FATS AND PROTEINS
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THE DIRECTOR'S DIGEST
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FAT IN LIQUID SUPPLEMENTS FOR BEEF CALVES

Professor John K. Riggs and his associates at Texas A&M University have been studying the feeding of liquid supplements containing animal fat to beef cattle. It was found that stable emulsions containing up to 20% animal fat could be prepared with the aid of a suitable emulsifying agent. Other ingredients included in the emulsions were water, molasses, urea, phosphoric acid and vitamin supplements.

Heifers fed the emulsion containing 15% fat consumed less supplement and gained more than heifers fed an emulsion that did not contain fat (Table 1). Heifers fed an emulsion containing 10% fat consumed less supplement and did not gain as rapidly.

In a short term experiment (23 days) steers were offered liquid emulsions containing different levels of fat. The acceptability was essentially inversely proportional to the level of fat in the supplement (Table 2). This would suggest that the consumption of liquid supplement fed "free-choice" could be controlled by adjusting the fat level in the supplement.

Studies are planned that will determine acceptability and performance data for stocker calves fed liquid supplements containing different levels of fat on three levels of roughage feeding. Other tests will involve ad libitum feeding of supplements with and without fat along with the roughage source of cottonseed hulls.

Table 1. Summary of Performance Data of Heifers Fed Liquid Supplements Containing 0, 10 and 15% Fat (79 days).

	Fat level, %		
	0	10	15
No. head	11	11	11
Av. Daily feed[1]	1.69	0.93	1.39
Av. Daily gain, lbs.	1.34	1.15	1.55

[1]Pounds of liquid supplement per head per day.

Table 2. Average Consumption of Steers Offered Choice of Liquid Supplements Containing 0, 5, 10 and 15% Fat[1]

	Fat level, %			
	0	5	10	15
Av. Daily feed[2]	3.57	1.29	0.34	0.52

[1]Calves were fed 8 lb. of cottonseed hulls per head per day, which equals 2/3 of their maintenance requirement.

[2]Average pounds of liquid supplement consumed by 8 calves for 23 days.