

## The Digestibility of South African Feeds.

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### I. The Digestibility Coefficients of some Natural Grasses.

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By S. J. MYBURGH, Section of Biochemistry, Onderstepoort.

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VERY little information on the digestibility of South African grasses is available. As a matter of fact, work on the digestibility of South African feeds is practically non-existent and has long been overdue. Ross, Bosman and others, 1927 and 1931, determined the digestibility of lucerne hay, teff hay, and of maize oil cake and teff hay combined. The work was carried out with cattle and sheep as the experimental animals.

Sheep were used for the work reported in this communication mainly on account of the limited quantities of grass hay available. No repetitions were possible and the results should be regarded as suggestive rather than final.

The hays were obtained from the Rietondale Pasture Research Station and the work was carried out in co-operation with the Division of Plant Industry. Only four of the twelve grasses established on the acre plots yielded enough hay for the digestibility trials due to unfavourable climatic conditions. These were *Digitaria—Pretoria Large*, *Digitaria pentzii*, *Panicum makarikari* strain, and *Panicum phragmatooides*. These grasses were cut at the haymaking stage, dried and sent to Onderstepoort for the digestion trials.

DIGESTIBILITY COEFFICIENTS OF SOME S.A. NATURAL GRASSES.

Each acre plot was divided into four equal parts and each portion treated with fertilizer as indicated in the scheme submitted below:—

Type of Grass Hay.	Fertilizer Treatment.	Yield of Hay (lb.) per $\frac{1}{4}$ Acre.
I. (a) <i>Digitaria Pretoria Large</i> .... (b) <i>Digitaria Pretoria Large</i> .... (c) <i>Digitaria Pretoria Large</i> .... (d) <i>Digitaria Pretoria Large</i> ....	No fertilizer.....	172
	75 lb. Superphosphate.....	385
	75 lb. blood meal.....	222
	75 lb. of a mixture of equal quantities of superphosphate and blood meal	746
II. (a) <i>Digitaria Pentzii</i> ..... (b) <i>Digitaria Pentzii</i> ..... (c) <i>Digitaria Pentzii</i> ..... (d) <i>Digitaria Pentzii</i> .....	No fertilizer.....	102
	75 lb. superphosphate.....	320
	75 lb. blood meal.....	392
	75 lb. of a mixture of equal quantities of superphosphate and blood meal	736
III. (a) <i>Panicum makarikari</i> ..... (b) <i>Panicum makarikari</i> ..... (c) <i>Panicum makarikari</i> ..... (d) <i>Panicum makarikari</i> .....	No fertilizer.....	179
	75 lb. superphosphate.....	507
	75 lb. blood meal.....	280
	75 lb. of a mixture of equal quantities of superphosphate and blood meal	610
IV. (a) <i>Panicum phragmatoides</i> .... (b) <i>Panicum phragmatoides</i> .... (c) <i>Panicum phragmatoides</i> ....	No fertilizer.....	537
	75 lb. superphosphate.....	738
	75 lb. Ammonium sulphate.....	745

The fertilizers were applied after the grasses had been well established. The first application of fertilizer was made in September, 1932, which was repeated in November, 1933, and the grasses were cut for hay during the growing season of 1933-1934.

The rainfall for the individual months during 1932 and 1933, until February, 1934, is given below:—

	1932.	1933.	1934.
	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>
January.....	2.79	1.12	7.5
February.....	4.52	1.15	2.7
March.....	3.56	2.76	—
April.....	0.30	0.85	—
May.....	0.55	0	—
June.....	0	0.32	—
July.....	0	0	—
August.....	0	0	—
September.....	0.43	0	—
October.....	1.53	0	—
November.....	0.83	13.1	—
December.....	2.90	1.05	—

DETAILS OF THE DIGESTIBILITY TRIALS.

Ten mature wethers were selected for the trials. The sheep were placed in a small paddock where individual feeding boxes were available.

These ten sheep were healthy, feeding well and of fairly uniform body-weights. Prior to the first trial all sheep received lucerne hay *ad. lib.*

For the purpose of the collection of the faeces, each sheep was placed in metabolism harness.

All the weights of the sheep were taken, noted and tabulated, from time to time, as given in Table IV.

During the period of rest, the harness was discarded, and during the preliminary feeding period, the harness was replaced but the bags were left open; only during the actual experimental stage were the bags closed to ensure the collection of the faeces voided.

### *The First Trial.*

The first trial began on the 8th October, 1934, the sheep on that day receiving 300 grams lucerne hay each; the next day the ration was increased to 400 grams, and, as the sheep consumed all with ease, it was again increased to 500 grams on the 15th October. Finally, the ration was raised to 600 grams daily per sheep and kept at that level; this level of feeding satisfied the maintenance need of each sheep.

The body-weights were taken on four occasions prior to the start of the preliminary period. The collection of the faeces was begun on the 26th October. The faeces were collected daily in the mornings at 8.30, and in the afternoons at 4; in this way, the bags were never too full or too heavy.

The animals were fed at 2 p.m. daily and each was kept in its individual crate overnight, and allowed to run free in the enclosure for exercise and water during the day, from about 8.30 to 2 p.m. This treatment was strictly adhered to both during the experimental and the preliminary-feeding periods.

All the weights of the individual collections of the faeces were taken and recorded.

From every two-day collections 10 per cent. samples were taken for chemical analysis; the water and the protein determinations were done immediately. The samples were air dried and stored in small jars for subsequent determinations.

Samples were taken of the lucerne hay fed during the trial and an average sample from the ten individual samples was analysed.

From the results of the analyses the coefficients of digestibility for the individual nutrients, and the nutritive ratio were calculated. From the body-weight figures, it was found that during this trial no loss in weight was recorded for the period 5th October to 7th November.

Sheep No. 38247 was withdrawn from the trial and no collection of its faeces taken; the faeces of sheep No. 38240 were left unanalysed. Hence, the results of 8 sheep were available for the first trial.

Between each trial a period of rest was allowed from 8th November to 19th November the sheep were rested and a daily ration of 600 grams lucerne hay for each sheep was continued.

*The Second Trial.*

On the 20th November the sheep were selected for the second trial, i.e. on grass hay of the species *Digitaria-Pretoria* Large (D.P.L.) and the animals were grouped as follows: Sheep Nos. 38245, 38249, 38239 were fed the hay (D.P.L.) from the unfertilized plot.

Sheep Nos. 38240, 38236, 38248 were fed the hay (D.P.L.) plot treated with superphosphate.

Sheep Nos. 38243, 38247, 38251 were fed the hay (D.P.L.) plot treated with blood meal.

The remaining hay of this *Digitaria* species plot, treated with the mixture of superphosphate and blood meal, was left over for the third trial.

*The Third Trial.*

The preliminary feeding period started on the 19th January, 1935, the sheep were placed on the grass hay and the harness adjusted. The period from the 19th to 28th was begun by feeding each sheep at the rate of 400 grams per day; on the 21st January the ration was 600 grams per day. The sheep were grouped as follows:—

Sheep Nos. 38245, 38249, 38239, 38252 were fed hay (*D. Pentzii*) from the unfertilized plot.

Sheep Nos. 38240, 38236, 38248 were fed the hay (*D. Pentzii*) from the plot fertilized with superphosphate.

Sheep Nos. 38243, 38247, 38251 were fed the hay (D.P.L.) from the plot fertilized with the mixture of superphosphate and blood-meal.

The experimental period started on the 28th January and the faeces collected twice daily until the 5th February, and as before, weighed, prepared for analysis and the weights recorded.

The body-weights of the sheep were taken, after the trial—on the 5th and the 8th—proving that the sheep had lost no weight throughout.

Unfortunately, sheep No. 38236 developed diarrhoea and had to be withdrawn from the experiment and again placed on lucerne hay *ad lib.*

The sheep were again rested from the experiment from the 5th February to 18 February and the harness removed. The sheep received the daily ration of 300 grams lucerne hay and 300 grams yellow maize per sheep. On the 15th February the ration was supplemented with a little green feed.

*The Fourth Trial.*

On the 18th February, the sheep were selected for this trial, and fed at the rate of 600 grams grass hay per sheep daily.

Sheep Nos. 38245, 38249, 38239, 38240 were fed the hay (*D. Pentzii*) from plot treated with blood meal.

Sheep Nos. 38236, 38248, 38243 were fed the hay *Panicum makarikari* (P. Mak.) from the plot unfertilized.

Sheep Nos. 38247, 38251, 38252 were fed the hay (*D. Pentzii*) from the plot fertilized with the mixture of superphosphate and blood meal.

All the sheep were again placed in harness. The body-weights were taken on consecutive days (20th, 21st and 22nd). The experimental period started on the 25th February and terminated on the 7th March. The faeces were collected twice daily, weighed and prepared for analysis.

The sheep did not lose in weight. Even the sheep on the fibrous, tough *Pan. makarikari* hay thrived, proving this hay not only to be of a good nutritional value, but also palatable.

Another rest-period followed from 8th February to 28th March; the harness was left off. The daily ration allowed was again 300 grams lucerne hay and 300 grams yellow mealies, per sheep. In addition a little green feed was given from the 9th to 24th March. The sheep were healthy throughout.

The ration was changed to 600 grams lucerne hay per sheep daily on the 25th March.

The harness was again replaced on the sheep, weighed on the 25th and 26th March.

#### *The Fifth Trial.*

On the 28th March the preliminary feeding was begun at the rate of 600 grams per sheep daily of the hays:—

Sheep Nos. 38245, 38249, 38239 were fed the hay *Panicum makarikari* (P. Mak.) from the plot treated with blood meal.

Sheep Nos. 38240, 38236, 38248 were fed the hay (P. Mak.) from the plot fertilized with the mixture of superphosphate and blood meal.

The experimental period lasted from the 9th April to the 17th April, and the faeces were collected. The sheep showed no loss in weight. A rest period was allowed from the 18th April until 27th May; 600 grams lucerne hay per sheep was given daily and the harness was removed. On the 4th May, the ration was changed to 300 grams lucerne hay and 300 grams yellow mealies.

On the 27th the ration was changed back to 600 grams lucerne hay.

The body-weights were registered on the 27th and the 28th May.

*The Sixth Trial.*

The preliminary feeding of the hays was started at the rate of 600 grams per sheep daily and the harness adjusted on the 3rd June.

Sheep Nos. 38245, 38249 were fed the hay *Panicum phragmatoides* (P. Phrag.) from the unfertilized plot.

Sheep Nos. 38240, 38247 were fed the hay (P. Phrag.) from the plot fertilized with superphosphate.

Sheep Nos. 38239, 38236 were fed the hay (P. Phrag.) from the plot fertilized with ammonium sulphate.

Sheep Nos. 38248, 38243, 38251, 38252 were fed lucerne hay.

The trial with lucerne hay as ration was made for the purpose of comparison with the previous trial in October (with the same animals).

A minimum quantity of the *Panicum phragmatoides* hays was available and for this reason only two sheep were allowed in each group. The body-weights taken before and after the trial showed no loss in weight. In the group receiving the lucerne hay, the sheep gained on an average 2 lb. each.

Hereafter the sheep were rested and discharged from the experiment.

## RESULTS.

A. *The Coefficients of Digestibility.*

The weights of the different nutrients consumed, digested and voided (as faeces) by the individual sheep in each digestion trial, together with the coefficients of digestibility obtained for four different kinds of grass hays and lucerne hay, are given in the tables appearing in the appendix.

Two sets of coefficients of digestibility were obtained for lucerne hay; one set (using 8 sheep) at the commencement of the trials and another set of coefficients (using 4 sheep) at the conclusion of the trials. These values show remarkable similarity in digestibility by the different sheep used in these trials.

The digestibility coefficients given in the tables are those for dry matter, crude protein, crude fibre, nitrogen free-extractives, ash, organic matter, and of ether-soluble extracts. In Trial 2 with *Digitaria Pretoria* Large, grass hays as feed, it would appear that a general improvement in the digestibility was established by fertilizing the plots, especially marked in the case where the mixture of superphosphate and blood-meal had been given.

No marked improvements in digestibility could be found in the case of *Digitaria Pentzii*, even by fertilizing the plots. *Panicum makarikari* hays did not show wide variations in the digestibility values. This coarse hay was consumed with ease by all the sheep, proving that it was highly palatable. The *Panicum phragmatoides* of Trial 6, with a slightly higher protein content than any of the other grass hays, did not show a significantly higher digestibility coefficient for protein.

In Trial 6, the digestible values for the crude protein of a lucerne hay ranged from 63·4 to 71·0, with an average of 66·6, which does not differ from the average obtained with a lucerne hay in Trial 1.

Similarly, for the crude fibre, an average value of 45·5 was obtained in Trial 6, compared with an average of 43·0 in Trial 1.

### B. *The Nutritive Ratios.*

From the available figures, the nutritive ratios have been calculated, and tabulated in the appendix.

The average nutritive ratio for lucerne hay in Trial 1 was 1:4·7 and for Trial 6 the ratio was 1:4·2. The difference in ratios for lucerne hay may be accounted for by the slightly higher protein content of the hay used in Trial 6. In the case of the *Digitaria Pretoria* Large species, narrower nutritive ratios were obtained for the hays from the plots treated with fertilizer than for the hay from the unfertilized plot.

In the case of *Digitaria pentzii*, however, the nutritive ratios remained approximately constant and it would appear that the fertilizers did not improve the digestibility of this grass significantly.

In the case of the *Panicum makarikavi* the fertilizing appeared to have improved the digestibility.

The nutritive ratio obtained for *Panicum phragmatoides* was apparently also not significantly affected by the fertilizers.

The sheep throughout the different trials remained remarkably constant in body-weight and even after the lapse of the period from 7th November, 1934, to 22nd June, 1935, the increase in body-weight of each sheep was on an average only 7·8 lb., which included the growth of wool for that period.

### SUMMARY.

Coefficients of digestibility and nutritive ratios are given for some South African grasses, as well as for lucerne hay.

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### LITERATURE.

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DIGESTIBILITY COEFFICIENTS OF SOME S.A. NATURAL GRASSES.

TABLE I.  
Composition of Hays fed in Trials expressed in grams per cent.

Kind of Hay.	Plot Treated.	Trial No.	Moisture.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extract.	Organic Matter.
<i>Lacene (A)</i> .....	—	1	7.4	14.1	36.0	2.24	8.9	38.8	83.7
<i>Lacene (B)</i> .....	—	6	6.8	14.6	38.2	2.24	8.7	36.3	84.5
<i>Digitaria Pretoria Large</i> .....	Control.....	2	6.9	9.2	35.1	2.05	7.3	46.3	85.8
<i>Digitaria Pretoria Large</i> .....	Superphosphate.....	2	6.6	8.9	36.3	1.91	7.2	44.7	86.2
<i>Digitaria Pretoria Large</i> .....	Bloodmeal.....	2	6.7	10.2	34.6	1.85	7.3	46.1	86.0
<i>Digitaria Pretoria Large</i> .....	Bloodmeal and Superphosphate.....	3	6.8	10.1	35.4	2.03	6.5	46.0	86.7
<i>Woolly Finger (Digitaria Pentzii)</i> ...	Control.....	3	6.6	10.1	32.9	1.96	7.8	47.2	85.6
<i>Woolly Finger (Digitaria Pentzii)</i> ...	Superphosphate.....	3	6.6	8.9	34.9	2.04	7.2	47.0	86.2
<i>Woolly Finger (Digitaria Pentzii)</i> ...	Bloodmeal.....	4	6.0	9.6	35.9	1.95	7.4	45.1	86.6
<i>Woolly Finger (Digitaria Pentzii)</i> ...	Bloodmeal and superphosphate.....	4	7.0	9.8	33.3	2.17	6.3	48.4	86.7
<i>Panicum makarikari</i> .....	Control.....	4	6.9	7.1	34.3	1.94	4.4	52.3	88.7
<i>Panicum makarikari</i> .....	Superphosphate.....	5	6.7	7.2	34.6	2.06	4.5	51.6	88.8
<i>Panicum makarikari</i> .....	Bloodmeal.....	5	6.4	7.6	35.2	2.06	4.7	50.4	88.9
<i>Panicum makarikari</i> .....	Bloodmeal and superphosphate.....	5	6.8	7.6	34.1	2.13	5.1	51.1	88.1
<i>Panicum phragmatoides</i> .....	Control.....	6	7.1	11.4	34.1	1.89	6.4	46.2	86.5
<i>Panicum phragmatoides</i> .....	Superphosphate.....	6	6.9	11.3	34.4	1.73	6.0	46.6	87.1
<i>Panicum phragmatoides</i> .....	Ammonium sulphate.....	6	6.9	12.8	33.8	1.70	6.4	45.3	86.7



TABLE II.  
*Digestibility of Hay—Lucerne Hay.*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extractives.	Organic Matter.
TRIAL I.							
SHEEP No. 38245 (1).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2543·7	274·7	1226·1	73·8	195·9	773·3	2347·8
Nutrients Digested...	3012·3	508·7	774·1	50·6	299·5	1382·4	2712·8
Coefficients of Digesti- bility.....	54·2	64·9	38·7	40·6	60·4	64·1	53·6
SHEEP No. 38249 (2).							
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2396·1	256·3	1160·0	69·4	201·5	708·0	2194·6
Nutrients Digested...	3159·9	527·1	840·2	55·0	293·9	1447·7	2866·0
Coefficients of Digesti- bility.....	56·8	67·3	42·0	44·3	59·3	67·0	56·8
SHEEP No. 38239 (3).							
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2368·8	268	1110·0	88·4	213	700	2155·8
Nutrients Digested...	3187·2	515·4	890·2	36·0	282·4	1455·7	2904·8
Coefficients of Digesti- bility.....	57·4	65·7	44·5	29·1	57·1	67·7	57·4
SHEEP No. 38236 (5).							
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2424·6	285	1160	77·4	208	704	2216·6
Nutrients Digested...	3131·4	498·4	480·2	47·0	287·4	1451·7	2844·0
Coefficients of Digesti- bility.....	56·2	63·6	42·0	37·9	58·0	67·2	56·2
SHEEP No. 38248 (6).							
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2261·9	242	1105	63·1	194·5	656	2037·4
Nutrients Digested...	3294·1	541·4	895·2	61·3	300·9	1499·7	2993·2
Coefficients of Digesti- bility.....	59·1	69·0	44·7	49·3	60·6	69·4	59·1
SHEEP No. 38243 (7).							
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2390·4	267·5	1120	69·3	244	712	2146·4
Nutrients Digested...	3165·6	515·9	880·2	55·1	251·4	1443·7	2914·2
Coefficients of Digesti- bility.....	57·0	65·8	44·0	44·2	50·7	67·0	57·5
SHEEP No. 38251 (9).							
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2337·7	266	1125	74·6	213	656	2124·7
Nutrients Digested...	3218·3	517·4	875·2	49·8	282·4	1499·7	2935·9
Coefficients of Digesti- bility.....	58·0	66·0	43·8	40·0	57·0	69·4	58·0
SHEEP No. 38252 (10).							
Nutrients Consumed..	5556	783·4	2000·2	124·4	495·4	2155·7	5060·6
Excrement.....	2233·2	244	1105	62·5	187·5	634	2045·7
Nutrients Digested...	3322·8	539·4	895·2	61·9	307·9	1521·7	3014·9
Coefficients of Digesti- bility.....	59·6	68·8	44·7	49·8	62·2	70·6	59·7
Average for 8 Sheep..	57·4	66·4	43·0	41·9	58·1	67·8	57·4

DIGESTIBILITY COEFFICIENTS OF SOME S.A. NATURAL GRASSES.

TABLE II—(continued).  
Coefficients: Digestibility of Hay—*Digitaria Pretoria Large*  
(Control).

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extractives.	Organic Matter.
TRIAL II (a).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38245 (1).							
Nutrients Consumed..	5586	513·9	1960·7	114·5	407·8	2591·3	5178·2
Excrement.....	2429	284·0	649	89·8	289	1120	2140·7
Nutrients Digested...	3156·3	229·9	1311·7	24·7	118·8	1471·3	3037·5
Coefficients of Digestibility.....	56·6	44·7	66·9	21·6	29·1	56·7	58·6
SHEEP No. 38249 (2).							
Nutrients Consumed..	5586	513·9	1960·7	114·5	407·8	2591·3	5178·2
Excrement.....	2373·3	273	600	80·6	296	1120	2077·3
Nutrients Digested...	3213·7	240·9	1360·7	33·9	111·8	1471·3	3100·9
Coefficients of Digestibility.....	57·4	46·8	69·4	29·6	27·4	56·7	59·9
SHEEP No. 38239 (3).							
Nutrients Consumed..	5586	513·9	1960·7	114·5	407·8	2591·3	5178·2
Excrement.....	2212·7	255·5	584·1	84·1	292	986	1920·7
Nutrients Digested...	3373·3	258·4	1376·6	30·4	115·8	1605·3	3257·5
Coefficients of Digestibility.....	60·3	50·3	70·2	26·5	28·4	61·8	62·9
Average (for 3 Sheep)	58·1	47·3	68·8	26·0	28·3	58·4	60·4

Coefficients: Digestibility of Hay—*Digitaria Pretoria Large*  
(Superphosphate).

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extractives.	Organic Matter.
TRIAL II (b).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38240 (4).							
Nutrients Consumed..	5604	488·7	2034·2	107·0	403·5	2505	5200·5
Excrement.....	2314·6	236·1	614	74·1	256·9	1131·8	2057·7
Nutrients Digested...	3289·4	262·6	1420·2	32·9	146·6	1373·2	3142·8
Coefficients of Digestibility.....	58·7	52·8	70·0	30·8	36·3	54·7	60·4
SHEEP No. 38236 (5).							
Nutrients Consumed..	5604	498·7	2034·2	107·0	403·5	2505	5200·5
Excrement.....	2287·7	240	638	82·4	275	1055	2012·7
Nutrients Digested...	3316·3	258·7	1396·2	24·6	128·5	1450	3187·8
Coefficients of Digestibility.....	59·2	51·9	68·6	23·0	31·7	57·8	61·3
SHEEP No. 38249 (6).							
Nutrients Consumed..	5604	498·7	2034·2	107·0	403·5	2505	5200·5
Excrement.....	2195·5	226	602	76·8	252	1040	1943·5
Nutrients Digested...	3408·5	272·7	1432·2	30·2	151·5	1465	3257·0
Coefficients of Digestibility.....	60·7	54·7	70·2	28·2	37·5	58·5	62·6
Average (for 3 Sheep)	59·5	53·1	69·6	27·3	35·2	57·0	61·4

TABLE II—(continued).

*Coefficients: Digestibility of Hay—Digitaria Pretoria Large (Bloodmeal).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL II (c).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38243 (7).							
Nutrients Consumed..	5598	571.0	1940	103.5	409	2580	5189
Excrement.....	2254.3	252	650	67.6	254	1025	2000.3
Nutrients Digested...	3343.7	319.0	1290	35.9	155	1555	3188.7
Coefficients of Digesti- bility.....	59.6	56.0	66.4	34.7	37.9	60.3	61.4
SHEEP No. 38247 (8).							
Nutrients Consumed..	5598	571.0	1940	103.5	409	2580	5189
Excrement.....	2313.4	262	625	69.3	277	1100	2036.4
Nutrients Digested...	3284.6	309.0	1315	34.2	132	1480	3152.6
Coefficients of Digesti- bility.....	58.5	54.1	67.8	33.0	32.2	57.4	60.7
SHEEP No. 38252 (10).							
Nutrients Consumed..	5598	571.0	1940	103.5	409	2580	5189
Excrement.....	2250	277	590	67.0	266	1035	198.4
Nutrients Digested...	3348	294.0	1350	36.5	143	1545	320.5
Coefficients of Digesti- bility.....	59.8	51.6	69.6	35.3	35.0	60.0	61.7
Average (for 3 Sheep)	59.3	54.0	68.0	34.3	35.0	59.2	61.3

*Coefficients: Digestibility of Hay—Digitaria Pretoria Large (Bloodmeal and Superphosphate.)*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL III (a).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38243 (7).							
Nutrients Consumed..	4473.6	451.8	1583.6	90.8	290.8	2057.8	4182.8
Excrement.....	1526	164.5	427	51.8	180.0	702	1346
Nutrients Digested...	2947.6	287.3	1156.6	39.0	110.8	1355.8	2846.8
Coefficients of Digesti- bility.....	66.0	63.5	72.9	43.1	38.1	65.8	67.8
SHEEP No. 38247 (8).							
Nutrients Consumed..	4473.6	451.8	1583.6	90.8	290.8	2057.8	4182.8
Excrement.....	1559.3	171.5	441	48.3	189	710	1370.3
Nutrients Digested...	3914.3	280.3	1142.6	42.5	101.8	1347.8	2812.5
Coefficients of Digesti- bility.....	65.0	62.0	72.2	46.8	35.0	65.5	67.2
Average (for 2 Sheep)	65.5	62.7	72.5	45.0	36.5	65.7	67.5

TABLE II—(continued).  
*Coefficients: Digestibility of Hay—Digitaria pentzii (Control).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL III (b).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38245 (1).							
Nutrients Consumed..	4483·2	453	1475	87·7	349	2115	4134·2
Excrement.....	1689·1	183	452	48·7	218·5	778	1470·6
Nutrients Digested...	2794·1	270	1023	39·0	130·5	1337	2663·6
Coefficients of Digesti- bility.....	62·4	59·6	69·3	44·5	37·4	63·2	64·4
SHEEP No. 38249 (2).							
Nutrients Consumed..	4483·2	453	1475	87·7	349	2115	4134·2
Excrement.....	1734·9	192·5	484	50·2	225·5	782	1509·4
Nutrients Digested...	2748·3	260·5	991	37·5	133·5	1333	2624·8
Coefficients of Digesti- bility.....	61·2	57·5	67·2	42·8	32·5	63·0	63·5
SHEEP No. 38239 (3).							
Nutrients Consumed..	4483·2	453	1475	87·7	349	2115	4134·2
Excrement.....	1830·1	205	498	51·2	240	836	1590·1
Nutrients Digested...	2653·2	248	977	36·5	109	1279	2544·1
Coefficients of Digesti- bility.....	59·2	54·7	66·2	41·8	31·2	60·5	61·5
SHEEP No. 38252 (10).							
Nutrients Consumed..	4483·2	453	1475	87·7	349	2115	4134·2
Excrement.....	1691·6	192·5	426	59·0	240	772	1451·6
Nutrients Digested...	2791·6	260·5	1059	28·7	109	1343	2682·6
Coefficients of Digesti- bility.....	62·3	57·4	71·8	31·8	32·0	63·5	64·9
Average (4 sheep)....	61·3	57·3	68·6	40·2	33·3	62·5	63·6

*Coefficients: Digestibility of Hay—Digitaria pentzii  
(Superphosphate).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL III (c).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38240 (4).							
Nutrients Consumed..	4483·2	399	1565	90·3	322·5	2105	4160·7
Excrement.....	1939·7	178·5	554	52·4	211	932	1728·7
Nutrients Digested...	2543·5	220·5	1011	37·9	101·5	1173	2432·0
Coefficients of Digesti- bility.....	56·5	55·2	64·6	42·0	31·5	55·7	58·4
SHEEP No. 38252 (10).							
Nutrients Consumed..	4483·2	399	1565	90·3	322·5	2105	4160·7
Excrement.....	1617·3	147·2	479	45·2	216·5	730	1400·8
Nutrients Digested...	2765·9	251·8	1086	45·1	106·0	1375	2759·9
Coefficients of Digesti- bility.....	61·6	63·0	69·3	49·9	32·8	65·2	66·3
Average (for 2 Sheep)	59·1	59·1	66·9	46·0	32·1	60·5	62·3

TABLE II—(continued).

*Coefficients: Digestibility of Hay—Digitaria pentzii (Bloodmeal).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL IV (a).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38245 (1).							
Nutrients Consumed..	5640	541.4	2020	110	417	2540	5223
Excrement.....	2614.6	274.0	752	60.2	295	1230	2319.6
Nutrients Digested...	3025.4	267.4	1268	49.8	122	1310	2903.4
Coefficients of Digesti- bility.....	53.6	49.3	62.7	45.3	29.2	51.6	55.6
SHEEP No. 38249 (2).							
Nutrients Consumed..	5640	541.4	2020	110	416	2540	5223
Excrement.....	2576.2	265	738	61.9	293	1230	2283.2
Nutrients Digested...	3063.8	276.4	1282	48.1	124	1310	2939.8
Coefficients of Digesti- bility.....	55.3	51.0	63.4	43.7	29.5	51.6	56.3
SHEEP No. 38239 (3).							
Nutrients Consumed..	5640	541.4	2020	110	417	2540	5223
Excrement.....	2309.9	235.5	654	55.4	261	1105	2048.9
Nutrients Digested...	3330.1	305.9	1366	54.6	156	1435	3174.1
Coefficients of Digesti- bility.....	58.8	56.5	67.6	49.7	37.4	56.4	60.8
SHEEP No. 38240 (4).							
Nutrients Consumed..	5640	541.4	2020	110	417	2540	5223
Excrement.....	2390	234.0	688	59.8	280	1130	2110
Nutrients Digested...	3250	307.4	1332	50.2	137	1410	3113
Coefficients of Digesti- bility.....	57.6	56.8	66.0	45.7	32.8	55.6	59.6
Average (for 4 Sheep)	56.3	53.4	64.9	46.1	32.2	53.8	58.1

TABLE II—(continued).  
*Coefficients: Digestibility of Hay—Digitaria pentzii*  
*(Bloodmeal and Super).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL IV (b).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38247 (8).							
Nutrients Consumed..	5580	547	1850	121.0	352	2700	5228
Excrement.....	2089.7	225.5	577	54.3	230	1005	1859.7
Nutrients Digested...	3490.3	32.5	1273	66.7	122	1695	3368.3
Coefficients of Digesti- bility.....	62.5	58.7	68.8	55.2	34.7	62.8	64.4
SHEEP No. 38251 (9).							
Nutrients Consumed..	5580	547	1850	121.0	352	2700	5228
Excrement.....	2281.5	235	648	61.6	233	1105	2048
Nutrients Digested...	3298.5	312	1202	59.4	119	1595	3180
Coefficients of Digesti- bility.....	59.0	57.0	65.0	49.0	33.8	59.0	60.8
SHEEP No. 38252 (10.)							
Nutrients Consumed..	5580	547	1850	121.0	352	2700	5228
Excrement.....	2134.2	213.4	576	62.0	237	1045	1897.2
Nutrients Digested...	3445.8	333.6	1274	59.0	115	1655	3330.8
Coefficients of Digesti- bility.....	61.7	61.0	68.8	48.8	32.7	61.2	63.7
Average (for 3 Sheep)	61.0	59.0	67.5	51.0	33.7	61.0	63.0

*Coefficients: Digestibility of Hay—Panicum makarikari*  
*(Control).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL IV (c).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38236 (5).							
Nutrients Consumed..	5586	396	1915	108.2	245	2920	5341
Excrement.....	2372	187.5	908	73.4	147	1055	2225
Nutrients Digested...	3214	208.5	1007	34.8	98	1865	3116
Coefficients of Digesti- bility.....	56.6	52.7	52.6	32.2	40.0	63.8	58.3
SHEEP No. 38248 (6).							
Nutrients Consumed..	5586	396	1915	108.2	245	2920	5341
Excrement.....	2263	181	836	65.5	145	1035	2118
Nutrients Digested...	3323	215	1079	42.7	100	1885	3223
Coefficients of Digesti- bility.....	59.5	54.3	56.5	39.5	40.8	64.5	60.3
SHEEP No. 38243 (7).							
Nutrients Consumed..	5586	396	1916	108.2	245	2920	5341
Excrement.....	2585	245.5	981	59.4	176	1120	2409
Nutrients Digested...	3001	150.5	934	48.8	69	1800	2932
Coefficients of Digesti- bility.....	53.8	38.0	48.8	44.9	28.2	61.6	54.9
Average (for 3 Sheep)	56.6	48.3	52.6	38.9	36.3	63.3	57.8

TABLE II—(continued).

*Coefficients: Digestibility of Hay—Panicum makarikari  
(Superphosphate).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL V (a).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38240 (4).							
Nutrients Consumed..	4478·4	322	1550	92·3	203	2310	4275·4
Excrement.....	2349·7	183	822	60·4	145·5	1130	2204·2
Nutrients Digested...	2128·7	139	728	31·9	57·5	1180	2071·2
Coefficients of Digesti- bility.....	47·5	43·4	46·9	34·6	28·4	51·0	48·4
SHEEP No. 38248 (6).							
Nutrients Consumed..	4478·4	322	1550	92·3	203	23·0	4275·4
Excrement.....	2447·1	171·5	886	63·0	154·5	1165	2292·6
Nutrients Digested...	2031·3	150·5	664	29·3	48·5	1145	1982·8
Coefficients of Digesti- bility.....	45·4	46·8	42·8	31·8	23·9	49·6	46·3
Average (for 2 Sheep)	46·5	45·1	44·9	33·2	26·1	50·3	47·3

*Coefficients: Digestibility of Hay—Panicum makarikari  
(Bloodmeal).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL V (b).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38245 (1).							
Nutrients Consumed..	4492·8	342	1580	92·5	211	2260	4281·8
Excrement.....	2338·9	177·5	834	55·6	143·5	1125	2195·4
Nutrients Digested...	2153·9	164·5	746	36·9	67·5	1135	2086·4
Coefficients of Digesti- bility.....	48·0	48·0	47·4	39·9	32·0	50·1	48·8
SHEEP No. 38249 (2).							
Nutrients Consumed..	4492·8	342	1580	92·5	211	2260	4281·8
Excrement.....	2381·6	178·5	862	56·7	157	1110	2224·6
Nutrients Digested...	2111·2	163·5	728	35·8	54	1150	2057·2
Coefficients of Digesti- bility.....	48·0	47·8	46·0	38·7	25·6	50·8	48·4
SHEEP No. 38238 (3).							
Nutrients Consumed..	4492·8	342	1580	92·5	211	2260	4281·8
Excrement.....	2365·2	189	852	56·2	156	1125	2209·2
Nutrients Digested...	2127·6	153	728	36·3	55	1135	2072·6
Coefficients of Digesti- bility.....	48·5	44·8	46·1	39·2	26·2	50·2	48·4
Average (for 3 Sheep)	48·1	46·8	46·5	39·2	28·0	50·4	48·5

TABLE II—(continued).

*Coefficients: Digestibility of Hay—Panicum makarikari  
(Bloodmeal and Superphosphate).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL V (c).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38247 (8).							
Nutrients Consumed..	4474	340	1525	95.0	228	2285	4246
Excrement.....	2269	172.5	817	57.4	138.5	1110	2130.5
Nutrients Digested...	2205	167.5	708	37.6	89.5	1175	2115.5
Coefficients of Digesti- bility.....	49.3	49.2	46.4	39.6	39.3	51.4	49.8
SHEEP No. 38251 (9).							
Nutrients Consumed..	4474	340	1525	95.0	228	2285	4246
Excrement.....	2144	163	786	54.2	146	1000	1998
Nutrients Digested...	2330	177	739	40.8	82	1285	2248
Coefficients of Digesti- bility.....	52.0	52.0	48.4	43.0	36.0	56.2	52.9
Average (for 2 Sheep)	50.7	50.6	47.4	41.3	37.7	53.8	51.3

*Coefficients: Digestibility of Hay—Panicum phragmatoides  
(Control).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL VI (a).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38245 (1).							
Nutrients Consumed..	4459.2	508	1520	84.2	285	2060	4174.2
Excrement.....	2018.8	198	670	39.4	174	938	1844.8
Nutrients Digested...	2440.4	310	850	44.8	111	1122	2329.4
Coefficients of Digesti- bility.....	54.7	61.0	56.0	53.2	39.0	54.4	55.8
SHEEP No. 38249 (2).							
Nutrients Consumed..	4439.2	508	1520	84.2	285	2060	4174.2
Excrement.....	2166	221	680	42.2	184	1040	1982
Nutrients Digested...	2293.2	287	840	42.0	101	1020	2192.2
Coefficients of Digesti- bility.....	51.4	56.5	55.3	49.9	35.5	49.3	52.5
Average (for 2 Sheep)	53.0	58.7	55.6	51.5	37.2	51.8	54.1



TABLE II—(continued).

*Coefficients: Digestibility of Hay—Panicum phragmatoides  
(Superphosphate).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL VI (b).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38240 (4).							
Nutrients Consumed..	4468·8	506	1540	77·5	269	2090	4199·8
Excrement.....	2309·1	205·5	792	41·1	175·5	1095	2133·6
Nutrients Digested...	2159·7	300·5	748	36·4	93·5	995	2066·2
Coefficients of Digesti- bility.....	48·3	59·4	48·5	47·4	34·8	47·6	49·2
SHEEP No. 38247 (8).							
Nutrients Consumed..	4468·8	506	1540	77·5	269	2090	4199·8
Excrement.....	1926·7	185	605	34·1	150·5	950	1776·2
Nutrients Digested...	2542·1	321	935	43·4	118·5	1140	2423·6
Coefficients of Digesti- bility.....	56·8	63·5	60·7	56·1	44·0	54·7	57·7
Average (for 2 Sheep)	52·5	61·4	54·6	51·7	39·4	51·1	53·4

*Coefficients: Digestibility of Hay—Panicum phragmatoides  
(Ammonium Sulphate).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL VI (c).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 32839 (3).							
Nutrients Consumed..	4468·8	572	1510	76·2	286	2025	4182·8
Excrement.....	2164·1	260	645	37·5	184	1040	1980·1
Nutrients Digested...	2304·7	312	865	38·7	102	985	2202·7
Coefficients of Digesti- bility.....	51·6	54·5	57·2	50·8	35·8	48·6	52·6
SHEEP No. 38236 (5).							
Nutrients Consumed..	4468·8	572	1510	76·2	286	2025	4182·8
Excrement.....	1869·9	234	550	32·7	164·5	892	1705·4
Nutrients Digested...	2598·9	338	960	43·5	121·5	1133	2477·4
Coefficients of Digesti- bility.....	58·0	59·0	63·6	57·1	42·6	56·0	59·2
Average (for 2 Sheep)	54·8	56·7	60·4	54·0	39·2	52·3	55·9

TABLE II—(continued).

*Coefficients: Digestibility of Hay—Panicum phragmatoides  
(Superphosphate).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL VI (b).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38240 (4).							
Nutrients Consumed..	4468·8	506	1540	77·5	269	2090	4199·8
Excrement.....	2309·1	205·5	792	41·1	175·5	1095	2133·6
Nutrients Digested...	2159·7	300·5	748	36·4	93·5	995	2066·2
Coefficients of Digesti- bility.....	48·3	59·4	48·5	47·4	34·8	47·6	49·2
SHEEP No. 38247 (8).							
Nutrients Consumed..	4468·8	506	1540	77·5	269	2090	4199·8
Excrement.....	1926·7	185	605	34·1	150·5	950	1776·2
Nutrients Digested...	2542·1	321	935	43·4	118·5	1140	2423·6
Coefficients of Digesti- bility.....	56·8	63·5	60·7	56·1	44·0	54·7	57·7
Average (for 2 Sheep)	52·5	61·4	54·6	51·7	39·4	51·1	53·4

*Coefficients: Digestibility of Hay—Panicum phragmatoides  
(Ammonium Sulphate).*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extrac- tives.	Organic Matter.
TRIAL VI (c).	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 32839 (3).							
Nutrients Consumed..	4468·8	572	1510	76·2	286	2025	4182·8
Excrement.....	2164·1	260	645	37·5	184	1040	1980·1
Nutrients Digested...	2304·7	312	865	38·7	102	985	2202·7
Coefficients of Digesti- bility.....	51·6	54·5	57·2	50·8	35·8	48·6	52·6
SHEEP No. 38236 (5).							
Nutrients Consumed..	4468·8	572	1510	76·2	286	2025	4182·8
Excrement.....	1869·9	234	550	32·7	164·5	892	1705·4
Nutrients Digested...	2598·9	338	960	43·5	121·5	1133	2477·4
Coefficients of Digesti- bility.....	58·0	59·0	63·6	57·1	42·6	56·0	59·2
Average (for 2 Sheep)	54·8	56·7	60·4	54·0	39·2	52·3	55·9

TABLE II—(continued).

*Coefficients: Digestibility of Lucerne Hay.*

	Absolute Dry Matter.	Crude Protein.	Crude Fibre.	Ether Soluble Extract.	Total Ash.	N. Free Extractives.	Organic Matter.
TRIAL VII.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
SHEEP No. 38248 (6).							
Nutrients Consumed..	4473	652	1710	100·0	389	1625	4084
Excrement.....	1988·4	193	914	57·6	171	655	1817·4
Nutrients Digested...	2484·6	459	796	42·4	218	970	2266·6
Coefficients of Digesti- bility.....	55·5	70·4	46·5	42·4	56·0	59·7	55·5
SHEEP No. 38243 (7).							
Nutrients Consumed..	4473	652	1710	100·0	389	1625	4084
Excrement.....	2185	238	944	63·4	242	697	1943
Nutrients Digested...	2288	414	766	36·6	147	928	2141
Coefficients of Digesti- bility.....	51·2	63·4	44·7	36·6	37·8	56·5	52·4
SHEEP No. 38251 (9).							
Nutrients Consumed..	4473	652	1710	100·0	389	1625	4084
Excrement.....	2162·6	250·5	908	62·6	238	696	1924·6
Nutrients Digested...	2310·4	401·5	802	37·4	151	929	2159·4
Coefficients of Digesti- bility.....	51·7	61·6	46·9	37·4	38·8	57·1	52·8
SHEEP No. 38252 (10).							
Nutrients Consumed..	4473	652	1710	100·0	389	1625	4080
Excrement.....	1999·2	189	962	57·9	177·5	583	1821·7
Nutrients Digested...	2473·8	463	748	42·1	211·5	1042	2262·3
Coefficients of Digesti- bility.....	55·2	71·0	43·8	42·1	54·3	64·1	55·3
Average (for 4 Sheep)	53·4	66·6	45·5	39·6	46·7	59·3	54·0

TABLE III.

B. *The Nutritive Ratio.*

Type of Hay.	Plot Treatment.	N.R.
<i>Lucerne A</i> .....	—	1 : 4.7
<i>Lucerne B</i> .....	—	1 : 4.2
<i>Digitaria Pretoria Large</i> .....	Control .....	1 : 14.5
<i>Digitaria Pretoria Large</i> .....	Superphosphate .....	1 : 10.9
<i>Digitaria Pretoria Large</i> .....	Bloodmeal .....	1 : 9.5
<i>Digitaria Pretoria Large</i> .....	Bloodmeal plus Superphosphate .....	1 : 9.2
<i>Woolly Finger (Digitaria Pentzii)</i> .....	Control .....	1 : 9.3
<i>Woolly Finger (Digitaria Pentzii)</i> .....	Superphosphate .....	1 : 10.2
<i>Woolly Finger (Digitaria Pentzii)</i> .....	Bloodmeal .....	1 : 9.7
<i>Woolly Finger (Digitaria Pentzii)</i> .....	Bloodmeal plus Superphosphate .....	1 : 9.4
<i>Panicum makarikari</i> .....	Control .....	1 : 15.4
<i>Panicum makarikari</i> .....	Superphosphate .....	1 : 13.2
<i>Panicum makarikari</i> .....	Bloodmeal .....	1 : 12.3
<i>Panicum makarikari</i> .....	Bloodmeal plus Superphosphate .....	1 : 11.9
<i>Panicum phragmatoides</i> .....	Control .....	1 : 6.7
<i>Panicum phragmatoides</i> .....	Superphosphate .....	1 : 6.4
<i>Panicum phragmatoides</i> .....	Ammonium Sulphate .....	1 : 6.3

TABLE IV.  
*Body-weights of Wethers (in lb.).*

Nos. of Sheep.	Trial 1.		Trial 2.		Trial 3.		Trial 4.		Trial 5.		Trial 6.		
	Before.	After.	Before.	After.	Before.	After.	Before.	After.	Before.	After.	Before.	After.	Gain or Loss.
38245.....	73	73	70	73	74	74	74	75	78	79	79	79	0
38249.....	69	70	66	68	73	73	72	73	75	75	75	77	+2
38239.....	63	63	58	62	60	60	60	62	67	67	70	70	0
38240.....	(73)	—	69	71	66	66	73	73	76	79	77	77	0
38236.....	65	65	68	64	74	74	66	67	69	68	72	72	0
38248.....	65	67	64	65	(66)	(66)	70	71	74	73	73	74	+1
38243.....	70	71	67	71	70	70	73	75	(78)	(77)	78	80	+2
38247.....	(66)	—	63	65	73	73	67	68	68	70	69	71	+2
38251.....	73	72	(65)	(70)	64	66	74	75	80	79	77	81	+4
38252.....	60	63	59	61	74	75	68	68	(72)	(67)	74	74	0