

Technical Report No. 87
PRONGHORN ANTELOPE FIELD FOOD CONSUMPTION STUDIES

Julius G. Nagy and John P. Hoover
Department of Fishery and Wildlife Biology
Colorado State University
Fort Collins, Colorado

GRASSLAND BIOME
U.S. International Biological Program

April 1971

TABLE OF CONTENTS

	Page
Title Page	1
Table of Contents	ii
Abstract	iii
Methods	1
Results	1
Discussion	5
Literature Cited	10
Appendix I	11

ABSTRACT

This investigation started in December 1969 and will continue during 1971. Methodology was emphasized in the first year of the study. The major objectives are to determine the botanical and chemical composition of the pronghorn diet.

METHODS

The method used to obtain botanical and chemical composition data of the pronghorn diet was the bite count in conjunction with a hand pluck estimate of intake. Four animals were used in the study, and they were paired according to their compatibilities. Each pair was observed for five days by two observers in each season of trials. The animals were released in the field and the observers walked with the animals, recording on tape the plant species and plant parts taken, number of bites, condition of plant, and estimated bite size. After an hour's observation, the animals were reloaded and the observers collected the plants and plant parts in the same areas grazed by the animals. These daily samples were later composited for each animal and analyzed for chemical composition. Chemical analysis involved Van Soest's (1963) method of fiber analysis, micro Kjeldahl determination of nitrogen, and bomb calorimetry. There were three sets of field trials, winter, spring, and summer, during which the animals received a restricted concentrate and hay ration and were transported every other day for field studies. Following the summer trials, the animals were kept at Pawnee and grazed freely throughout the day. One hour observations were taken in the morning, and the same procedure was followed as in the previous trials.

RESULTS

It was found that pronghorn when well trained could be observed while grazing at a very close range. They are very selective ⁱⁿ ~~of~~ their grazing habits. Pronghorn select specific portions of plants, pause to smell each bite before taking it, and then bite ^{it} them off with a pronounced click.

These bites are ~~of~~ more or less consistent ⁱⁿ size ranging from 3/4 of an inch to 2 inches depending on the species of plant and the season of year.

Botanical composition of the diet is shown in Fig. 1 by forage type used in the seasons observed. Browse, fringed sage (*Artemisia frigida*) predominates during winter; grasses, blue grama (*Bouteloua gracilis*), western wheat (*Agropyron smithii*), and needle and thread (*Stipa comata*) were important during spring; and the use of forbs, scarlet globemallow (*Sphaeralcea coccinea*) increased during the summer. This data is in agreement with rumen content analysis samples obtained from wild pronghorn (Dirschl 1963, Yoakum 1958, Ferrel and Leach 1950) and suggests that the gross characteristics of trained pronghorn diet are similar to those of wild pronghorn.

In winter trials, blue grama was the predominant species taken by the first pair of animals and fringed sage by the second pair. Some of the effects of dietary supplement may be shown in the second winter trial where the level of feed was changed for one pair of animals. Fig. 2 is a comparison of the samples of two animals receiving ad libitum concentrate and hay and then a restricted level of supplement. There is an increase in dry weight per hour estimate and a change in species. From the data of this trial, it was felt that the intake of trained pronghorn can be influenced by supplemental feeding. Therefore, in the spring and summer trials, these animals were restricted in supplement to increase their ^{intake} and improve their cooperation.

In all subsequent trials, it was noted that the species and individual plants taken appeared to be the highest in moisture content (succulence) available and that there was an increase of species making up the diet from the winter trials to the summer intensive trial. In the intensive trial,

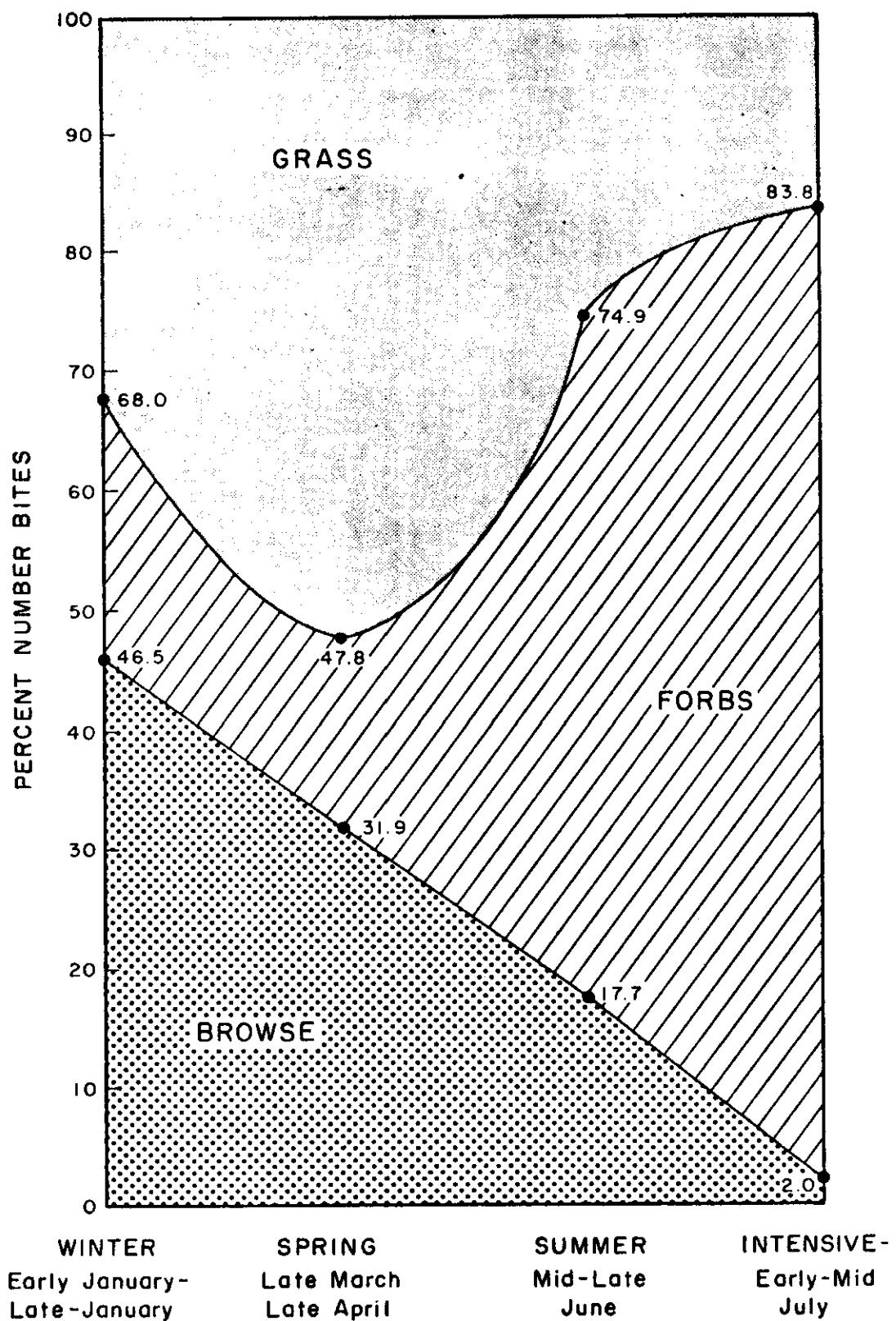


Fig. I. Relative use of forage types by season.

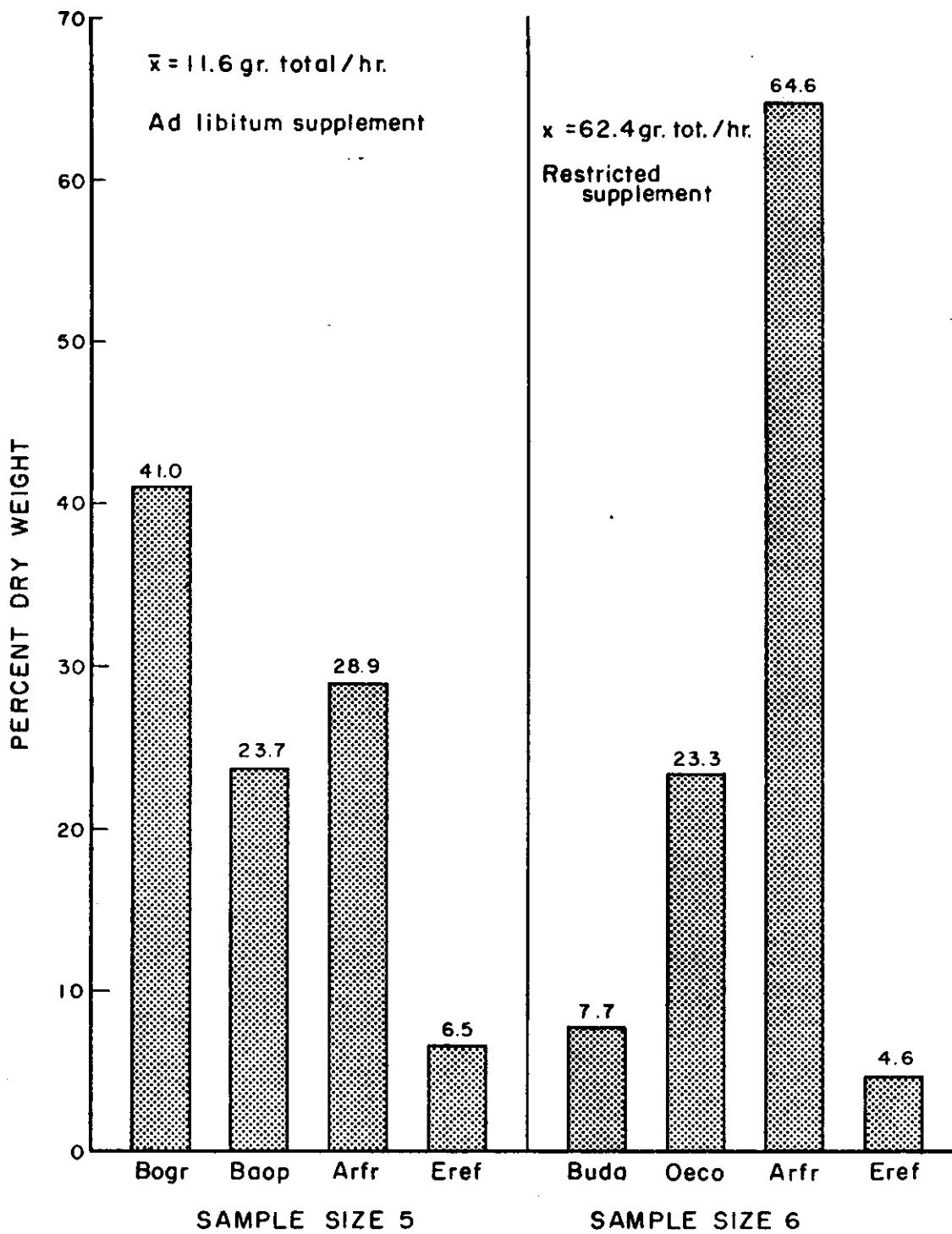


Fig. 2 Total collected hand plucked samples for winter.
Date: 12/15/69, 1/20/70-1/22/70 1/27/70-1/31/70

there was a great increase in the intake of these animals and a large number of species taken (Fig. 3). Scarlet globemallow was the predominant species, and Russian thistle (*Salsola kali*) became increasingly important while it was growing and succulent.

In a seasonal comparison of the hand pluck samples collected for each animal, for the cell wall constituents (CWC) (Fig. 4) and the crude protein (Fig. 5), we found a steady decrease in CWC from winter to intensive trials and an increase in crude protein from the winter to spring and summer trials. The CWC is variable in its digestibility and is inversely proportioned to the cell contents (CC), which are highly digestible (Van Soest 1963).

DISCUSSION

Considering the way pronghorn graze and the manner in which they bite, we feel that the bite count technique is uniquely applicable to pronghorn and may be the most precise ~~in terms of~~ descriptive data available on pronghorn food habits.

The intake of trained pronghorn in field trial sampling may be influenced by prior supplemental feeding and, therefore, the most representative samples can probably be gained in intensive trials where the animals are not fed supplements and are maintained on the study site.

Fringed sage and scarlet globemallow are important forage species for pronghorn on Pawnee, and some of the cool season grasses are occasionally important. The number of species comprising the diet greatly increased in the summer months over those taken in the winter months. In addition, pronghorn were observed to be very selective in their grazing habits and

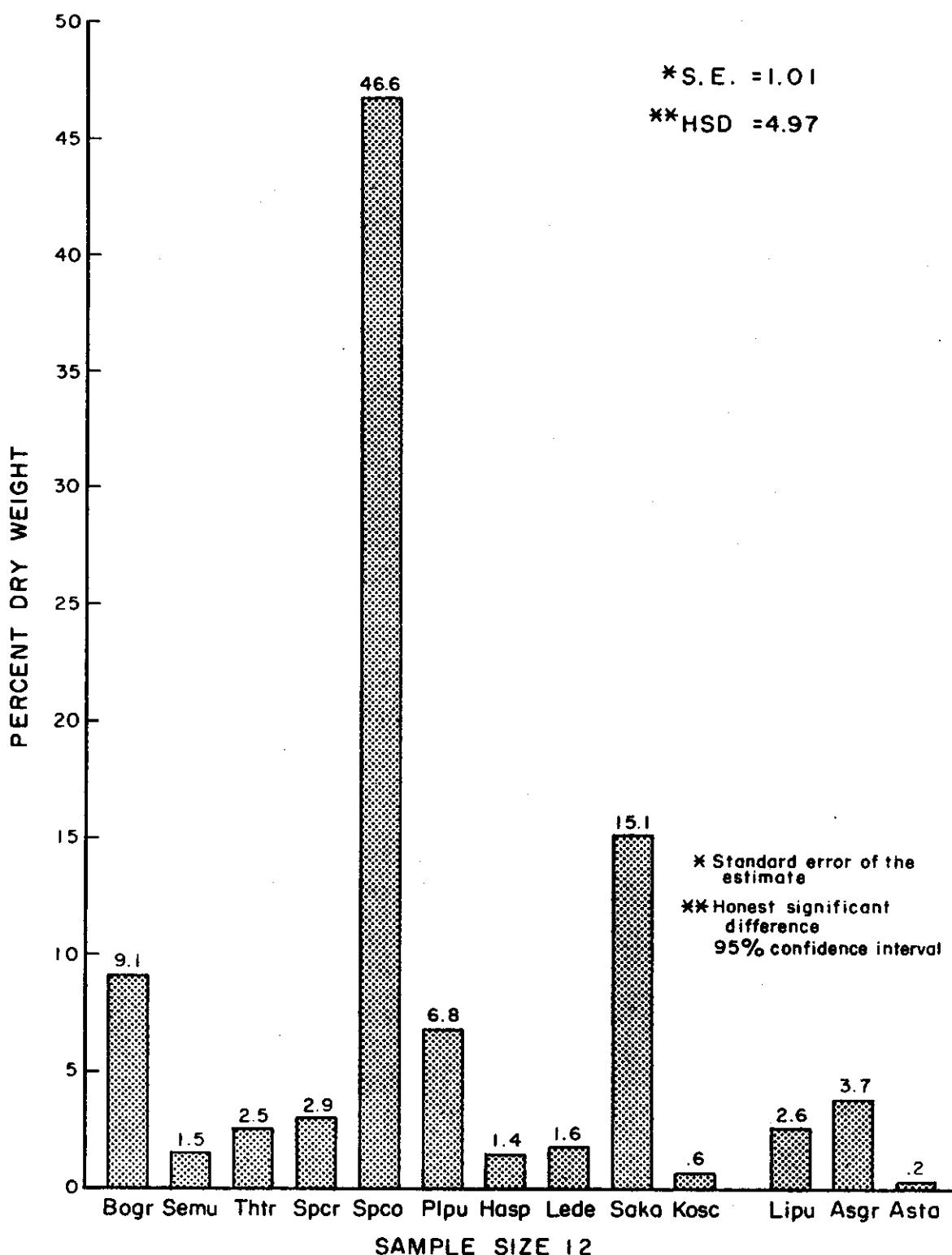


Fig. 3 Average percent of species taken by dry weight in summer-intensive.
Date: 7/8/70 - 7/13/70

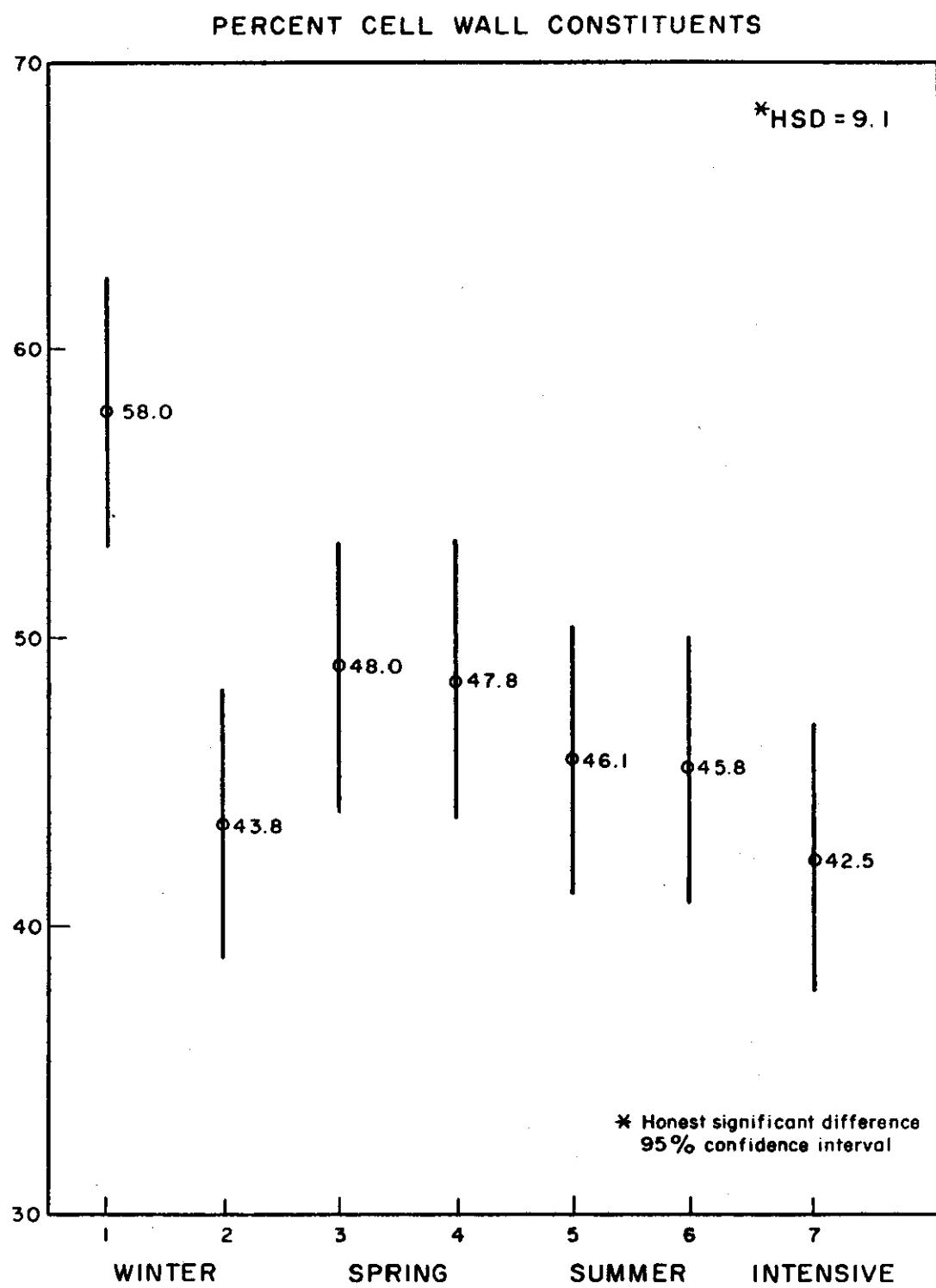


Fig. 4 Chemical constituents of the diet taken from hand pluck samples.

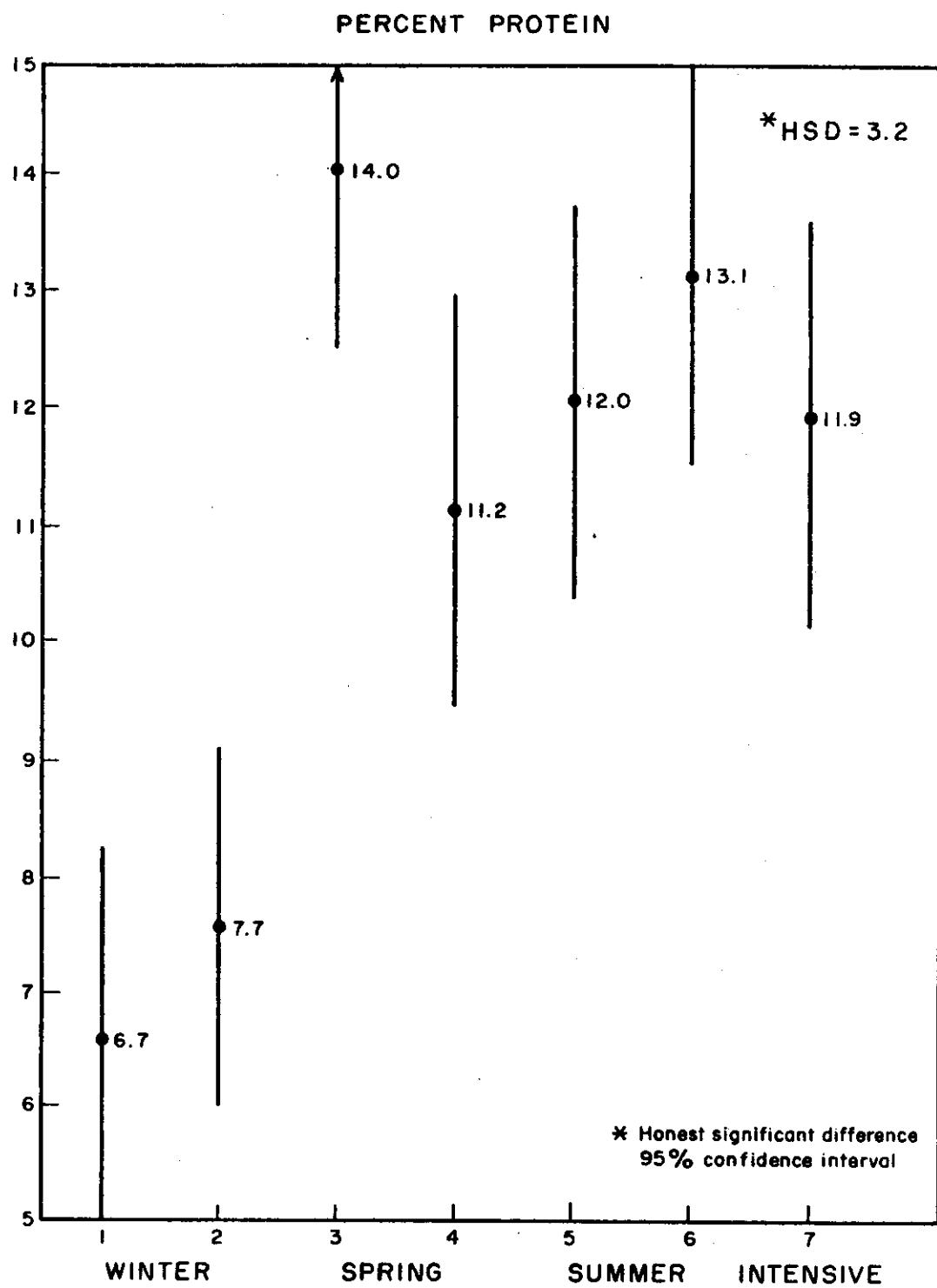


Fig. 5 Chemical constituents of the diet taken from hand pluck samples.

appear to take the most succulent forage available that is palatable to them. The chemical constituent of the diet gained from hand pluck samples should best represent an average of the forage taken by the animals on trials.

LITERATURE CITED

- Dirschl, J. H. 1963. Food habits of pronghorn in Saskatchewan. *J. Wildlife Manage.* 27(1):81-93.
- Ferrel, C. M. and H. R. Leach. 1950. Food habits of pronghorn antelope of California. *Calif. Fish and Game* 36(1):21-26.
- Van Soest, P. J. 1963. The use of detergents in analysis of fibrous feeds: 11. A rapid method for the determination of fiber and lignin. *J. Ass. Offic. Agric. Chem.* 46:829-835.
- Yoakum, J. 1958. Season food habits of the Oregon pronghorn antelope (*Antilocapra americana oregonia Bailey*). *Inter. Antelope Confer., Trans.* 9:42-59.

APPENDIX I

FIELD DATA

During the course of this study, data comprising ten data sets were collected or generated. A list of the codes employed in the data sets follows; followed by, for each data set, a format description and a listing of the data.

Codes Used in Data

Species

1 BOGR	8 TA sp.	15 SPCR	22 SAKA	29 GUCA
2 OECO	9 AGSM	16 SPCO	23 SESP	30 GUSA
3 BAOP	10 STCO	17 PLPU	24 KOSC	40 CHNA
4 ARFR	11 BRTE	18 HASP	25 POAV	50 ARLO
5 EREF	12 CAFI	19 LEDE	26 LIPU	70 SIHY
6 SEMU	13 CAEL	20 CRCR	27 ASGR	80 PSTE
7 THTR	14 FEOC	21 LARE	28 ASTA	90 LIIN

Season

- | | |
|----------------|--------------------------------|
| 1 Winter, 1970 | 3 Summer, 1970 |
| 2 Spring, 1970 | 4 Summer intensive trial, 1970 |

Diet Regimen

- 1 As libidum intake of concentrated alfalfa hay when not on natural forage.
- 2 Restricted intake of concentrated alfalfa hay when not on natural forage.
- 3 Maintained on natural forage ad libidum.

Season/Diet

- 1 Season 1, Diet regimen 1
- 2 Season 1, Diet regimen 2
- 3 Season 2, Diet regimen 2

Codes Used in Data

- 4 Season 2, Diet regimen 2
- 5 Season 3, Diet regimen 2
- 6 Season 3, Diet regimen 2
- 7 Season 4, Diet regimen 3

Adjusted Grazing Level

- 0 No bites
- 1 \leq 6 bites per animal per day
- 2 > 6 and \leq 12 bites per animal per day
- 3 > 12 and \leq 18 bites per animal per day
- 4 > 18 bites per animal per day

Method

- 1 Esophageal
 - 2 Hand plucked
-

Antelope Forage Intake

Antelope forage intake data collected at the Pawnee Site are Grassland Biome Data Set A2U603B. A description and listing of the data follows:

Columns	Contents
1	Animal number
3 - 4	Day within the entire trial
6 - 7	Plant species code
9 - 11	Percent by wet weight that this species comprised of total forage intake that day (F3.1)
13 - 15	Percent by dry weight that this species comprised of total forage intake that day (F3.1)
17 - 19	Percent of total bites which were taken on this species (F3.1)
21	Season code
23	Diet regimen code

8	3	205	248	200	1	2	
3	8	4	610	567	477	1	2
3	8	5	108	126	154	1	2
3	9	1	325	365	433	1	2
3	9	2	210	222	176	1	2
3	9	4	207	168	189	1	2
3	9	5	228	234	215	1	2
3	10	1	020	021	033	1	2
3	10	2	154	162	191	1	2
3	10	4	766	738	697	1	2
3	10	5	015	015	011	1	2
3	11	1	038	056	139	1	2
3	11	2	151	177	219	1	2
3	11	4	776	703	596	1	2
3	11	5	000	000	000	1	2
4	7	1	776	798	750	1	2
4	7	3	018	021	020	1	2
4	7	4	060	049	040	1	2
4	7	5	000	000	000	1	2
4	8	1	269	282	276	1	2
4	8	3	096	117	143	1	2
4	8	4	489	462	505	1	2
4	8	5	138	129	029	1	2
4	9	1	160	202	286	1	2
4	9	2	269	281	254	1	2
4	9	4	344	293	233	1	2
4	9	5	158	160	159	1	2
4	10	1	058	063	096	1	2
4	10	2	188	197	176	1	2
4	10	4	658	627	667	1	2
4	10	5	043	045	021	1	2
4	11	1	004	005	016	1	2
4	11	2	202	244	231	1	2
4	11	4	784	736	729	1	2
4	11	5	003	003	006	1	2
4	12	01	271	339	238	2	2
4	12	02	229	283	205	2	2
4	12	04	379	277	361	2	2
4	12	05	084	101	041	2	2
4	12	06	000	000	000	2	2
4	12	09	000	000	000	2	2
4	12	10	000	000	000	2	2
4	12	12	039	049	107	2	2
4	13	01	067	103	101	2	2
4	13	02	086	130	110	2	2
4	13	04	814	749	720	2	2
4	13	05	000	000	000	2	2
4	13	06	000	000	000	2	2
4	13	09	000	000	000	2	2
4	13	10	000	000	000	2	2
4	13	12	000	000	000	2	2

4	14	01	000	000	000	2	2
4	14	02	083	128	100	2	2
.	4	04	813	764	769	2	2
4	14	05	000	000	000	2	2
4	14	06	000	000	000	2	2
4	14	09	000	000	000	2	2
4	14	10	053	072	054	2	2
4	14	12	000	000	000	2	2
4	15	01	034	062	061	2	2
4	15	02	111	191	165	2	2
4	15	04	375	401	274	2	2
4	15	05	000	000	000	2	2
4	15	06	343	189	274	2	2
4	15	09	050	049	104	2	2
4	15	10	008	012	022	2	2
4	15	12	032	057	057	2	2
4	16	01	008	013	027	2	2
4	16	04	550	562	289	2	2
4	16	05	000	000	000	2	2
4	16	06	326	250	346	2	2
4	16	09	063	086	221	2	2
4	16	10	023	035	065	2	2
4	16	12	000	000	000	2	2
3	12	01	387	473	453	2	2
3	12	02	089	118	072	2	2
3	12	04	454	345	350	2	2
3	12	05	022	027	029	2	2
3	12	06	000	000	000	2	2
3	12	09	000	000	000	2	2
3	12	10	000	000	000	2	2
3	12	12	000	000	000	2	2
3	13	01	011	018	039	2	2
3	13	02	086	135	080	2	2
3	13	04	791	786	781	2	2
3	13	05	005	008	006	2	2
3	13	06	108	053	090	2	2
3	13	09	000	000	000	2	2
3	13	10	000	000	000	2	2
3	13	12	000	000	000	2	2
3	14	01	018	029	029	2	2
3	14	02	023	044	035	2	2
3	14	04	735	731	547	2	2
3	14	05	048	080	151	2	2
3	14	06	126	080	119	2	2
3	14	09	013	011	026	2	2
3	14	10	000	000	000	2	2
3	14	12	027	043	078	2	2
3	15	01	105	150	202	2	2
3	15	02	065	096	074	2	2
3	15	04	442	396	290	2	2
3	15	05	040	062	066	2	2
3	15	06	038	018	026	2	2
3	15	09	037	027	055	2	2
3	15	10	072	097	136	2	2
3	15	12	025	036	074	2	2

3	16	01	007	011	012	2	2
3	16	04	747	705	471	2	2
-	16	05	007	011	005	2	2
-	16	06	054	026	086	2	2
3	16	09	107	087	209	2	2
3	16	10	041	058	091	2	2
3	16	12	037	056	103	2	2
1	17	01	052	061	065	2	2
1	17	04	372	335	196	2	2
1	17	06	090	042	051	2	2
1	17	07	000	000	000	2	2
1	17	08	000	000	000	2	2
1	17	09	082	061	097	2	2
1	17	10	088	100	081	2	2
1	17	11	000	000	000	2	2
1	17	12	316	400	514	2	2
1	17	13	000	000	000	2	2
1	18	01	053	078	099	2	2
1	18	04	145	163	122	2	2
1	18	06	000	000	000	2	2
1	18	07	243	156	155	2	2
1	18	08	000	000	000	2	2
1	18	09	047	044	090	2	2
1	18	10	142	204	178	2	2
1	18	11	250	201	180	2	2
1	18	12	066	104	124	2	2
1	18	13	000	000	000	2	2
1	19	01	000	000	000	2	2
1	19	04	597	573	398	2	2
1	19	06	024	012	024	2	2
1	19	07	000	000	000	2	2
1	19	08	000	000	000	2	2
1	19	09	112	089	187	2	2
1	19	10	128	152	108	2	2
1	19	11	000	000	000	2	2
1	19	12	000	000	000	2	2
1	19	13	135	169	269	2	2
1	20	01	000	000	000	2	2
1	20	04	162	152	065	2	2
1	20	06	232	114	099	2	2
1	20	07	004	002	004	2	2
1	20	08	000	000	000	2	2
1	20	09	033	025	034	2	2
1	20	10	048	058	059	2	2
1	20	11	000	000	000	2	2
1	20	12	136	000	155	2	2
1	20	13	364	451	573	2	2
1	21	01	000	000	000	2	2
1	21	04	125	129	059	2	2
1	21	06	025	013	008	2	2
1	21	07	045	024	037	2	2
1	21	08	000	000	000	2	2
1	21	09	068	058	066	2	2
1	21	10	247	322	277	2	2
1	21	11	306	223	228	2	2
1	21	12	071	100	116	2	2
1	21	13	078	105	174	2	2

2	17	01	124	205	136	3	2
2	17	04	279	303	195	3	2
	17	06	331	202	258	3	2
2	17	07	000	000	000	3	2
2	17	08	000	000	000	3	2
2	17	09	149	143	184	3	2
2	17	10	052	079	068	3	2
2	17	11	000	000	000	3	2
2	17	12	065	067	137	3	2
2	17	13	000	000	000	3	2
2	18	01	000	000	000	3	2
2	18	04	065	068	049	3	2
2	18	06	345	201	146	3	2
2	18	07	328	230	234	3	2
2	18	08	198	254	151	3	2
2	18	09	068	063	102	3	2
2	18	10	039	058	063	3	2
2	18	11	012	009	019	3	2
2	18	12	009	008	015	3	2
2	18	13	035	055	088	3	2
2	19	01	000	000	000	3	2
2	19	04	402	509	228	3	2
2	19	06	514	367	618	3	2
2	19	07	000	000	000	3	2
2	19	08	000	000	000	3	2
2	19	09	036	040	057	3	2
2	19	10	026	043	033	3	2
	19	11	000	000	000	3	2
	19	12	000	000	000	3	2
2	19	13	022	041	065	3	2
2	20	01	000	000	000	3	2
2	20	04	294	375	311	3	2
2	20	06	566	404	436	3	2
2	20	07	012	011	009	3	2
2	20	08	008	012	006	3	2
2	20	09	001	001	003	3	2
2	20	10	046	082	081	3	2
2	20	11	000	000	000	3	2
2	20	12	000	000	000	3	2
2	20	13	054	105	116	3	2
2	21	01	000	000	000	3	2
2	21	04	428	445	321	3	2
2	21	06	066	045	066	3	2
2	21	07	196	139	158	3	2
2	21	08	113	144	063	3	2
2	21	09	073	068	138	3	2
2	21	10	087	127	152	3	2
2	21	11	012	009	020	3	2
2	21	12	007	006	014	3	2
2	21	13	005	008	029	3	2

1	22	01	055	083	139	3	2
1	22	04	125	126	103	3	2
-	22	06	000	000	015	3	2
-	22	07	076	052	095	3	2
1	22	08	000	000	026	3	2
1	22	11	000	000	000	3	2
1	22	16	374	343	242	3	2
1	22	17	019	018	040	3	2
1	22	18	000	000	029	3	2
1	22	19	000	000	000	3	2
1	22	20	000	000	007	3	2
1	23	01	013	024	037	3	2
1	23	04	219	239	173	3	2
1	23	06	000	000	000	3	2
1	23	07	000	000	028	3	2
1	23	08	000	000	000	3	2
1	23	11	000	000	000	3	2
1	23	16	243	232	140	3	2
1	23	17	018	015	028	3	2
1	23	18	183	147	234	3	2
1	23	19	063	065	075	3	2
1	23	20	000	000	009	3	2
1	24	01	012	019	033	3	2
1	24	04	020	022	027	3	2
1	24	06	000	000	000	3	2
1	24	07	176	119	144	3	2
1	24	08	000	000	013	3	2
1	24	11	073	098	056	3	2
24	16	019	021	011	3	2	
1	24	17	232	238	269	3	2
1	24	18	239	238	198	3	2
1	24	19	110	101	122	3	2
1	24	20	047	039	013	3	2
2	22	01	000	000	000	3	2
2	22	04	064	072	130	3	2
2	22	06	332	258	213	3	2
2	22	07	000	000	000	3	2
2	22	08	000	000	000	3	2
2	22	11	000	000	000	3	2
2	22	16	500	583	488	3	2
2	22	17	000	000	000	3	2
2	22	18	019	013	037	3	2
2	22	19	000	000	019	3	2
2	22	20	000	000	000	3	2
2	23	01	034	021	142	3	2
2	23	04	265	277	190	3	2
2	23	06	223	177	120	3	2
2	23	07	000	000	000	3	2
2	23	08	075	056	085	3	2
2	23	11	000	000	000	3	2
2	23	16	337	354	301	3	2
2	23	17	020	017	016	3	2
2	23	18	000	000	000	3	2
2	23	19	000	000	003	3	2
23	20	012	010	016	3	2	

2	24	01	009	018	034	3	2
2	24	04	013	017	022	3	2
2	24	06	090	080	034	3	2
2	24	07	291	255	185	3	2
2	24	08	049	024	066	3	2
2	24	11	000	000	000	3	2
2	24	16	141	184	137	3	2
2	24	17	192	207	171	3	2
2	24	18	119	133	212	3	2
2	24	19	000	000	002	3	2
2	24	20	015	016	022	3	2
1	25	01	014	031	022	3	2
1	25	04	000	000	000	3	2
1	25	06	000	000	000	3	2
1	25	07	235	171	255	3	2
1	25	16	056	080	043	3	2
1	25	17	017	012	084	3	2
1	25	18	318	382	264	3	2
1	25	19	093	085	090	3	2
1	25	20	043	046	011	3	2
1	25	21	027	031	019	3	2
1	25	22	000	000	000	3	2
1	25	23	126	063	101	3	2
1	25	24	000	000	000	3	2
1	26	01	000	000	000	3	2
1	26	04	000	000	000	3	2
1	26	06	000	000	000	3	2
1	26	07	207	143	247	3	2
1	26	16	352	463	236	3	2
1	26	17	010	012	007	3	2
1	26	18	032	025	055	3	2
1	26	19	013	016	055	3	2
1	26	20	227	205	149	3	2
1	26	21	053	037	104	3	2
1	26	22	000	000	009	3	2
1	26	23	000	000	000	3	2
1	26	24	076	064	082	3	2
1	27	01	006	013	023	3	2
1	27	04	000	000	000	3	2
1	27	06	000	000	000	3	2
1	27	07	139	107	210	3	2
1	27	16	183	267	163	3	2
1	27	17	048	033	038	3	2
1	27	18	000	000	000	3	2
1	27	19	110	031	058	3	2
1	27	20	104	067	085	3	2
1	27	21	066	047	081	3	2
1	27	22	051	013	029	3	2
1	27	23	000	000	000	3	2
1	27	24	117	109	096	3	2

4	25	01	043	077	091	3	2
4	25	04	092	145	158	3	2
	25	06	191	159	038	3	2
-	25	07	251	148	272	3	2
4	25	16	194	223	158	3	2
4	25	17	029	036	042	3	2
4	25	18	085	057	042	3	2
4	25	19	024	029	045	3	2
4	25	20	000	000	000	3	2
4	25	21	016	022	030	3	2
4	25	22	000	000	008	3	2
4	25	23	000	000	000	3	2
4	25	24	000	000	000	3	2
4	26	01	000	000	000	3	2
4	26	04	000	000	000	3	2
4	26	06	000	000	000	3	2
4	26	07	071	056	154	3	2
4	26	16	224	303	330	3	2
4	26	17	000	000	000	3	2
4	26	18	127	145	105	3	2
4	26	19	013	019	031	3	2
4	26	20	147	109	047	3	2
4	26	21	042	021	031	3	2
4	26	22	195	153	160	3	2
4	26	23	000	000	000	3	2
4	26	24	116	094	089	3	2
4	27	01	909	938	935	3	2
4	27	04	000	000	000	3	2
	27	06	000	000	000	3	2
4	27	07	047	027	036	3	2
4	27	16	000	000	000	3	2
4	27	17	000	000	000	3	2
4	27	18	000	000	000	3	2
4	27	19	012	011	009	3	2
4	27	20	000	000	000	3	2
4	27	21	000	000	000	3	2
4	27	22	000	000	000	3	2
4	27	23	000	000	000	3	2
4	27	24	000	000	000	3	2
4	28	01		001	4	3	
4	28	06		000	4	3	
4	28	07		267	4	3	
4	28	15		000	4	3	
4	28	16		133	4	3	
4	28	17		204	4	3	
4	28	18		033	4	3	
4	28	19		101	4	3	
4	28	22		022	4	3	
4	28	24		132	4	3	
4	28	25		036	4	3	
4	28	26		005	4	3	
4	28	27		000	4	3	
4	28	28		010	4	3	

4 29 01	047	4	3
4 29 06	004	4	3
4 29 07	122	4	3
4 29 15	007	4	3
4 29 16	292	4	3
4 29 17	036	4	3
4 29 18	007	4	3
4 29 19	045	4	3
4 29 22	065	4	3
4 29 24	271	4	3
4 29 25	043	4	3
4 29 26	000	4	3
4 29 27	008	4	3
4 29 28	010	4	3
4 30 01	000	4	3
4 30 06	000	4	3
4 30 07	044	4	3
4 30 15	000	4	3
4 30 16	475	4	3
4 30 17	040	4	3
4 30 18	000	4	3
4 30 19	031	4	3
4 30 22	010	4	3
4 30 24	309	4	3
4 30 25	001	4	3
4 30 26	008	4	3
4 30 27	004	4	3
4 30 28	037	4	3
4 31 01	027	4	3
4 31 06	009	4	3
4 31 07	128	4	3
4 31 15	000	4	3
4 31 16	342	4	3
4 31 17	232	4	3
4 31 18	003	4	3
4 31 19	108	4	3
4 31 22	022	4	3
4 31 24	028	4	3
4 31 25	002	4	3
4 31 26	000	4	3
4 31 27	000	4	3
4 31 28	043	4	3
4 32 01	000	4	3
4 32 06	000	4	3
4 32 07	019	4	3
4 32 15	000	4	3
4 32 16	494	4	3
4 32 17	006	4	3
4 32 18	000	4	3
4 32 19	020	4	3
4 32 22	045	4	3
4 32 24	332	4	3
4 32 25	044	4	3
4 32 26	010	4	3
4 32 27	006	4	3
4 32 28	010	4	3

4	33	01	357	4	3		
4	33	06	000	4	3		
1	33	07	036	4	3		
4	33	15	010	4	3		
4	33	16	267	4	3		
4	33	17	011	4	3		
4	33	18	003	4	3		
4	33	19	011	4	3		
4	33	22	085	4	3		
4	33	24	164	4	3		
4	33	25	029	4	3		
4	33	26	000	4	3		
4	33	27	000	4	3		
4	33	28	003	4	3		
4	34	01	049	090	095	4	3
4	34	06	023	026	010	4	3
4	34	07	008	007	020	4	3
4	34	15	000	000	001	4	3
4	34	16	645	698	541	4	3
4	34	17	017	021	016	4	3
4	34	18	000	000	000	4	3
4	34	19	000	000	002	4	3
4	34	22	200	102	148	4	3
4	34	24	028	031	122	4	3
4	34	25	000	000	015	4	3
4	34	26	000	000	001	4	3
4	34	27	000	000	003	4	3
4	34	28	008	010	011	4	3
4	35	01	016	024	043	4	3
4	35	06	000	000	000	4	3
4	35	07	161	112	296	4	3
4	35	15	000	000	000	4	3
4	35	16	292	379	204	4	3
4	35	17	074	083	088	4	3
4	35	18	000	000	004	4	3
4	35	19	051	066	065	4	3
4	35	22	245	138	078	4	3
4	35	24	003	003	014	4	3
4	35	25	000	000	000	4	3
4	35	26	031	029	025	4	3
4	35	27	070	084	107	4	3
4	35	28	000	000	008	4	3
4	36	01	054	091	110	4	3
4	36	06	078	090	039	4	3
4	36	07	048	032	063	4	3
4	36	15	000	000	004	4	3
4	36	16	384	477	362	4	3
4	36	17	113	134	117	4	3
4	36	18	020	020	023	4	3
4	36	19	000	000	005	4	3
4	36	22	186	113	123	4	3
4	36	24	000	000	009	4	3
4	36	25	000	000	002	4	3
4	36	26	000	000	006	4	3
4	36	27	036	040	053	4	3
4	36	28	000	000	009	4	3

4 37 01 017 026 082 4 3
4 37 06 027 030 023 4 3
4 37 07 053 047 063 4 3
37 15 000 000 001 4 3
4 37 16 443 527 329 4 3
4 37 17 088 097 128 4 3
4 37 18 000 000 003 4 3
4 37 19 012 021 023 4 3
4 37 22 294 176 230 4 3
4 37 24 000 000 004 4 3
4 37 25 000 000 002 4 3
4 37 26 000 000 001 4 3
4 37 27 037 043 046 4 3
4 37 28 000 000 003 4 3
4 38 01 005 010 022 4 3
4 38 06 000 000 001 4 3
4 38 07 046 031 064 4 3
4 38 15 000 000 000 4 3
4 38 16 526 625 437 4 3
4 38 17 038 040 036 4 3
4 38 18 032 032 037 4 3
4 38 19 013 013 018 4 3
4 38 22 175 101 160 4 3
4 38 24 006 006 030 4 3
4 38 25 000 000 007 4 3
4 38 26 014 014 012 4 3
4 38 27 057 066 090 4 3
4 38 28 000 000 015 4 3
4 39 01 207 275 445 4 3
39 06 031 029 016 4 3
4 39 07 023 019 016 4 3
4 39 15 000 000 004 4 3
4 39 16 439 466 297 4 3
4 39 17 019 020 016 4 3
4 39 18 000 000 003 4 3
4 39 19 000 000 003 4 3
4 39 22 154 091 073 4 3
4 39 24 000 000 005 4 3
4 39 25 000 000 000 4 3
4 39 26 000 000 002 4 3
4 39 27 000 000 004 4 3
4 39 28 000 000 007 4 3
1 28 01 003 4 3
1 28 06 007 4 3
1 28 07 122 4 3
1 28 15 000 4 3
1 28 16 192 4 3
1 28 17 209 4 3
1 28 18 034 4 3
1 28 19 060 4 3
1 28 22 192 4 3
1 28 24 066 4 3
1 28 25 084 4 3
1 28 26 034 4 3
1 28 27 000 4 3
1 28 28 028 4 3

1 29 01	001	4	3
1 29 06	000	4	3
1 29 07	015	4	3
1 29 15	009	4	3
1 29 16	267	4	3
1 29 17	124	4	3
1 29 18	005	4	3
1 29 19	031	4	3
1 29 22	036	4	3
1 29 24	198	4	3
1 29 25	209	4	3
1 29 26	004	4	3
1 29 27	000	4	3
1 29 28	025	4	3
1 30 01	025	4	3
1 30 06	000	4	3
1 30 07	046	4	3
1 30 15	000	4	3
1 30 16	242	4	3
1 30 17	128	4	3
1 30 18	010	4	3
1 30 19	043	4	3
1 30 22	044	4	3
1 30 24	325	4	3
1 30 25	041	4	3
1 30 26	006	4	3
1 30 27	000	4	3
1 30 28	000	4	3
1 31 01	123	4	3
1 31 06	000	4	3
1 31 07	068	4	3
1 31 15	003	4	3
1 31 16	252	4	3
1 31 17	205	4	3
1 31 18	045	4	3
1 31 19	064	4	3
1 31 22	057	4	3
1 31 24	011	4	3
1 31 25	000	4	3
1 31 26	005	4	3
1 31 27	000	4	3
1 31 28	045	4	3
1 32 01	521	4	3
1 32 06	000	4	3
1 32 07	000	4	3
1 32 15	000	4	3
1 32 16	221	4	3
1 32 17	011	4	3
1 32 18	006	4	3
1 32 19	004	4	3
1 32 22	028	4	3
1 32 24	034	4	3
1 32 25	121	4	3
1 32 26	000	4	3
1 32 27	018	4	3
1 32 28	001	4	3

1 33 01 030 4 3
1 33 06 000 4 3
33 07 006 4 3
1 33 15 011 4 3
1 33 16 220 4 3
1 33 17 007 4 3
1 33 18 051 4 3
1 33 19 007 4 3
1 33 22 164 4 3
1 33 24 070 4 3
1 33 25 408 4 3
1 33 26 000 4 3
1 33 27 000 4 3
1 33 28 000 4 3
1 34 01 076 144 270 4 3
1 34 06 000 000 000 4 3
1 34 07 000 000 001 4 3
1 34 15 000 000 010 4 3
1 34 16 434 557 415 4 3
1 34 17 017 023 027 4 3
1 34 18 000 000 000 4 3
1 34 19 000 000 005 4 3
1 34 22 383 266 222 4 3
1 34 24 000 000 005 4 3
1 34 25 000 000 011 4 3
1 34 26 000 000 011 4 3
1 34 27 000 000 003 4 3
1 34 28 000 000 001 4 3
1 35 01 044 065 088 4 3
1 35 06 000 000 000 4 3
1 35 07 004 004 013 4 3
1 35 15 115 151 226 4 3
1 35 16 326 336 198 4 3
1 35 17 156 158 164 4 3
1 35 18 038 037 042 4 3
1 35 19 023 023 019 4 3
1 35 22 167 102 128 4 3
1 35 24 026 026 013 4 3
1 35 25 000 000 006 4 3
1 35 26 000 000 000 4 3
1 35 27 008 008 009 4 3
1 35 28 014 013 014 4 3
1 36 01 046 069 113 4 3
1 36 06 000 000 000 4 3
1 36 07 013 010 028 4 3
1 36 15 000 000 005 4 3
1 36 16 313 371 254 4 3
1 36 17 106 143 150 4 3
1 36 18 036 037 035 4 3
1 36 19 023 029 026 4 3
1 36 22 380 264 297 4 3
1 36 24 000 000 000 4 3
1 36 25 000 000 005 4 3
1 36 26 000 000 000 4 3
1 36 27 023 025 058 4 3
1 36 28 000 000 002 4 3

1 37 01 024 044 082 4 3
1 37 06 000 000 002 4 3
1 37 07 015 012 029 4 3
1 37 15 019 021 027 4 3
1 37 16 292 414 264 4 3
1 37 17 045 065 054 4 3
1 37 18 011 011 021 4 3
1 37 19 039 039 034 4 3
1 37 22 421 291 294 4 3
1 37 24 000 000 008 4 3
1 37 25 000 000 000 4 3
1 37 26 001 001 024 4 3
1 37 27 035 042 069 4 3
1 37 28 000 000 010 4 3
1 38 01 022 033 085 4 3
1 38 06 000 000 000 4 3
1 38 07 013 009 033 4 3
1 38 15 014 014 026 4 3
1 38 16 420 500 331 4 3
1 38 17 029 037 054 4 3
1 38 18 017 017 013 4 3
1 38 19 000 000 000 4 3
1 38 22 163 097 124 4 3
1 38 24 000 000 000 4 3
1 38 25 000 000 000 4 3
1 38 26 163 137 140 4 3
1 38 27 076 074 109 4 3
1 38 28 000 000 009 4 3
1 39 01 158 218 257 4 3
1 39 06 000 000 007 4 3
1 39 07 029 017 044 4 3
1 39 15 123 159 098 4 3
1 39 16 231 238 203 4 3
1 39 17 000 000 004 4 3
1 39 18 011 011 017 4 3
1 39 19 000 000 001 4 3
1 39 22 149 075 099 4 3
1 39 24 000 000 000 4 3
1 39 25 000 000 000 4 3
1 39 26 149 135 112 4 3
1 39 27 067 058 094 4 3
1 39 28 000 000 001 4 3

Antelope Forage Intake--Summer Intensive

Antelope forage intake--summer intensive data collected in 1970 at the Pawnee Site are Grassland Biome Data Set A2U604B. A description and listing of the data follows:

Columns	Contents
1 - 4	Plant species--four letter abbreviation
7 - 8	Day within the summer intensive trial (day 1 of this trial equals day 28 of entire trial)
9	Animal number (animal 1 equals animal 1 of entire trial; animal 2 = animal 4 of entire trial; only two animals studied)
10	Observer
17 - 19	Percent of total bites which were taken on this species (F3.1)
27 - 29	Actual percent by dry weight in hand plucked sample (F3.1)
37 - 39	Estimated percent by dry weight in hand plucked sample (F3.1)
47 - 49	Percent by dry weight in fecal material, estimated by microscopy (F3.1)

SP	0312	00	
STA	0312	00	
SGR	0312	00	
HASP	0312	10	
KOSC	0312	325	50
LEDE	0312	43	
LIPU	0312	6	
PLPU	0312	128	
PO	0312	41	
SAKA	0312	44	
SPCO	0312	242	380
THTR	0312	46	
BOGR	0321	00	406
SP	0321	00	
ASTA	0321	37	
ASGR	0321	4	
HASP	0321	00	
KOSC	0321	309	20
LEDE	0321	31	
LIPU	0321	8	
PLPU	0321	40	
PO	0321	1	
SAKA	0321	10	
SPCO	0321	475	564
THTR	0321	44	
BOGR	0411	123	565
SP	0411	3	
TA	0411	45	
ASGR	0411	00	12
HASP	0411	45	
KOSC	0411	11	62
LEDE	0411	64	
LIPU	0411	5	
PLPU	0411	205	
PO	0411	00	
SAKA	0411	57	
SPCO	0411	252	338
THTR	0411	68	
BOGR	0422	27	364
SP	0422	00	
ASTA	0422	43	
ASGR	0422	00	
HASP	0422	3	
KOSC	0422	28	39
LEDE	0422	108	
LIPU	0422	00	
PLPU	0422	232	
PO	0422	2	
SAKA	0422	22	
SPCO	0422	342	507
THTR	0422	128	

B0GR 0512	521	500
SP 0512	00	43
STA 0512	1	
ASGR 0512	18	
HASP 0512	6	
KOSC 0512	34	32
LEDE 0512	4	
LIPU 0512	00	
PLPU 0512	11	
PO 0512	121	
SAKA 0512	28	
SPCO 0512	221	425
THTR 0512	00	
B0GR 0521	00	262
SP 0521	00	
ASTA 0521	10	
ASGR 0521	6	
HASP 0521	00	
KOSC 0521	332	23
LEDE 0521	20	
LIPU 0521	10	
PLPU 0521	6	
PO 0521	44	
SAKA 0521	45	
SPCO 0521	494	692
THTR 0521	19	
B0GR 0611	30	405
SP 0611	11	57
STA 0611	00	
ASGR 0611	00	
HASP 0611	51	
KOSC 0611	70	47
LEDE 0611	7	
LIPU 0611	0	
PLPU 0611	7	
PO 0611	408	
SAKA 0611	164	
SPCO 0611	220	482
THTR 0611	6	
B0GR 0622	357	282
SP 0622	10	
ASTA 0622	3	
ASGR 0622	00	
HASP 0622	3	
KOSC 0622	164	55
LEDE 0622	11	
LIPU 0622	00	
PLPU 0622	11	
PO 0622	29	
SAKA 0622	85	
SPCO 0622	261	654
THTR 0622	35	

BOGR 0712	270	144	125	204
SP 0712	10			
ASTA 0712	1			
ASGR 0712	3			
HASP 0712	00	00		
KOSC 0712	5			25
LEDE 0712	5			
LIPU 0712	11			
PLPU 0712	27	23		
PO 0712	11			
SAKA 0712	222	266	091	
SPCO 0712	415	557	784	730
THTR 0712	1			
BOGR 0721	95	90	114	294
SP 0721	1			
ASTA 0721	11	10		
ASGR 0721	3			
HASP 0721	00	00		
KOSC 0721	122	31	46	68
LEDE 0721	2			
LIPU 0721	1			
PLPU 0721	16	21		
PO 0721	15			
SAKA 0721	148	102		
SPCO 0721	541	698	814	639
THTR 0721	20	7		
BOGR 0811	88	65	201	362
SP 0811	226	151	17	33
ASTA 0811	14	13		
ASGR 0811	9	8		
HASP 0811	42	37		
KOSC 0811	13	26	9	25
LEDE 0811	19	23		
LIPU 0811	00	00		
PLPU 0811	164	158		
PO 0811	6			
SAKA 0811	128	102	26	
SPCO 0811	198	336	678	564
THTR 0811	13	4		
BOGR 0822	43	24	33	229
SP 0822	00	00		
ASTA 0822	8			
ASGR 0822	107	84	13	
HASP 0822	4			
KOSC 0822	14	3	20	43
LEDE 0822	65	66		
LIPU 0822	25	29		
PLPU 0822	88	83		
PO 0822	00	00		
SAKA 0822	78	138	48	
SPCO 0822	204	379	887	721
THTR 0822	296	112		

B0GR	0912	113	69	35	284
SP	0912	5			39
ASTA	0912	2			
ASGR	0912	58	25		
HASP	0912	35	37		
KOSC	0912	00	00		
LEDE	0912	26	29		
LIPU	0912	00	00		
PLPU	0912	150	143		
PO	0912	5			
SAKA	0912	297	264	73	
SPCO	0912	254	371	892	659
THTR	0912	28	10		
B0GR	0921	110	91	63	187
SP	0921	4			
ASTA	0921	9			
ASGR	0921	53	40	35	
HASP	0921	23	20		
KOSC	0921	9	1	17	71
LEDE	0921	5			
LIPU	0921	6			
PLPU	0921	117	134		
PO	0921	2			
SAKA	0921	123	113	106	
SPCO	0921	362	477	779	724
THTR	0921	63	32		
B0GR	1011	82	44	22	357
SP	1011	27	21	11	
STA	1011	10			
ASGR	1011	69	42		
HASP	1011	21	11		
KOSC	1011	8			
LEDE	1011	34	39		
LIPU	1011	24	1		
PLPU	1011	54	65		
PO	1011	00	00		
SAKA	1011	299	291	258	
SPCO	1011	264	414	687	585
THTR	1011	29	12		
B0GR	1022	82	26	58	186
SP	1022	1			
ASTA	1022	3			
ASGR	1022	46	43	117	13
HASP	1022	3			
KOSC	1022	4			56
LEDE	1022	23	21		
LIPU	1022	1			
PLPU	1022	128	97	177	
PO	1022	2			
SAKA	1022	230	176	246	
SPCO	1022	329	527	295	739
THTR	1022	63	47		

B0GR	1112	85	33	26	212
>	1112	26	14		83
ASTA	1112	9			
ASGR	1112	109	74		
HASP	1112	13	17		
KOSC	1112	00	00		
LEDE	1112	00	00		
LIPU	1112	140	137	13	11
PLPU	1112	54	37		
PO	1112	00	00		
SAKA	1112	124	97		
SPCO	1112	331	500	689	661
THTP	1112	33	9		
B0GR	1121	22	10		121
SP	1121	00	00		
ASTA	1121	15			
ASGR	1121	90	66	12	
HASP	1121	37	32		
KOSC	1121	30	6	6	50
LEDE	1121	18	13		
LIPU	1121	12	14		
PLPU	1121	36	40		
PO	1121	7			
SAKA	1121	160	101	37	
SPCO	1121	437	625	939	813
THTP	1121	64	31		
B0GR	1211	257	218	404	251
>	1211	98	159		91
ASTA	1211	1			
ASGR	1211	94	58		
HASP	1211	17	11		
KOSC	1211	00	01	16	37
LEDE	1211	1			
LIPU	1211	112	135	33	
PLPU	1211	4			
PO	1211	00	00		
SAKA	1211	99	75		
SPCO	1211	203	238	498	584
THTP	1211	44	17		
B0GR	1222	445	275	164	122
SP	1222	4			
ASTA	1222	7			
ASGR	1222	4			
HASP	1222	3			
KOSC	1222	5			21
LEDF	1222	3			
LIPU	1222	2			
PLPU	1222	16	20		
PO	1222	00	00		
SAKA	1222	73	91	8	
SPCO	1222	297	456	391	820
THTP	1222	16	19		

Chemical Constituents of Forage Species

Data on chemical constituents of forage species collected on the Pawnee Site is Grassland Biome Data Set A2U605B. A description and listing of the data follows:

Columns	Contents
2	Season/diet code
6	Season code
8 - 9	Plant species code
11 - 14	Animal number of the animals that used this species (411)
16	Diet regimen code
18 - 21	Dry weight as percent of wet weight (F4.2)
23 - 26	Percent water (F4.2)
28 - 31	Percent cell wall constituents, by dry weight (F4.2)
33 - 36	Percent cell contents, by dry weight (F4.2)
38 - 41	Percent acid detergent fiber, by dry weight (F4.2)
43 - 46	Percent lignin, by dry weight (F4.2)
48 - 51	Percent protein, by dry weight (F4.2)
53 - 56	Calories per gram dry weight (14)
58 - 61	Availability index 100--(100* % lignin/% cell contents) (F4.2)

*** DATA ***

	1	2	3	4	5	6	7	8																																	
1	1 01 1234 1 9650 0350 6709 3291 4354 0539 0512 3979 8362	1 03 1234 1 9150 0850 3864 6136 3875 1150 0826 4579 8126	1 04 1234 1 9450 0550 5008 4992 4016 1000 0536 4738 7997	1 05 1234 1 9250 0750 3943 6057 5428 2943 1020 4521 5142	1 06 1234 1 9050 0950 4843 6257 5628 3021 0682 4495 4264	1 07 1234 1 8850 1050 4287 5713 3931 0916 0978 4533 8397	1 08 1234 1 8650 0880 4733 5267 5872 3021 0682 4495 4264	1 09 1234 1 8450 0780 4197 5803 1622 0609 2028 4262 8959	1 10 1234 1 8250 0680 3090 6211 3789 4110 0574 1105 4287 8485	1 11 1234 1 8050 0580 2160 6455 3545 4573 0545 0756 4236 8463	1 12 1234 1 7850 0480 6802 3198 4051 0583 0570 4161 8177	1 13 1234 1 7650 0380 5340 4356 5644 3964 0491 1277 4116 9133	1 14 1234 1 7450 0280 2560 7440 1974 8126 1923 0450 1677 4683 9446	1 15 1234 1 7250 0180 3990 6010 5197 4803 2622 0219 2914 4582 9544	1 16 1234 1 7050 0080 6160 3840 6708 3992 4031 0491 1277 4116 8509	1 17 1234 1 6850 0380 3410 6590 5596 4404 3274 0415 1969 4291 9058	1 18 1234 1 6650 0280 6710 3290 6487 3513 4213 0582 1221 4329 8342	1 19 1234 1 6450 0180 6360 3640 6396 3604 3163 0636 1478 4276 8236	1 20 1234 1 6250 0080 5730 4270 7213 2787 3676 0452 0789 4345 8378	1 21 1234 1 6050 0380 3930 6070 4606 5394 3606 0791 1057 4806 8534	1 22 1234 1 5850 0280 3180 6820 2173 7827 1846 0625 1027 4668 9202	1 23 1234 1 5650 0180 2910 7090 4487 5513 3368 0984 0880 4592 8216	1 24 1234 1 5450 0080 9600 0400 5802 3198 4051 0583 0570 4161 8177	1 25 1234 1 5250 0380 6120 3880 5115 3885 3282 0514 0599 4364 8677	1 26 1234 1 5050 0280 3920 6080 5054 4946 3051 0854 1261 4121 8273	1 27 1234 1 4850 0180 3970 6030 5544 4456 3405 0887 0703 4323 8009	1 28 1234 1 4650 0080 3620 5380 3272 6728 2979 0747 1202 4338 8890	1 29 1234 1 4450 0380 3570 6430 4425 5575 2994 0971 1639 4563 8259	1 30 1234 1 4250 0280 2610 7390 3756 6244 4051 1034 0887 3903 8344	1 31 1234 1 4050 0180 3080 6920 4904 5096 3290 1036 1755 4666 7962	1 32 1234 1 3850 0080 2820 7180 4268 5732 4207 1168 0947 3987 7962	1 33 1234 1 3650 0380 3200 6800 3274 6726 3532 1213 1284 4100 8197	1 34 1234 1 3450 0280 1740 8260 2588 7412 1511 0322 1818 3224 9560	1 35 1234 1 3250 0180 3290 6710 3186 6814 1491 0262 2109 3786 9615	1 36 1234 1 3050 0080 6120 3880 4060 5940 4044 0623 0623 4187 8951	1 37 1234 1 2850 0380 3440 6560 2046 7954 1796 0708 0891 4792 8858	1 38 1234 1 2650 0280 3410 6590 4676 5324 4017 1055 1007 4723 8018	1 39 1234 1 2450 0180 4180 5820 4224 5776 2891 0776 1053 4398 8660	1 40 1234 1 2250 0080 4550 5450 3261 6739 4296 0864 0876 4511 8718	1 41 1234 1 2050 0380 4250 5750 3084 6916 2723 0767 1108 4514 8891	1 42 1234 1 1850 0280 5710 4290 3883 6117 4465 1102 1060 4144 8195

7	4	22	1	4	3	2200	7800	2803	7192	1615	0320	1518	3440	9555
7	4	26	1	4	3	3220	6780	3456	6544	3481	0781	0917	4368	8807
7	4	27	1	4	3	3410	6590	3809	6191	3290	0735	1588	4507	8813
7	4	28	1	4	3	3370	6630	4420	5580	3338	0838	1153	4256	8499

Goat Forage Intake

Goat forage intake data collected in 1970 at the Pawnee Site is Grassland Biome Data Set A2U606B. A description and listing of the data follows:

Columns	Contents
2 - 5	Plant species--four letter abbreviation (bb01 = BOGR + BUDA + CAHE)
8	Day within goat trial
9	Observer
17 - 20	Percent of total bites which were taken on this species (F4.2)
27 - 30	Actual percent by dry weight in hand plucked sample (F4.2)
37 - 40	Estimated percent by dry weight in hand plucked sample (F4.2)
47 - 50	Estimated percent by dry weight in esophageal sample (F4.2)
57 - 60	Estimated percent by dry weight in fecal sample (F4.2)

+ + + DATA + + +

01	21	3740	3200	1879	3135	4999
FM	21	40	40		712	4271
S,CO	21					
SP	21					
ARLO	21					
FEOC	21	100	100			
SPCO	21					202
EVNU	21	200	170	1417	92	99
THTR	21	2080	2000	1262		
LEDE	21	1200	670	334		
EREF	21					
PSTE	21	80	80	144	92	
LIPU	21					
GA	21					
MILI	21					
GUSA	21	2340	3670	3070	5939	0033
ORLU	21			10	10	
SAKA	21	20	40	575		
SIHY	21	20	20	373		0066
ASGR	21					33
STPA	21	100	100	182		
01	22	6960	4770	4022	3256	5032
AGSM	22	2110	2600	4693	5568	4271
STCO	22					
SP	22	20				
ARLO	22	10				
FEOC	22					
S,CO	22			10	10	
EVNU	22	40	40		244	53
THTR	22	20				
LEDE	22					
EREF	22	10				
PSTE	22	900	1900	817	448	
LIPU	22	10	20	66		
GA	22	20				
MILI	22					
GUSA	22	980	580	169	244	33
ORLU	22					
SAKA	22					
SIHY	22	10				
ASGR	22					
STPA	22					

01	31	3720	4720	4452	3196	5624
SM	31	170	150		329	3679
CO	31					
SP	31	200	200	113	142	70
ARL	31			10		
FEOC	31					
SPCN	31					
EVNU	31				142	175
THTR	31	800	430	474	106	
LEDE	31	130				
EREF	31	130	240		35	
PSTE	31	230	130		779	
LIPU	31					
GA	31	20				
MILI	31					
GUSA	31	4530	4050	3789	4445	
ORLU	31					
SAKA	31	20	60	603	142	
SIHY	31	30	30	37		
ASGR	31					
STPA	31					
01	32	1500	2020	2426	3231	5693
AGSM	32	80	80	239	461	3679
STCO	32					
SP	32	200	200	79	393	69
ARLO	32					
FEOC	32					
SP	32					211
EVNU	32					175
THTR	32	3220	1990	1180	1579	
LEDE	32	550	880	239	530	
EREF	32			10	10	
PSTE	32	50	50	79		
LIPU	32			10	10	
GA	32			13	10	
MILI	32	20	20			
GUSA	32	2700	2810	1180	670	
ORLU	32					
SAKA	32	1320	1830	4264	2087	
SIHY	32			25	31	
ASGR	32			47	53	
STPA	32	20	20	95	87	

Site Influences on Antelope Grazing

Data on site influences on antelope grazing collected at the Pawnee Site are Grassland Biome Data Set A2U607B. A description and listing of the data follows:

Columns	Contents
1 - 2	Plot number
3	Plot row
4	Plot column
5 - 7	Soil texture index ^{1/} (F3.2)
8 - 10	Plot slope ^{2/} (F3.2)
11 - 12	Relative abundance ^{3/} BOGR
13 - 14	Relative abundance BUDA
15 - 16	Relative abundance OECO
17 - 18	Relative abundance BAOP
19 - 20	Relative abundance EREF
21 - 22	Relative abundance ARFR
23 - 24	Relative abundance CHNA
25 - 27	Total number bites taken in this plot by all antelope during winter trial (13)
28 - 30	Mean number bites per animal per day
31	Adjusted grazing level code
32 - 34	Total animal time units ^{4/} spent in plot by all antelope during winter trial

^{1/} Soils were ranked from coarsest (Ascalon) to finest (Nunn undifferentiated clay) and assigned values from 1 to 5. The soil texture index is the sum of these values weighted by the proportion of the plot represented by each soil type.

^{2/} Slopes were ranked from flat to most steep and assigned values from 1 to 7. Plot slope is the sum of these values weighted by the proportion of the plot falling within each slope class.

- 3/ Two observers walked through each plot and independently rated the abundance of each plant species, assigning each a numerical value from 0 to 4, where: 0 = none, 1 = present, 2 = frequent, 3 = common, 4 = abundant. For each plot, the two assigned values were added and multiplied by two to get "relative abundance."
- 4/ Each time a pair of grazing animals entered a plot and left it without going halfway into it, the plot accumulated 0.5 animal time units. Each time a pair went halfway or more into a plot, that plot accumulated 1 animal time unit.

+++ DATA +++

1	2	3	4	5	6	7	8
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890							
5113155751612	610	610	6100	501	55		
4124353251616	810	4	8	6	0	00	15
3133604201616	6	6	4	4	4	00	05
2142754751616	416	8	2	4	0	00	05
1152505501616	416	4	4	6	50	251	40
6212403501612	8	6	812	62601303	70		
7222806501616	4	6	410	2120	601	20	
8233953751616	8	8	812	6100	501	25	
92440536516161010	6	4	6	0	00	35	
10253055251616	4	8	2	4	6	0	00
153120020016	8	8	8	814	62601303	70	
143230541816	8	8	8	816	62601303	60	
133329066016	412	8	810	6	30	151	65
123436453616	4	8	8	410	8	10	51
11354952351612	4	4	4	8	4	0	00
164120020016	4	8	8	8	84002004195		
174220020016	416141610				65002504115		
18	19042516	4	8	8	8	6	20
194425055016	410	4	6	8	6	10	51
204537535016	8	4	4	6	6	0	00
255120020016	4	8	8	6	8	44002004155	
245220020016	4	8	41010	63001503185			
235317530516	2	4	2	6	8	6	80
225419052516	4	4	410	6	2	20	101
215513047516	4	4	2	810	6	10	51
266120020016	412	8	810102601303130				
276220020016	4	4	61010	4	40	201	80
286320020016	4	8	8	8	6	0	00
296436060016	8	6	4	8	6	8	10
306531055516	8	4	2	810	6	10	51
357114023016	6	6	610	8	4140	702100	
347212523916	4	6	8	810	6180	902	60
337315022516	4	6	6	8	8	8180	902
327429045516	4	8	012	810180	902	55	
317549056516	8	6	4	812	6	10	51
368119520316	4	4	6	0	8	8	70
378215022616	4	612	8	8	4120	604	40
388311024816	4	8	810	8	8160	802	50
398413027516	2	6	612	8	82001002	50	
408528043616	8	6	41010	4	0	00	15

Mean Chemical Composition of Hand Plucked Plants

Data on mean chemical composition of hand plucked plants taken at the Pawnee Site is Grassland Biome Data Set A2U608B. A description and listing of the data follows:

Columns	Contents
1	Animal number
6	Season code
10	Always punched with a number 1 indicating a hand plucked sample
14	Season/diet code
18 - 61	Same as A2U605B; "Chemical Constituents of Forage Species"

+++ DATA +++

	1	2	3	4	5	6	7	8				
1	1	1	1	9280	0720	5567	4433	4209	0858	0658	4060	8065
2	1	1	1	9170	0930	6029	3971	4016	0668	0674	4057	8318
3	1	1	2	7850	2150	4287	5713	4132	0954	0839	4249	8330
4	1	1	2	8020	1980	4470	5530	4226	0954	0699	4261	8275
1	2	1	3	4820	5180	5162	4838	4128	0612	1341	4237	8736
2	2	1	3	3880	6120	4443	5557	3664	0636	1478	4276	8855
3	2	1	4	5870	4130	4714	5286	4227	0807	1160	4427	8473
4	2	1	4	4710	5290	4844	5156	4350	0840	1076	4443	8371
1	3	1	5	3400	6600	4620	5380	3183	0746	1223	4389	8614
2	3	1	5	2270	7730	4590	5410	3202	0811	1185	4336	8501
1	3	1	6	3080	6920	4601	5399	3676	0980	1399	4227	8185
4	3	1	6	3140	6860	4562	5438	3112	0838	1229	4231	8459
1	4	1	7	3770	6230	4252	5748	3159	0697	1180	4134	8784
4	4	1	7	3900	6100	4253	5747	3072	0769	1208	4252	8662

Chemical Composition of Hand Plucked Plants--Summer intensive
Chemical composition of hand plucked plants--summer intensive data
collected at the Pawnee Site is Grassland Biome Data Set A2U609B. A
description and listing of the data follows:

Columns	Contents
1	Animal number
3 - 4	Day within the entire trial
18 - 61	Same as A2U605B; "Chemical Constituents of Forage Species"

+++ DATA +++

	1	2	3	4	5	6	7	8
1 34	3654	6346	3891	6109	2892	0600	1254	3952 9018
1 35	3941	6059	4700	5300	3372	0724	1170	4263 8634
1 36	3593	6407	4144	5856	3067	0700	1208	4075 8805
1 37	3411	6589	3953	6047	3153	0745	1287	4063 8768
1 38	3901	6099	3998	6002	3124	0785	1168	4272 8692
1 39	4220	5780	4824	5176	3348	0628	0995	4179 8787
4 34	3931	6069	4196	5804	3028	0751	1359	4179 8706
4 35	3566	6434	4181	5819	3159	0769	1301	4346 8678
4 36	3925	6075	4319	5681	3075	0713	1202	4284 8745
4 37	3708	6292	4199	5801	3154	0825	1105	4234 8578
4 38	3848	6152	4337	5663	3008	0723	1224	4206 8724
4 39	4405	5595	4298	5702	3005	0831	1099	4261 8543

Chemical Constituents of Goat Diet

Data on chemical constituents of goat diet collected at the Pawnee Site is Grassland Biome Data Set A2U60AB. A description and listing of the data follows:

Columns	Contents
1	Method code
9	Observer
17	Day within goat trial
26 - 30	Percent nitrogen by dry weight (F4.1)
31 - 35	Percent acid detergent fiber by dry weight (F4.1)
36 - 40	Percent lignin by dry weight (F4.1)

+++ DATA +++

1 2 3 4 5 6 7 8
123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890

1	1	1	160	4152	926
1	1	1	156	4108	887
1	1	2	160	3971	991
1	1	2	165	4057	1011
1	1	3	147	4131	1136
1	1	3	148	4125	1067
1	2	1	172	4264	862
1	2	1	171	4356	840
1	2	2	173	3785	785
1	2	2	180	3142	705
1	2	3	177	3976	1054
1	2	3	169	3942	1013
2	1	1	133	3507	669
2	1	1	133	3498	644
2	1	2	129	4124	926
2	1	2	126	3918	855
2	1	3	129	3913	932
2	1	3	126	4009	856
2	2	1	149	3700	482
2	2	1	145	3243	617
2	2	2	128	3074	574
2	2	2	124	3595	661
2	2	3	147	3438	792
2	2	3	146	3515	776

Estimated Chemical Composition of Daily Antelope
Consumption by Species

Data on estimated chemical composition of daily antelope consumption by species is Grassland Biome Data Set A2U60BB. This is a derived data set, derived from data sets A2U603B, "Antelope Forage Intake," and A2U605B, "Chemical Constituents of Forage Species." A description and listing of the data follows:

Columns	Contents
1	Animal number
3	Season/diet code
6	Day within entire trial
8 - 9	Plant species code
11	Season code
13	Diet regimen code
15 - 19	Percent dry weight this species (F5.2)
21 - 25	Percent moisture this species (F5.2)
27 - 31	Percent cell wall constituents by dry weight (F5.2)
33 - 37	Percent cell contents by dry weight (F5.2)
39 - 43	Percent acid detergent fiber by dry weight (F5.2)
45 - 49	Percent lignin by dry weight (F5.2)
51 - 55	Percent protein by dry weight (F5.2)
57 - 61	Hundreds of calories per gram F(5.2)
63 - 67	Availability index 100 - (100* % lignin/% cell contents) (F5.2)
69 - 72	Percent by dry weight that this species comprised of total diet of this animal on this day

Estimated Chemical Composition of Daily Antelope Consumption

Data on estimated chemical composition of daily antelope consumption is Grassland Biome Data Set A2U60CB. This is a derived data set, derived from data set A2U60BB, "Estimated Chemical Composition of Daily Antelope Consumption by Species." A description and listing of the data follows:

Columns	Contents
1	Animal number
5	Season/diet code
8 - 9	Day within entire trial
15	Season code
22 - 26	Percent dry weight of consumed forage (F5.2)
28 - 32	Percent moisture (F5.2)
34 - 38	Percent cell wall constituents by dry weight (F5.2)
40 - 44	Percent cell contents by dry weight (F5.2)
46 - 50	Percent acid detergent fiber by dry weight (F5.2)
52 - 56	Percent lignin by dry weight (F5.2)
58 - 62	Percent protein by dry weight (F5.2)
64 - 70	Hundreds of calories per gram (F5.2)
72 - 76	Availability index 100 - (100* % lignin/% cell contents) (F5.2)

5	25	3	32.24	37.75	40.37	34.11	30.97	37.00	14.17	43.83	86.67	
5	26	3	33.13	56.37	42.77	37.43	33.93	9.87	11.56	41.63	83.95	
1	5	27	3	33.42	56.58	42.49	37.51	31.11	8.85	12.78	41.54	85.40
4	6	25	3	36.73	53.27	42.44	37.56	30.85	8.53	11.06	44.90	85.42
4	6	26	3	30.26	59.14	37.47	52.13	28.36	7.89	13.73	39.99	87.19
4	5	27	3	51.40	38.00	73.21	20.79	33.51	5.73	6.42	44.01	82.13
1	7	34	4	39.38	50.52	37.48	52.02	27.49	6.33	11.12	41.13	89.45
1	7	35	4	+1.80	58.20	37.44	52.56	31.73	7.31	10.51	42.90	88.14
1	7	36	4	38.47	61.53	36.11	53.89	28.95	6.62	11.41	41.55	89.32
1	7	37	4	36.92	53.03	35.57	53.43	27.39	6.45	11.92	41.18	89.45
1	7	38	4	38.37	61.53	38.58	51.42	29.83	7.25	11.04	43.03	88.02
1	7	39	4	41.76	58.23	41.69	53.11	33.81	7.16	10.29	44.12	91.90
4	7	34	4	41.26	38.74	39.40	50.20	28.77	7.15	10.55	42.91	87.84
4	7	35	4	38.81	61.19	38.37	61.13	31.64	7.66	11.36	43.32	87.15
4	7	36	4	40.62	59.38	36.97	63.03	29.91	7.23	10.49	43.37	88.05
4	7	37	4	38.47	61.53	37.94	62.06	29.04	7.15	11.24	42.71	88.10
4	7	38	4	39.30	60.69	39.57	60.43	29.16	7.40	11.27	43.22	87.58
4	7	39	4	45.41	54.54	39.43	61.52	31.34	6.89	9.59	42.55	88.34