

Note on Proximate Composition of Concentrates Used for Cattle and Buffaloes in Surat District

H. B. Desai, M. B. Pande,
L. P. Purohit and P. C. Shukla

Animal Nutrition Department, Gujarat Agricultural
University, Anand campus, Anand 388 110

In order to investigate the types of feeds available in Surat district and their composition a survey was conducted. Eight villages of Surat district were randomly selected and different types of feed samples were drawn in three different seasons for their proximate composition. They were analysed following AOAC (1970) methods. The results

of proximate composition with standard error (Snedecor and Cochran, 1968) of various feed samples collected during survey in Surat district are presented in Table 1.

From the perusal of results in Table-1 it is seen that most of the compounded cattle feeds used in this area meet the requirement of ISI specifications. Seed, *chuni* and meal of cluster bean, *ambadi* cake, groundnut cake, coconut cake, maize gluten, soybean cake are rich sources of crude protein. Soybean cake, cluster bean meal and *chuni*, maize cake, *asalio*, cotton seed and cake are good sources of ether extract. *Asalio* and fenugreek seeds are used in calving rations

TABLE 1

Chemical composition of feeds (% on D. M. basis).

Sample	C. protein	E. Extract	C. fibre	NFE	P	Ca
Concentrate mixture						
Calf starter	23.1	4.9	5.2	54.5	0.50	1.14
Con. mix. (I)	21.4	4.9	3.9	57.7	0.87	1.40
	±0.23	±0.34	±0.55	±0.74	±0.08	0.10
Con. mix. (II)	19.8	4.0	9.6	53.8	0.79	1.30
Con. mix. (III)	20.2	3.8	5.1	57.6	0.80	1.32
	±0.79	±0.28	±0.34	±0.90	±0.04	±0.09
Con. mix. (IV)	21.8	4.5	7.8	52.9	0.76	1.37
	±0.93	±0.32	±0.52	±0.94	±0.36	±0.10
Con. mix. (V)	19.5	4.6	10.8	51.3	0.81	1.43
Grains and seeds						
<i>Asalio</i> (<i>Lepidium sativum</i> L.)	20.7	24.9	25.1	20.7	0.90	0.86
Cotton seed	17.4	19.1	20.9	37.2	0.51	0.31
	±0.42	±0.88	±1.17	±1.73	±0.01	±0.02
Cluster bean	27.9	4.6	6.4	56.5	0.37	0.43
	±1.13	±0.37	±0.93	±1.31	±0.02	±0.03
Fenugreek	29.8	5.5	8.4	51.6	0.34	0.26
Wheat + paddy	14.5	3.5	4.2	74.6	0.23	0.22

Table 1 (Contd.)

Sample	C. Protein	E. Extract	C. fibre	NFE	P	Ca
Oil cake and meal						
Ambadi cake (<i>Hibiscus cannabinus</i>)	32.5	8.5	13.1	36.4	1.20	0.77
Cluster bean meal	41.2 ±2.34	6.1 ±0.31	5.3 ±0.39	41.9 ±2.50	0.51 ±0.03	0.40 ±0.02
Coconut cake	26.2 ±0.36	2.0 ±3.36	8.6 ±0.97	55.6 ±0.75	0.86 ±0.03	0.20 ±0.03
Cotton seed cake	19.5 ±0.35	7.3 ±1.00	26.8 ±0.62	40.6 ±0.38	0.53 ±0.06	0.42 ±0.06
Groundnut cake	46.4	3.1	2.3	40.8	0.58	0.31
Maize cake	19.1	19.0	9.8	49.1	0.40	0.22
Safflower	17.0	1.0	41.8	33.8	0.33	0.77
Deoiled <i>sal</i> seed cake (<i>Shorea robusta</i>)	8.9	1.5	1.7	84.2	0.15	0.22
Soybean cake	27.1	13.5	17.1	32.7	0.82	0.75
Bran and chuni						
Black gram chuni	18.6 ±2.14	3.2 ±0.77	13.5 ±1.35	54.2 ±0.30	0.32 ±0.04	0.64 ±0.02
Cluster bean chuni	39.3	5.2	5.6	44.5	0.45	0.47
Green gram chuni	13.8	2.1	16.2	48.7	0.20	0.82
Maize gluten	17.9	4.0	9.2	57.4	0.88	0.90
Maize gluten	32.8	5.7	1.3	58.4	0.25	0.21
" " 14%	18.9	3.0	10.8	61.7	0.81	0.14
" " 28%	30.5	3.1	1.9	62.7	0.18	0.13
" " 40%	39.0	5.1	5.1	45.9	0.67	0.25
Maize gluten	48.0	4.0	4.4	42.0	0.15	0.12
Maize gluten (protanil)	22.9 ±7.90	3.8 ±1.07	8.1 ±3.92	62.9 ±4.69	0.28 ±0.10	0.27 ±0.05
Pegion pea chuni	16.4 ±3.09	3.4 ±0.64	19.7 ±5.12	53.3 ±3.54	0.25 ±0.05	0.62 ±0.30
Rice bran	10.0 ±1.19	8.0 ±1.45	17.3 ±2.41	46.6 ±1.84	1.33 ±0.29	0.23 ±0.03
Rice bran (deoiled)	9.6	0.9	13.6	55.6	1.51	0.77
Wheat bran	14.6	4.4	10.7	64.3	0.93	0.24
Gram chuni	16.8	4.0	21.7	51.9	0.19	0.67

only. The brans and cereal byproducts are found to have normal composition and are rich sources of minerals. Rice bran (deoiled) and green gram (*mung*) *chuni* are of inferior quality having more of ash (20.3 & 19.3%) and silica (12.8 & 14.2%) content. Silica content (0.4%) is very low in cluster bean *chuni*.

From the results it is seen that maize byproducts are nutritious while rice bran and *chunies* of green gram and black gram are of inferior quality. The present findings of chemical composition are in general agreement with the findings of

Anonymous (1970), and Sen and Ray (1971). (Received on July 15, 1978).

REFERENCES

- Anonymous. 1970. Review of the research work done from 1953 to 1970 on animal nutrition in western India at the ICAR Western Regional Animal Nutrition Station. Institute of Agriculture, Anand.
- AOAC 1970. Official methods of analysis of the association of analytical chemists, 11th Edn. Washington DC.
- Sen K. C. and S. N. Ray. 1971. Nutritive value of Indian cattle feeds and feeding of animals, ICAR Bulletin No. 25, ICAR, New Delhi.
- Snedecor, G. W. and W. G. Cochran. 1968. Statistical Methods Oxford and IBH Publishing Co., New Delhi.