

South Dakota State University  
**Open PRAIRIE: Open Public Research Access Institutional  
Repository and Information Exchange**

---

Agricultural Experiment Station Chemistry  
Pamphlets

SDSU Agricultural Experiment Station

---

12-20-1943

# Protein Content of Grasses at Different Stages of Growth

G.F. Gastler  
*South Dakota State College*

A.L. Moxon  
*South Dakota State College*

Follow this and additional works at: [http://openprairie.sdstate.edu/agexperimentsta\\_chem](http://openprairie.sdstate.edu/agexperimentsta_chem)

 Part of the [Chemistry Commons](#)

---

## Recommended Citation

Gastler, G.F. and Moxon, A.L., "Protein Content of Grasses at Different Stages of Growth" (1943). *Agricultural Experiment Station Chemistry Pamphlets*. Paper 2.  
[http://openprairie.sdstate.edu/agexperimentsta\\_chem/2](http://openprairie.sdstate.edu/agexperimentsta_chem/2)

This Pamphlet is brought to you for free and open access by the SDSU Agricultural Experiment Station at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in Agricultural Experiment Station Chemistry Pamphlets by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact [michael.biondo@sdstate.edu](mailto:michael.biondo@sdstate.edu).

Station Chemistry Pamphlet No. 1

Dec. 20, 1943

Progress Report on Research Project No. 120

Protein Content of Grasses at Different Stages of Growth.

Agricultural Experiment Station

South Dakota State College

Brookings, South Dakota

630.7  
5087.8  
no. 1  
c. 2

HILTON M. BRIGGS LIBRARY  
South Dakota State University  
Brookings, SD 57007-1098

Factors Affecting the Composition and Nutritive Values of  
★  
South Dakota Range Grasses and Their Cured Storages.

The two attached tables indicate the changes in protein content of Western Wheat grass and Blue Grama grass at different stages of growth. The values are based on an air dry basis which would be comparable with the moisture content of dry hay. The values, therefore, indicate the approximate protein content of hay made from these grasses if cut at the stages indicated in the tables.

★ George F. Gastler, Station Analyst, and A. L. Morson, Station Chemist. Mr. C. J. Franzke of the Agronomy Department supervised the collection of the samples.

WESTERN WHEAT GRASS  
PROTEIN CONTENT OF 1948 GRASS SAMPLES

Air Dry (dry hay) Basis -- Average Values for Replicate Plots.

	Date of Sampling	July 10-15	Sept. 1-10	Oct. 25-30
	Stage of Growth	Shooting	Seed Ripe	Mature and Weathered
Area No.	Location of Plots			
1	Minnehaha County 4 mi. N. of Humbolt	10.51	8.49	3.61
2	Sanborn County 3 mi. N. of Forestburg	10.42	7.02	4.33
3	Day County 2 mi. S. W. of Webster	10.49	7.13	3.61
4	Spink County 10 mi. S. of Redfield	8.29	7.16	3.94
5	McPherson County Eureka Sub-Station	9.74	7.47	3.72
6	Brule County 4 mi. N. E. of Chamberlain	9.44	7.01	3.80
7	Lyman County Reed Ranch-20 mi. N. Presho		10.50 <sup>*</sup>	4.52
8	Todd County Tom Arnold Ranch	8.66		2.94
9	Jackson County Cottonwood Range Station	8.68	6.26	3.50
10	Butte County U. S. Field Station, Newell	12.23	6.93	5.05
11	Perkins County 18 mi. S. of Lemmon	9.42	6.58	4.02

\* Sample taken August 25th.

Cooperative Project No. 120. S. D. Experiment Station Progress Report, Station Chemistry Department. George P. Gastler, Analyst and A. L. Hoxon, Chemist

BLUE GRAMA GRASS  
PROTEIN CONTENT OF 1945 GRASS SAMPLES

Air Dry (dry hay) Basis -- Average Values for Replicate Plots.

		Date of Sampling	Sept. 1-10	Oct. 25-30
		Stage of Growth	Seed Ripe	Mature and Weathered
Area No.	Location of Plots			
1	Minnehaha County 4 mi. N. of Humbolt		8.94	6.00
2	Sanborn County 3 mi. N. of Forestburg		6.45	4.03
3	Day County 2 mi. S. W. of Webster			5.06
4	Spink County 10 mi. S. of Redfield		8.20	5.46
5	McPherson County Eureka Sub-Station		7.40	5.60
6	Brule County 4 mi. N. E. of Chamberlain		6.09	3.50
7	Lyman County Reed Ranch-20 mi. N. Presho		5.45 *	5.17
8	Todd County Tom Arnold Ranch			5.44
9	Jackson County Cottonwood Range Station		6.26	3.21
10	Butte County U. S. Field Station, Newell		6.28	4.21
11	Perkins County 18 mi. S. of Lemmon		5.53	3.91

\* Sample taken August 25th.