov. 7-12 7	8	9	Last day to drop an SDSU course 10	Veterans Day 11	12	13
14	15	16	17	18	19	20
S.D. Soybean Research & Promotion Council leadership workshop, Sioux Falls, Nov. 21-22 21	22	23	24	Thanksgiving Day 25	26	27
28	SDSU Area Swine Days, Nov. 29-Dec. 4 29	30	 <div> <p>BIOSTRESS CONNECTIONS: 1955 -- Durum wheat acreage is reduced to 75,000 acres because of stem rust 15B. SDSU releases Rushmore wheat; it yields 20 to 25 bu/A while other wheats run 4 to 5.</p> <p>1978 -- Hessian fly wipes out \$25 to \$30 million in wheat crop profits. SDSU plant scientists present cultural recommendations to growers in time for the next spring planting. SDSU releases "Guard" wheat in 1985, the first-ever spring wheat resistant to Hessian fly.</p> </div>			

South Dakota leads the nation in oats production, and an aggressive research program in the SDSU Agricultural Experiment Station supports producers by releasing high yielding, stress-tolerant varieties. (Photo by Kevin Schmidt)

Creating Opportunities for a Lifetime . . .





SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	BIOSTRESS CONNECTION: 1930s -- South Dakota Extension Service responds to farm and ranch distress in the great drought. Advances in information transfer since then have given Extension more powerful tools to lessen the impact of natural and economic disasters in the 1990s.		SDSU Area Swine Days, Nov. 29-Dec. 4 1	S.D. Cattlemen's Assoc. annual meeting, Sioux Falls, Dec. 2-4 2	3	National 4-H Congress, Chicago, Dec. 4-8 4
5	Range Beef Cow Symposium, Neb., Dec. 6-9 6	S.D. Wheat Inc. & No-Till Assoc. annual meeting, Pierre, Dec. 7-9 7	8	9	10	SDSU Graduation, Frost Arena 11
12	13	SDSU Beef Day 14	15	16	SDSU final exams, Dec. 17-22 17	18
19	20	21	22	23	24	Christmas Day 25
26	SDSU fall semester grades due in Registrar's Office 27	28	29	30	31	

South Dakota cow-calf producers enrolled in a "retained ownership" demonstration sponsored by the SDSU Cooperative Extension Service have found that keeping calves through the feedlot stage proves profitable in many instances. (Photo by Kevin Schmidt)

Creating Opportunities for a Lifetime . . .



South Dakota State University

College of Agriculture & Biological Sciences

Five Primary Programs

Academics
Agricultural Experiment Station
Cooperative Extension Service
Animal Disease Research & Diagnostic Laboratory
Water Resources Institute

12 Departments

Agricultural Communications
Agricultural Engineering
Animal & Range Sciences
Biology/Microbiology
Chemistry/Station Biochemistry
Dairy Science
Economics
Horticulture, Forestry, Landscape, & Parks
Plant Science
Rural Sociology
Veterinary Science
Wildlife & Fisheries Sciences

- **1,440 Undergraduate Students**
- **205 Graduate Students**
- **600 Personnel**

Ag/Bio Ambassadors, a top-notch student team from the College of Agriculture and Biological Sciences, go on the road to tell high school students that SDSU provides a proven quality education at relatively low cost.



At graduation, many students will exchange bookbags for briefcases. One of the most popular SDSU majors is ag business.



Relatively small classes and lab sections assure that students will receive the personal attention of their professors and lab assistants.



South Dakota State University's College of Agriculture and Biological Sciences represents the three responsibilities of a land-grant university: academics, research, and extension.

Academic Programs

With 22 majors, 12 minors, and one pre-professional curriculum in 10 academic departments and with 12 master's level and 4 Ph.D. programs from which to choose, College of Agriculture and Biological Science graduates are well prepared for demanding, high-tech careers. Enrollment is at an all-time high. Four out of five teachers have Ph.D.s, and classes are structured around labs and hands-on experiences. At SDSU, students learn by doing.

Ag Business (B.S.)

Ag Finance Specialization

Ag Economics (B.S.)

Ag Education (B.S., M.Ed., Minor)

Ag Extension (B.S.)

Ag Journalism (B.S.)

Agronomy (B.S., M.S., Ph.D., Minor)

Business

Plant Protection

Production

Soils Science

Animal Science (B.S., M.S., Ph.D., Minor)

Business

Production

Science

Specialized Teaching

Biology (B.S., M.S., Ph.D., Minor)

Dairy Manufacturing (B.S.)

Business

Science

Dairy Production (B.S.)

Business

Science

Dairy Science (M.S., Minor)

Entomology (M.S.)

Environmental Management (B.S.)

General Agriculture (Assoc., B.S.)

Horticulture (B.S.)

Business

Science

Specialized Teaching

International Agriculture Option

Landscape Design (B.S.)

Mechanized Agriculture (B.S., Minor)

Business

Equipment and Processing

Irrigation

Science and Production

Microbiology (B.S., M.S., Minor)

Park Management (B.S.)

Plant Pathology (M.S., Minor)

Pre-Veterinary Medicine

Range Science (B.S., M.S., Ph.D.,

Minor)

Rural Sociology (B.S., M.S., Ph.D.,

Minor)

Wildlife & Fisheries

Sciences (B.S., M.S.)



SDSU students get hands-on experience in lab courses and in work at campus production units. These opportunities give them a balance between science and practical applications. Ag students learn by doing.

At Ag/Bio Careers Day, students talk to exhibitors about job opportunities. The college places more than 94 percent of its graduates. SDSU students are attractive to employers because of attitude, work ethic, and communication skills.



**For more information about academic programs in the College of Agriculture & Biological Sciences, contact: Dr. Gene Arnold
Director of Academic Programs
Ag Hall 156
South Dakota State University
Brookings, SD 57007
(605) 688-5133**

Creating Opportunities for a Lifetime . . .

Agricultural Experiment Station

South Dakota's Agricultural Experiment Station is the research arm of the college. It was established in 1887, the same year federal legislation authorized research stations in every state and territory. SDSU has seven research field stations across South Dakota where scientists' accomplishments include measurable improvements in crop yields, pounds gained by livestock, and industries expanded. The Station's goal remains unchanged since 1887 -- to improve the quality of life for every South Dakota citizen.

Research Stations

Antelope Range Livestock Station
(375-3664), 12 miles east of Buffalo
on Highway 20 and south 2 miles.

Central Crops and Soils Research Station
(852-2829), one-half mile west of
Highmore on Highway 14.

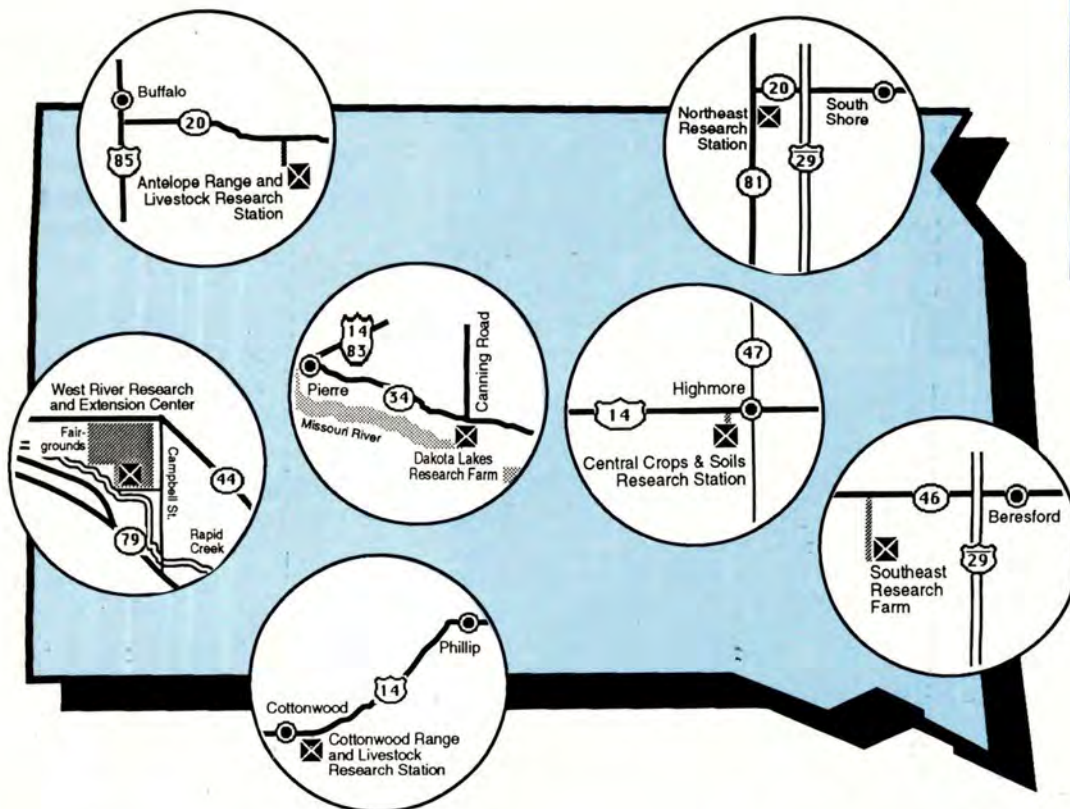
Range and Livestock Research Station
(386-4445), 12 miles southwest of Philip
on Highway 14.

Dakota Lakes Research Farm (224-6357),
17 miles south of Pierre on Highway 34.

Northeast Research Farm (688-5543),
15 miles north of Watertown or 2 miles
west of South Shore exit of I 29.

Southeast South Dakota Research Farm
(563-2989), 6 miles west and three miles
south of Beresford.

**West River Research and Extension
Center** (394-2236), 801 San Francisco
Street, Rapid City.



Researchers double as
teachers at a West River
"short course," showing
ranchers how to evaluate
the carrying capacity of
their rangeland.



The effects of global
warming on prairie
wetlands, migratory
birds, and water
quality are included in
research by the
Wildlife and Fisheries
Sciences Department.
Climatic projections
for the Dakotas,
obtained from such
studies, can be
beneficial to other
biostress research at
SDSU focused on the
relationships between
climate and natural
and agricultural
resources.



Analytical Services

Soil Testing, 688-4766

Seed Testing, 688-4607

Crop Performance Testing, 688-4760 or 688-4592

Foundation Seed Stocks, 688-5418

Seed Certification, 688-4604 or 688-4606

State Dairy Testing Lab, 688-5491

Analytical Lab, 688-5466

Pesticide Lab, 688-6367

Water Quality Lab, 688-4211

Animal Disease Research & Diagnostic Laboratory (ADRDL)

The ADRDL is a nationally recognized center of excellence for animal-disease research and diagnosis and is the only fully accredited animal diagnostic laboratory in South Dakota. The Lab has responsibility for the surveillance of more than 130 animal diseases. The ADRDL annually admits over 20,000 cases from veterinarians and producers, with the staff of the Lab conducting over 396,000 lab procedures on blood and tissues from these samples.

Water Resources Institute

The Water Resources Institute coordinates water related research at SDSU with projects in different departments in the College of Agriculture and Biological Sciences and in the College of Engineering. The Water Quality Lab analyzes for minerals and pesticides in agricultural and domestic water samples sent in by agencies and individuals.



Worldwide recognition has come to the campus-based Experiment Station for its basic research in many fields. Here, scientists map genes on barley chromosomes that have a function in freeze resistance and will be transferred into winter wheat to increase yield.

Such basic research is then adapted for use by South Dakotans in their own operations. The Experiment Station maintains corn lines from which many of today's superior hybrids arise.



**For information about Agricultural Experiment Station programs and analytical services contact: Dr. Ray Moore, director
Ag Hall 131
South Dakota State University
Brookings, SD 57007
(605) 688-4149**

Creating Opportunities for a Lifetime . . .

Cooperative Extension Service

Empowered by its land-grant mission to serve, SDSU regards every person in South Dakota as enrolled in its larger campus -- the one that stretches from border to border. As the off-campus educational arm of the College of Agriculture and Biological Sciences and the College of Home Economics, the Extension Service extends SDSU's campus into every community in the state. Its programs change constantly according to the needs of the people it serves.

Through its subject matter specialists at SDSU and its agricultural, home economics, and 4-H agents in each county, the Extension Service disseminates research and provides unbiased information to all the citizens of the state. It provides leadership opportunities to youth through the 4-H program. It assists local leaders in developing viable rural communities. Information on programs and services is available from your local Extension office.



South Dakota's biggest volunteer organization is 4-H. Over 6,100 volunteers teach specific projects and more general life skills--positive "attitudes for a lifetime"--to more than 21,000 4-Hers. One out of five youth from 8 to 19 years of age is enrolled in 4-H.



South Dakota Extension Service Offices

Aurora--P.O. Box 575, Plankinton, 57368-0575	942-7754
Beadle--P.O. Box 36, Huron, 57350-0036	352-8559
Bennett/Shannon--P.O. Box M, Martin, 57551-0333	685-6972
Bon Homme--P.O. Box C, Tyndall, 57066-0603	589-3531
Brookings--102 4th St. West, Brookings, 57006-1899	692-6268
Brown--P.O. Box 13, Aberdeen, 57401-0013	622-7120
Brule--P.O. Box 429, Chamberlain, 57325-0429	734-6589
Buffalo--P.O. Box 575, Plankinton, 57368-0575	942-7754
Butte--849 5th Ave., Belle Fourche, 57717-1799	892-3371

Campbell--P.O. Box 147, Mound City, 57646-0147	955-3305
Charles Mix--P.O. Box 188, Lake Andes, 57356-0188	487-7666
Cheyenne River--P.O. Box 40, Eagle Butte, 57625-0040	964-4955
Clark--P.O. Box 10, Clark, 57225-0010	532-3681
Clay--P.O. Box 550, Vermillion, 57069-0550	624-2005
Codington--P.O. Box 996, Watertown, 57201-0996	886-7100
Corson--P.O. Box 258, McIntosh, 57641-0258	273-4368
Custer--420 Mt. Rushmore Rd., Custer, 57730-1998	673-2372
Davison--RR 2 Box 85, Mitchell, 57301-9003	996-7536

Day--P.O. Box 540, Webster, 57274-0540	345-4641
Deuel--P.O. Box 350, Clear Lake, 57226-0350	874-2681
Dewey--Courthouse, Box 9, Timber Lake, 57656-0009	865-3652
Douglas--P.O. Box 25, Armour, 57313-0025	724-2719



Extension specialists and Extension agents provide information via summer tours and demonstrations and year-around educational programs as they carry agricultural research from the SDSU campus to farmers and ranchers across South Dakota.

Edmunds--Box 345, Ipswich, 57451-0345.....426-6971
 Fall River--Box 333 North River, Hot Springs, 57747-1414.....745-5133
 Faulk--P.O. Box 39, Faulkton, 57438-0039.....598-6221
 Grant--210 East 5th Ave., Milbank, 57252-2499.....432-9221
 Gregory--P.O. Box 426, Burke, 57523-0426.....775-2581

Haakon--Courthouse, Box 519, Philip, 57567-0519.....859-2840
 Hamlin--P.O. Box 268, Hayti, 57241-0268.....783-3656
 Hand--P.O. Box 169, Miller, 57362-0169.....853-2738
 Hanson--P.O. Box 248, Alexandria, 57311-0248.....239-4542
 Harding--P.O. Box 146, Buffalo, 57720-0146.....375-3412
 Hughes--104 E. Capitol, Pierre, 57501-2592.....773-5550
 Hutchinson--140 Euclid, Rm 126, Olivet, 57052-2103.....387-2836
 Hyde--P.O. Box 402, Highmore, 57345-0402.....852-2515
 Jackson--P.O. Box 550, Kadoka, 57543-0550.....837-2133

Jerauld--P.O. Box 366, Wessington Springs, 57382-0366.....539-9471
 Jones--P.O. Box 129, Murdo, 57559-0129.....669-2512
 Kingsbury--P.O. Box M, DeSmet, 57231-0159.....854-3851
 Lake--P.O. Box 445, Madison, 57042-0445.....256-3596
 Lawrence--1230 N Ave., Suite 4, Spearfish, 57783-1572.....642-4696
 Lincoln--200 East 5th St., Canton, 57013-1787.....987-2756
 Lyman--P.O. Box 68, Kennebec, 57544-0068.....869-2226
 Marshall--P.O. Box 229, Britton, 57430-0229.....448-5171

McCook--P.O. Box 130, Salem, 57058-0130.....425-2242
 McPherson--P.O. Box 29, Leola, 57456-0029.....439-3331
 Meade--1029 5th Street, Sturgis, 57785-1401.....347-2436
 Mellette--P.O. Box 258, White River, 57579-0258.....259-3385
 Miner--Courthouse Box 0, Howard, 57349-0510.....772-4661
 Minnehaha--220 West Sixth St., Sioux Falls, 57102-0302.....338-7877
 Moody--500 1st Ave. West, Flandreau, 57028-1099.....997-2469

Pennington--601 Centre St., Rapid City, 57701-3096.....394-2188
 Perkins--Box 280, Courthouse, Bison, 57620-0280.....244-5622
 Potter--105 North Main, Gettysburg, 57442-1106.....765-9414
 Roberts--411 2nd Ave. East, Sisseton, 57262-1495.....698-7627
 Sanborn--Box 397 South Main, Woonsocket, 57385-0397.....796-4380
 Spink--P.O. Box 151, Redfield, 57469-0151.....472-2023
 Stanley--Courthouse, Box 250, Ft. Pierre, 57532-0250.....773-5508
 Sully--P.O. Box 265, Onida, 57564-0265.....258-2334

Todd--P.O. Box 228, Mission, 57555-0228.....856-4468
 Tripp--200 East 3rd St., Winner, 57580-1899.....842-2858
 Turner--P.O. Box 488, Parker, 57053-0488.....297-3112
 Union--P.O. Box 428, Elk Point, 57025-0428.....356-2321
 Walworth--P.O. Box 329, Selby, 57472-0329.....649-7607
 or 124 West 2nd St., Mobridge, 57601-2509.....845-2118
 Yankton--Courthouse, Box 668, Yankton, 57078-0668.....665-3387
 Ziebach--P.O. Box 37, Dupree, 57623-0037.....365-5161



All South Dakotans, urban and rural, benefit from Extension's consumer education programs. These include better buying skills and nutrition and healthful living programs for citizens of all ages.

**For information about South Dakota
 Cooperative Extension Service programs
 contact: Dr. Mylo Hellickson, director
 Ag Hall 154
 South Dakota State University
 Brookings, SD 57007
 (605) 688-4792**

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Agricultural Experiment Station
SOUTH DAKOTA STATE UNIVERSITY
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R.A. Moore, Director

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**For more information about
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contact: Dr. David Bryant, dean
Ag Hall 135
South Dakota State University
Brookings, SD 57007
(605) 688-4148**

The Covers . . .

FRONT -- South Dakota has 23.4 million acres of rangeland. Rangeland and pasture together account for 53.3 percent of the state's 48.6 million acres of land. Agriculture is the state's number one industry, contributing \$13.2 billion to the state's economy each year. Beef, in turn, is South Dakota agriculture's largest industry, and cow-calf production and marketing contribute 40 percent of beef industry activity. This makes the state's range resources an important focus of South Dakota State University Agricultural Experiment Station research. The first range research station in the U.S. was established at Cottonwood, S.D., in 1909. SDSU also operates the Antelope Range Station, devoted to livestock and range resource study, as well as the West River Agricultural Research and Extension Center in Rapid City. (Photo by Tom Bare)

BACK, left to right -- Dr. Eugene Arnold, associate dean and director of academic programs; Dr. David Bryant, dean of the SDSU College of Agriculture and Biological Sciences; Dr. Ray Moore, associate dean and director of the Agricultural Experiment Station; and Dr. Mylo Hellickson, associate dean and director of the Cooperative Extension Service, in front of the Northern Plains Biostress Laboratory. This new facility is an opportunity to integrate the projects of scientists in various disciplines and departments in the college in work that will reach out to every South Dakota citizen. (Photo by Jerry Leslie)