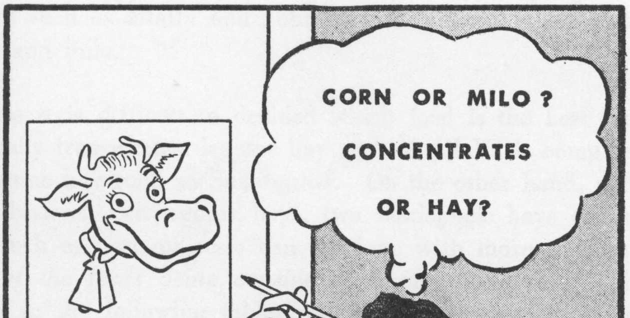
MP-167

WHICH FEED *is the* BEST BUY ?



TEXAS AGRICULTURAL EXTENSION SERVICE
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Which Feed Is the Best Buy?

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OCCASIONALLY DAIRYMEN must make a choice among feeds which they must buy. In most cases, these feeds may be grouped as dry roughages such as alfalfa and Johnsongrass hay or concentrates such as corn and milo.

Sometimes it is difficult to decided which feed is the best buy. This is especially true when a legume hay such as alfalfa is compared with a nonlegume hay such as Sudangrass. On the other hand, making a choice between two legume hays, two nonlegume hays or two concentrates such as corn or milo can be done with more accuracy. *The quality of the feeds being considered is very important.* The analyses used in the following tables may not fit the specific feeds under consideration. Realizing this shortcoming of any analysis, *dairymen must consider any variation in quality of the feeds involved.*

Table 1 may be used in deciding which concentrates are the best buy at prevailing prices. The chart is based on the *productive energy value* of each feed. Briefly, the *productive energy* of a feed is the amount of energy available for maintenance and production after the work of digestion. In this sense, it is probably a more accurate measure of feeding value than total digestible nutrients. A *therm* is merely a unit of measure of productive energy.

Table 1. Cost per therm of productive energy in conc

Concentrates	Therms per 100 lb.	Cost per therm when market 100						
		$1.75	$2.00	$2.25	$2.50	$2.75	$3.00	$3.
		Cents	Cents	Cents	Cents	Cents	Cents	Cen
Beet pulp	74.4	2.3	2.7	3.0	3.4	3.7	4.0	4.
Corn	85.4	2.0	2.3	2.6	2.9	3.2	3.5	4.
Corn and cob meal	71.2	2.4	2.8	3.2	3.5	3.9	4.2	4.
Milo	84.8	2.1	2.4	2.7	2.9	3.2	3.5	4.
Molasses, blackstrap	62.8	2.8	3.2	3.6	4.0	4.4	4.8	5.
Oats	71.2	2.4	2.8	3.2	3.5	3.9	4.2	4.
Wheat bran	66.7	2.6	3.0	3.4	3.7	4.1	4.5	5.

At prices not listed in the Table, the cost per therm may be determined by dividing therms into the price of the concentrate.

Table 2 may be used similarly with nonlegume roughages. In this Table we see that cottonseed hulls would have to sell at $12 per ton to provide productive energy at the same cost as 21-dollar mature Johnsongrass hay.

Table 2. Cost per therm

Nonlegume roughages	Therms per ton	
		$12.00
		Cents
Cottonseed hulls	386	3.1
Hegari fodder, with heads	944	1.3
Johnsongrass hay, young	810	1.5
Johnsongrass hay, *bloom*	716	1.7
Johnsongrass hay, mature	672	1.8
Oat hay	694	1.7
Prairie hay	712	1.7
Sorghum fodder, red top	644	1.9
Sudangrass hay	678	1.8

At prices not listed in the Table, the cost per therm ... nonlegume hay.

different prices

lb. is as follows:

50	$3.75	$4.00	$4.25	$4.50
ts	Cents	Cents	Cents	Cents
7	5.0	5.4	5.7	6.0
1	4.4	4.7	5.0	5.3
9	5.3	5.6	6.0	6.3
1	4.4	4.7	5.0	5.3
6	6.0	6.4	6.8	7.2
9	5.3	5.6	6.0	6.3
2	5.6	6.0	6.4	6.7

per 100 pounds (given in the table)

Table 1 shows that corn priced at $2.50 per 100 pounds will supply productive energy at a cost of 2.9 cents per therm. On the other hand, milo selling at $2 per 100 pounds will supply productive energy at 2.4 cents per therm. Therefore, milo would be the better buy at that price.

ctive energy in nonlegume roughages at different prices

Cost per therm when market price per ton is as follows:

2.0	18.00	$21.00	$24.00	$27.00	$30.00	$35.00	$40.00	$45.00	$50.00	$55.00
ent	ents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
.1	4.7	5.4	6.2	7.0	7.8	9.1	10.4	11.6	12.9	14.2
.3	1.9	2.2	2.5	2.9	3.2	3.7	4.2	4.8	5.3	5.8
.5	2.2	2.6	3.0	3.3	3.7	4.3	4.9	5.5	6.2	6.8
[illegible]	2.5	2.9	3.3	3.8	4.2	4.9	5.6	6.3	7.0	7.7
1.8	2.7	3.1	3.6	4.0	4.5	5.2	5.9	6.7	7.4	8.2
1.7	2.6	3.0	3.4	3.9	4.3	5.0	5.8	6.5	7.2	7.9
1.7	2.5	2.9	3.4	3.8	4.2	4.9	5.6	6.3	7.0	7.7
[illegible]	2.8	3.3	3.7	4.2	4.6	5.4	6.2	7.0	7.8	8.5
1.8	2.6	3.1	3.5	4.0	4.4	5.1	5.9	6.6	7.4	8.1

may be determined by dividing the therms per ton into the price of the

Table 3. Cost per therm of productive energy in leg

Legume roughages	Therms per ton	Cost per therm when mark					
		$12.00	$15.00	$18.00	$21.00	$24.00	$27.00
		Cents	Cents	Cents	Cents	Cents	Cents
Alfalfa hay, average	754	1.6	2.0	2.4	2.8	3.2	3.6
Alfalfa hay, leafy	984	1.2	1.5	1.8	2.1	2.4	2.7
Clover hay, sweet	856	1.4	1.7	2.1	2.4	2.8	3.1
Peanut hay, few nuts	904	1.3	1.6	2.0	2.3	2.6	3.0
Vetch hay	716	1.7	2.1	2.5	2.9	3.3	3.8

At prices not listed in the Table, the cost per therm may be determined by
legume hay.

Dairymen often are confronted with the question of whether to buy hay to cut down on the amount of concentrates necessary to maintain production. Table 4 shows that if a dairyman is feeding an 18 percent concentrate mixture costing $3 per 100 pounds, he can afford to pay as much as $30 per ton for Johnsongrass hay cut in the bloom. As the cost of his concentrate mixture rises, the more he can pay for hay and get productive energy at the same cost. Full feeding of hay is a sound practice especially when prices favor hay in cost of productive energy.

Table 4. Cost per therm of prod

	Therms per ton	
		$12.00
		Cents
Johnsongrass hay, bloom	716	1.7
	Therms per 100 lb.	
		$1.75
		Cents
Concentrate mixture, 18% crude protein	72.1	2.4

Other dry roughages may be com
mixture used in this table contain
be much lower.

ages at different prices

n is as follows:

$40.00	$45.00	$50.00	$55.00
Cents	Cents	Cents	Cents
5.3	6.0	6.6	7.3
4.1	4.6	5.1	5.6
4.7	5.2	5.8	6.4
4.4	5.0	5.5	6.1
5.6	6.3	7.0	7.7

rms per ton into the price of the

Table 3 applies to legume roughages.

No attempt is made to compare a nonlegume roughage with a legume roughage. In such a comparison it would be wise to consider factors other than productive energy. Among these factors would be the higher protein content of legume roughages and the resulting need for additional protein supplement in the concentrate mixture to be fed with nonlegume roughages. The cost of the total ration would be a more accurate measure in this case.

y in a dry roughage and a concentrate mixture at different prices

st per therm when market price per ton is as follows:

$21.00	$24.00	$27.00	$30.00	$35.00	$40.00	$45.00	$50.00	$55.00
Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
2.9	3.3	3.8	4.2	4.9	5.6	6.3	7.0	7.7

st per therm when market price per 100 lb. is as follows:

$2.50	$2.75	$3.00	$3.25	$3.50	$3.75	$4.00	$4.25	$4.50
Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
3.5	3.8	4.2	4.5	4.8	5.2	5.5	5.9	6.2

e 18% concentrate mixture by referring to Tables 2 and 3. The concentrate roughages. If ground roughages are included, the therms per 100 lb. would

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