Table 38 (Continued)

Blood analyses:

Inorganic phosphate, mg. %

3-14-56	7.68	....	8.00	....
	±0.12[2]	....	±0.40[2]	....
11-13-56	7.58	....	6.98	....
	±0.28	....	±0.21	....
3-13-57	7.65	7.82	6.30	7.40
	±0.27	±0.32	±0.42	±0.39
5-29-57	10.30	11.02	9.51	9.26
	±0.80	±0.95	±0.94	±1.50

Calcium, mg. %

3-14-56	11.44	....	11.26	....
	±0.16	....	±0.10	....
11-13-56	11.31	....	11.37	....
	±0.27	....	±0.20	....
3-13-57	11.77	11.12	11.45	11.33
	±0.19	±0.15	±0.20	±0.16
5-29-57	10.60	10.20	10.66	11.31
	±0.08	±0.25	±0.67	±0.67

2. Standard error of mean.

The Use of Tranquilizer Compounds[1][2] in Wintering Rations for Steers (Project A-597).

B. A. Koch, E. F. Smith, D. Richardson and M. M. McCartor

Recent experimental work with chemical tranquilizers has indicated that these substances may be of value in the fattening ration of beef cattle under certain conditions. Theoretically at least, the chemical tranquilizers should calm the animals and thus reduce the amount of energy lost due to nervousness and unnecessary muscular activity. It is also possible that they have some other effect upon the animal which leads to increased weight gains and improved feed efficiency. The trial reported herein was designed to determine whether or not tranquilizer compounds will improve the performance of beef cattle on a wintering ration.

Experimental Procedure

Forty-eight steer calves weighing approximately 550 pounds each were divided into three groups (one group of 10, one group of 18 and one group of 20) at the beginning of the wintering period. Pre-selected animals will be removed from each of the larger groups after the wintering period for a pasture study. Ten calves in each group will be continued through a fattening study.

Two tranquilizer compounds, Paxital and Tran-Q, are being compared in the study. The compounds are mixed with the soybean oil meal portion of the rations fed.

The daily rations fed per animal were as follows: sorghum grain, 4 pounds; soybean oil meal, 1 pound; sorghum silage, 15 pounds; prairie hay, free-choice. All of the animals had access to a mixture of bonemeal and salt. They also had access to salt alone. Water was available at all times from heated automatic waterers. The cattle were in outdoor lots with no access to shelter.

Observations

1. At no time during the wintering period did any of the animals receiving either tranquilizer show any visible evidence of sedation or calming. This was also true in a very limited test conducted earlier in which animals received much higher levels of tranquilizer in their diet.

1. Paxital is the brand name of a tranquilizer furnished by S. B. Penick and Co. of New York.

2. Tran-Q is the brand name of a tranquilizer furnished by Chas. Pfizer and Co., Inc., Terre Haute, Ind.

2. Feeding the tranquilizers did not increase daily gain or improve feed efficiency significantly under the conditions of this study.

3. No undesirable effects of any kind were noted in any of the animals during the test period.

Table 39

The Use of Tranquilizer Compounds in Wintering-Type Rations for Steer Calves.

December 5, 1957, to March 25, 1958—110 days.

Treatment	Control	Paxital	Tran-Q
Lot number	22	18	19
Number steers	20	10	18
Av. initial wt., lbs.	548	544	559
Av. final wt., lbs.	708	719	718
Av. total gain, lbs.	160	175	159
Av. daily gain, lbs.	1.46±0.07[4]	1.59±0.08[4]	1.45±0.06[4]
Av. daily ration:			
Ground sorghum grain, lbs.	4.0	4.0	4.0
Soybean oil meal, lbs.	1.0	1.0	1.0
Prairie hay, lbs.	6.9	6.8	7.8
Sorghum silage, lbs.	13.1	13.1	12.4
Paxital, mgs.[1][2]		75	
Tran-Q, mgs.[1][3]			1.5
Feed per cwt. gain:			
Ground sorghum grain, lbs.	274.0	251.60	276.00
Soybean oil meal, lbs.	68.50	62.90	69.00
Sorghum silage, lbs.	897.35	823.99	855.60
Prairie hay, lbs.	472.65	427.72	538.20
Feed cost per cwt. gain, $[5]	14.22	13.01	14.59

1. Mixed in the soybean oil meal.
2. Paxital cost estimated to be about .... per gm. by S. B. Penick and Co.
3. Tran-Q cost estimated to be about 0.80c per gm. by Chas. Pfizer and Co.
4. Standard error of mean.
5. Not including tranquilizer cost.

Relationship Among Live and Carcass Characteristics of Slaughter Steers.

John D. Wescli, D. L. Good and L. A. Holland

One of the major tools needed for a more accurate live animal evaluation is an objective method of determining the amount of muscle in a beef steer. We can come close to estimating dressing percentage and grade but these factors are not good indicators of the amount of red meat or "edible portion" that is in the carcass. Many prime cattle have less utility or true value than choice cattle because of excess fat and/or lack of muscle.

From the standpoint of the consumer as well as that of the packer, the most desirable carcass is one that has a large proportion of high-quality lean meat. After a steer is fat enough to attain a desired grade, additional finish is objectionable because the extra fat must be trimmed off. This extra fat is a problem to the processor and it is uneconomical for the feeder to produce overfinished cattle. The important problem is to be able to determine when the animal is correctly finished and to predict how much red meat he has under his hide. An experienced stockman, by handling and careful visual appraisal of an animal, can make a fairly good estimate of muscling. A more objective method, however, is needed to aid in the selection of superior market animals and breeding stock, particularly of herd sires, since the heritability of muscling in beef cattle is high.

This is a report of an exploratory study to find a possible live-animal