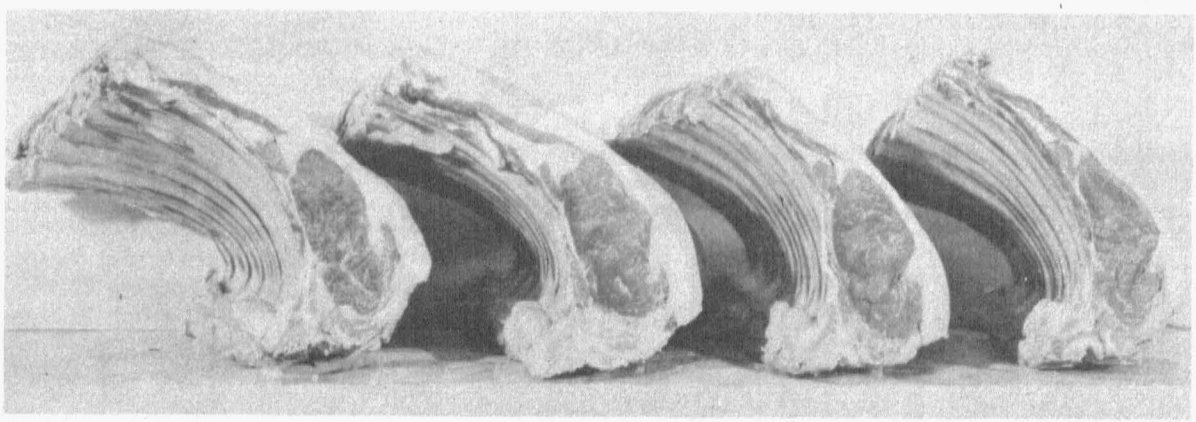
Eleventh Annual

LIVESTOCK FEEDER'S DAY

April 8, 1949



UNIVERSITY of MISSOURI COLLEGE of AGRICULTURE
AGRICULTURAL EXPERIMENT STATION

J. H. Longwell, Director

Progress Report 7 Columbia, Missouri April, 1949

UNIVERSITY OF MISSOURI

COLLEGE OF AGRICULTURE

AGRICULTURAL EXPERIMENT STATION
Department of Animal Husbandry

LIVESTOCK FEEDER'S DAY
Friday, April 8, 1949
Livestock Pavilion
University of Missouri

MORNING - 9:45 o'clock

Meeting, Missouri Livestock Association

Opening Remarks . . . . . Theodore Anderson, President, Missouri Livestock Association, Montreal, Missouri

Address of Welcome . . . . . J. H. Longwell, Dean, College of Agriculture, University of Missouri

Missouri's Livestock Extension Program
E. S. Matteson - Charles Kyd, Agriculture Extension Service, University of Missouri

Beef Production Awards

Western Division . . . . . Walter H. Atzenweiler, Agricultural Commissioner, Chamber of Commerce, Kansas City, Missouri

Eastern Division . . . . . Paul Justus, Chairman, Agricultural Committee, Chamber of Commerce, St. Louis, Missouri

Fundamentals in Beef Production . . . . Dr. A. D. Weber, Department of An. Husbandry, Kansas State College, Manhattan, Kansas

NOON - 12:00

Lunch . . . . . Block & Bridle Club, Missouri College of Agriculture

AFTERNOON - 1 o'clock

Current Missouri Experiment Station Projects
L. A. Weaver, Chairman
Animal Husbandry Department

Reports

Swine Feeding Experiments . . . . . G. C. Anderson

Cattle Feeding Experiments . . . . . A. J. Dyer
Paul Q. Guyer

Steers vs. Heifers
Roughed through the winter, grazed through summer, and marketed after short feeding period in the fall.

Producing Fat 2-year old Steers With a Minimum of Grain

Relative Amounts of Pasture, Roughage, and Concentrates used by Yearlings and Two-year-olds in Producing Good Quality Beef

Winter Rations for Steer Calves
Silage vs. Dry Roughage
Value of adding a limited amount of concentrates in producing feeders.

The Effect of Vitamin B_{12} on the Growth of Young Pigs

It has been estimated by our Animal Husbandry Department that 40% of the live pigs farrowed die before they reach market age. In addition a considerable number that survive are undersized and gain too slowly to make economical gains.

Experiments conducted at Missouri and at other stations have shown that the addition of all available vitamins to rations composed of commonly used feeds do not materially improve the performance of brood sows or pigs. However, when certain supplements such as fish meal, liver meal, and dried skim milk were added to these rations sows and pigs performed satisfactorily, and it was believed that these supplements contain unknown nutritional factors that are required by swine. One of these factors was commonly known as the "animal protein factor" and about a year ago it was isolated in pure form and designated vitamin B_{12}.

Merck & Co. generously supplied us with a small quantity of the vitamin for experimental use. The amount of the vitamin at our disposal was insufficient for a lengthy feeding period and it was decided to use our supply for an investigation of the vitamin requirements of suckling pigs. At this stage pigs are unable to consume a ration of practical feedingstuffs and it seemed necessary to give them a synthetic diet, which resembled milk. This procedure has other advantages. The investigator knows with certainty the exact amount of each vitamin that is consumed, and in addition the evidence obtained in this way is usually more decisive than when the pig consumes the ordinary feeds.

Eight 2-day old pigs were divided into three groups. Groups A and B, with three pigs in each, consumed the synthetic diet. Group A received in addition a small amount of vitamin B_{12}. The third group, C, contained 2 pigs and was supplied with fortified cow's milk. The composition of the experimental diets is given in Table 1.

Table 1.--Composition of Synthetic Diets

Ingredient	Ration 327	Ration 350[1]
	%	%
Casein, Vitamin Free	30	20
Sugar	30	65
Corn Starch	5	--
Lark	30	5
Mineral Mixture	5	5
Wood Pulp		5

Vitamin Supplement per 100 gms. of Ration

Thiamine (B_1)	1 mg.	Nicotinic Acid	4 mg.	Frolic Acid	0.2 mg.
Riboflavin (B_2)	1 mg.	Choline	100 mg.	Vit. E	4 mg.
Pyridoxine (B_6)	1 mg.	Biotin	0.03 mg.	Vit. K	2 mg.
Ca Pantothenate	3 mg.	Inositol	100 mg.	Vit. A	2,000 I.U.
				Vit. D	400 I.U.

[1] After 17th week.

Fortified cow's milk contained 60 gms. sugar, 2.5 gms. ferrous sulfate, 0.2 gm. copper sulfate, 0.2 gm. manganous sulfate and 0.02 gm. potassium iodide per quart.

At the end of three weeks the pigs receiving vitamin B_{12} (Group A) had smoother and glossier hair coats, and a more thrifty appearance than those in Group B, which had not received the vitamin. A difference in growth rate, however, was not noted until the sixth week, after which time the treated pigs (A) grew faster than their controls (B). See Table 2. However, since the pigs which received vitamin B_{12} did not grow as rapidly as those fed fortified cow's milk, it may be that our list of vitamins is still incomplete, and the pig requires a vitamin not yet discovered.

Table 2.--Effect of Vitamin B_{12} on the Growth Rate of Pigs (Averages)

Group	A	B	C
Ration	327 + vitamin B_{12}	327	Fortified cow's milk
	lbs.	lbs.	lbs.
Age, weeks			
0	2.5	2.9	2.8
5	15.2	14.5	19.1
8	32.6	28.4	50.4
21	159.0	109.0	-

The second experiment was designed to test the value of vitamin B_{12} in rations for weanling pigs. The largest and most thrifty pigs available for the study were placed in the control group and received a corn-soybean oil meal ration, No. 351, which should be deficient in vitamin B_{12}. The experimental group which was composed of the smallest and most unthrifty pigs received the corn-soybean oil meal ration plus 0.5% of a vitamin B_{12} concentrate, ration No. 352. The third group contained pigs which were intermediate between the other two in size and thrift. This group received ration No. 350 (Fish Meal), which should contain adequate quantities of vitamin B_{12}.

If vitamin B_{12} was supplied to the pigs that were least thrifty, and if these pigs should grow as fast, or faster, than those that did not receive the vitamin, it would seem quite certain that the commonly used feedstuffs are deficient in vitamin B_{12} and are unsatisfactory for economical pork production. The rations are described in Table 3, and the results in Table 4. Table 4 shows that all groups grew at about the same rate until the end of the first six weeks. During the remaining four weeks the pigs that received the vitamin B_{12} concentrate and fish meal ate more feed, grew faster, and required less feed per lb. gain than did the pigs

that received no supplement of the animal protein factor.

The data of these Tables omit some of the more important observations. There was scouring in all groups during the first four weeks, but by the end of the fifth week the condition disappeared in the vitamin B_{12} and fish meal groups and the pigs improved markedly in appearance. Pigs in the basal or corn-soybean meal group improved but they continued to scour throughout the experiment.

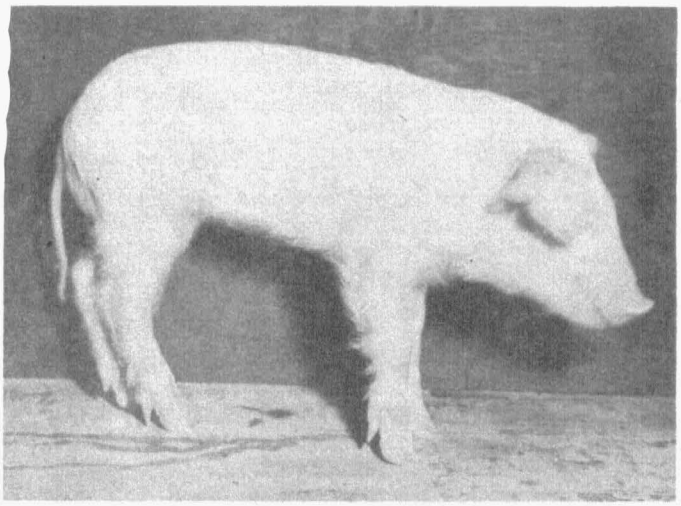
The observations made in these two experiments indicate that swine require vitamin B_{12} in the ration for efficient production. Many natural feeds are known to contain vitamin B_{12}. The next step in experimental work is to find a practical way to provide the vitamin.

Table 3.--Composition of Rations Used in Weanling Pig Experiment

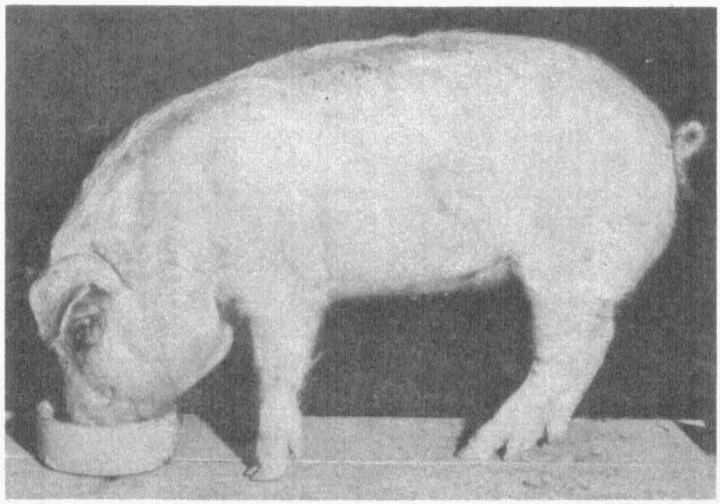
Ration No.	351	352	350
Description	Basal	B_{12} Concentrate	Fish Meal
Ingredient	%	%	%
Ground yellow corn	44.0	43.5	59.5
Digester tankage 60%	5.0	5.0	15.0
Soybean oil meal 43%	43.0	43.0	-
Fish meal 63%	-	-	12.5
Alfalfa meal 20%	2.5	2.5	5.0
Brewers' dried yeast	-	-	5.0
Salt	0.5	0.5	0.5
Cod liver oil	0.5	0.5	0.5
Fish solubles	-	-	2.0
Steamed bone meal	2.5	2.5	-
B_{12} concentrate	-	0.5	-
Digestible protein	21.7	21.7	21.1
Total digestible nutrients	77.1	77.1	74.7
Nutritive Ratio	1:2.5	1:2.5	1:2.5

Table 4.--Effect of Vitamin B_{12} on the Growth Rate of Young Pigs (Averages)

Ration & no. of pigs per group	351 Basal (8)				352 Basal + B_{12} (8)				350 Fish Meal (7)			
Week	Wt.	Daily gain	Daily feed intake	Feed per 100 lbs. gain	Wt.	Daily gain	Daily feed intake	Feed per 100 lbs. gain	Wt.	Daily gain	Daily feed intake	Feed per 100 lbs. gain
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
0	39				29				32			
0-6	64	0.60	2.43	404	54	0.60	2.15	361	59	0.64	2.46	383
6-10	88	0.86	3.44	401	86	1.14	4.2	370	97	1.36	5.6	414



Pig 173F. Experiment 1. Group B. Age. 12½ weeks. Weight 24 lbs. Rough hair coat, low feed intake, weak and listless.



Pig 173F after treatment with vitamin B_{12}. Age. 21 weeks. Weight. 87 lbs. Hair coat improved, good appetite, strong and vigorous.

CATTLE

Producing Fat Two-Year Olds With Less Corn by Using Maximum Amounts of Roughage and Pasture

Wide margins in cattle feeding are not expected to continue. Profits will be obtained largely from producing beef at low cost, wise buying and wise selling. We must use low-cost feeds and make very efficient use of them. Whether prices go up or down or remain the same, beef production should continue in Missouri because our type of farming requires it. Large amounts of roughage and pasture and other feeds are produced to be utilized largely by beef animals. We have learned that wide use can be made of roughage and pasture in producing both yearling and two-year old fat cattle.

What are the important facts concerning the production of fat two-year-olds using roughage and pasture mainly?

The answers to this question are given in Table 10 on page 8. These cattle were fed roughage two winters and pastured two summers; then they were full fed in dry lot.

Observations:

1. Fat two-year-old steers were produced largely from roughage and pasture.
   a. More than 60% of the total gain was made from summer pasture, mainly wheat-Korean lespedeza.
   b. About 29% of the total gain was made on winter rations that consisted primarily of roughage.
   c. Only 11% of the total gain was made from full feeding of grain in dry lot.
2. Only 12.7 bushels of shelled corn with protein concentrate and legume hay were required in the fattening period to finish these cattle to a grade of "good".
3. Actually, 17.2 bushels (average) of corn were fed but 4.5 bushels of this was fed in a winter, roughage ration. This was done only to maintain a rate of gain established in the experimental design and is considered, from a practical standpoint as unnecessary.
4. Everything considered, there is little difference between cattle secured from the various sources--range, north or south Missouri.
5. Section F in Table 10 lists the total feed consumed.

The Effect of Winter Gain on Summer Gain

During the second winter, three of the foregoing six lots of cattle were fed to gain 133 pounds (average) and the remaining three lots to gain 87 pounds (average). The effects are listed in Table 5.

Observations:

1. The rate of winter gain influences greatly the rate of summer gain.
2. Whether to feed liberally in winter cannot be answered entirely by the total gains made: one group may be fatter even though the total gain is the same, and consequently require less grain to finish them. In this test, however, the difference was negligible.

Table 5.--The Relation of Winter Gain to Summer Gain

Winter Gain (lbs.)	Summer Gain (lbs.)	Total (lbs.)
133	177	310
87	226	313

Producing Yearlings vs. Two-Year-Olds Using Maximum Amounts of Roughage and Pasture

Although a direct comparison has never been made between yearlings and two-year-olds produced mainly on pasture and roughage, yet from the data available, a comparison may be made on the total amounts of feed consumed and the percentage of total gain made by each from roughage and pasture. This information is given in the following tables. The yearlings were roughed through one winter principally on legume hay supplemented with small amounts of shelled corn and soybean oil meal, pastured one summer on wheat-Korean lespedeza, and then full fed in dry lot. The two-year-olds were roughed through two winters and two summers. (Lots 1 and 4 in Table 6.)

Observations:

1. Two-year-old steers make more of the total gain from pasture and less from grain than do yearlings.
2. Two-year-old steers can be made "good" for a fall market using pasture to a maximum degree, followed by a short grain feeding period in dry lot.
3. Yearling steers can be made "good" for a fall market but require a longer, full feeding period than two-year-olds. This will require grain feeding either on pasture or in dry lot by removing cattle from pasture before the grazing season is over.

Table 6.--Producing Fat Yearlings Compared With Producing Fat Two-Year-Olds Using Maximum Amounts of Roughage and Pasture

Feed	Total Feed Consumed By	
	Yearlings	Two-Year-Olds
Legume hay (tons)	1.3	1.2
Corn & Atlas Sorgo Silage (tons)	.36	3.3
Shelled Corn (bus.)	20.5	18.1
Soybean Oil Meal (lbs.)	46.5	76.0
Wheat Straw (lbs.)	0.0	149.0
Pasture (mos.)	6.5	13.0

4. Buying and selling costs and shrinkage is a much smaller percentage of the total cost for producing two-year-olds. About 5% of the purchase price must be added for buying costs and 2 1/2% for selling costs, not counting shrinkage.
5. Yearlings made more gain in one year than the cattle during the second year under the methods of management used. These two-year-olds were fleshier feeders as yearlings than are usually secured at the market.
6. Market trends and feed costs are two items of many that must be considered in producing two-year-olds.

Fattening Yearlings with Less Corn

Steers vs. Heifers

Realizing that many feeders prefer to keep cattle no more than one year, the Missouri College of Agriculture Experiment Station has endeavored to discover how to produce fat yearlings with a minimum of corn. In one test already completed, 440-pound steer calves were developed into 1023 pound fat yearlings with 20.5 bushels of corn. These steers were sold in January when prices for such cattle are usually some lower than during the fall months. Marketing earlier in the year with less grain fed would be highly desirable. Believing that the feeding of large steer calves and heifer calves would reduce the corn required to produce fat yearlings, and make earlier marketing possible, we purchased feeder steers that averaged 611 pounds and feeder heifers that averaged 449 pounds for feeding tests begun in the fall of 1947. They were fed roughage one winter, pasture one summer and then full fed grain.

The winter ration consisted of corn silage and legume hay with soybean oil meal added during the last half of the winter period. During the summer the calves were grazed on wheat-Korean lespedeza and bluegrass pasture. Table 7 pertains to these cattle.

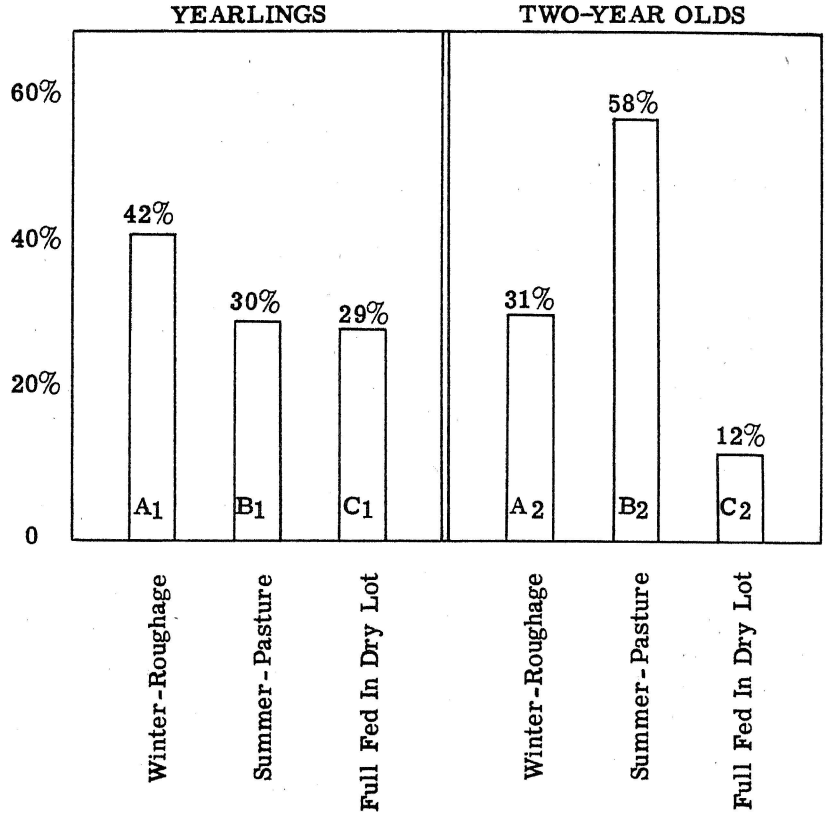


Figure 1.--Percentage* of Total Gains Made From Pasture, Roughages, and Concentrates By Yearlings and Two-Year Old Steers

* Figures rounded to the nearest whole number

Table 7.--Producing Fat Yearlings With Less Corn
Steers vs. Heifers

Periods	Rations	Feed Consumed (per head) Steers	Feed Consumed (per head) Heifers	Average Gain Steers lbs	Average Gain Steers %	Average Gain Heifers lbs	Average Gain Heifers %
Winter Nov. 6, 1947 to April 15, 1948	Corn Silage (lbs)	3954	2682	160	30	127	27
	Legume Hay (lbs)	1090	952				
	Soybean meal (lbs)	80	79				
Summer April 15, 1948 to Sept. 30, 1948	Pasture Wheat-lespedeza and Bluegrass-lespedeza	5 1/2 mo.	5 1/2 mo.	236	44	217	47
Fattening Period Sept. 30, 1948 to Dec. 10, 1948	Shelled corn (bus.)	19	16.3	137	26	119	26
	Soybean meal (lbs)	68	57				
	Legume hay (lbs)	791	718				

Summary:

	Final Results Steers	Final Results Heifers
Avg. Initial Weight (lbs.)	611	449
Avg. Final Weight (lbs.)	1144	912
Avg. Total Gain (lbs.)	533	463
Total Feed Consumed:		
Shelled corn (bus.)	19.0	16.3
Soybean meal (lbs.)	148	136
Corn silage (tons)	1.8	1.3
Legume Hay (tons)	.9	.8
Pasture (mos.)	5.5	5.5
Cost per Cwt. Gain*	$15.51	$15.40
Selling Price (cwt.)	$25.50	$24.00
Dressing Percentage (warm weight)	57.3	57.0
Pounds Beef Mktd. Per Bushel Corn Fed	60	56

Prices Used For Feeds: Corn, $1.25 per bu.; Soybean Oil Meal, $100 per ton; Corn Silage, $10 per ton; Legume Hay, $25 per ton; Pasture, $2.00 per head per month.

Observations:

1. Steers consumed more feed and gained faster than heifers.
2. The cost per unit gain was about the same.
3. Steers were slightly fatter, brought a higher selling price and returned more profit.
4. Pounds of beef marketed per bushel of corn fed is rather high for both steers and heifers.

Steers vs. Heifers

Present Study

This study is being continued with one lot each of steers and heifers secured from the same source as last year.

The procedure for this trial differs from last year in only two respects; namely, soybean oil meal was fed throughout the entire winter, and legume hay was fed on the basis of steer weights. One pound of hay was fed daily per 100 pounds live weight.

Roughages have been superior in quality to those used last year.

The data pertaining to the present test are presented in Table 8.

Observations:

1. Steers have eaten more feed and gained faster than heifers. Because they were larger at the beginning, steers utilized greater amounts of roughage.
2. Feed consumed per unit gain is about the same for both steers and heifers.
3. Gains have been rapid and efficient for this type of ration.

Table 8.-- Producing Fat Cattle With Less Corn
(Preliminary Data)

Winter Results on Roughage
Steer and Heifer Calves Compared
December 14, 1948, to March 29, 1949 - 105 days

	Lot 6 Heifers	Lot 7 Steers
Avg. Initial weight (lbs.)	475	544
Avg. wt. March 29, 1949 (lbs.)	612	694
Avg. total gain (lbs.)	137	150
Avg. daily gain (lbs.)	1.3	1.4
Avg. total feed consumed per head		
corn silage (lbs.)	1687	1897
legume hay (lbs.)	625	682
soybean oil meal (lbs.)	102	102
Avg. daily Ration per head		
corn silage (lbs.)	16.0	18.0
legume hay (lbs.)	6.0	6.5
soybean oil meal (lbs.)	1.	1.
Feed Required per cwt. Gain		
corn silage (lbs.)	1231	1265
legume hay (lbs.)	456	455
soybean oil meal (lbs.)	74	68

A Comparison of Winter Rations for Steer Calves That Will Be Grazed This Summer

The broad objective of tests started last fall is to produce fat yearling cattle with minimum amounts of grain. The tests reported today are on comparisons made of rations fed this winter to steer calves that will be grazed this summer and then fattened in dry lot to a grade of "good". In a preceding report, the great influence that rate of winter gain has upon rate of summer gain was indicated. The value of protein concentrate, hay fed at different levels and feeding grain have been studied.

RATIONS FED:

Lot 1 - Corn silage
Clover Hay fed at the daily rate of 1 lb. for each 100 lbs. live weight of cattle.

Lot 2 - Corn Silage
Clover Hay fed at the daily rate of 1 lb. for each 100 lbs. live weight of cattle.
Soybean Oil Meal -- 1 lb. per head per day.

Lot 3 - Corn Silage
Clover Hay fed at the daily rate of 2 lbs. for each 100 lbs. live weight of cattle.
Soybean Oil Meal -- 1 lb. per head per day.

Lot 4 - Clover Hay -- all they would eat.

Lot 5 - Corn Silage
Clover Hay fed at the daily rate of 1 lb. for each 100 lbs. live weight of cattle.
Shelled Yellow Corn (10 parts by weight) and Soybean Oil Meal (1 part by weight) -- 3 1/2 lbs. per head per day.

Observations:

1. One pound of protein concentrate added to a ration of corn silage and legume hay increased the daily rate of gain by 1/4 pound. The amount of silage consumed was reduced by 10%.
2. Clover hay as the only roughage produced faster daily gains by 15% than clover hay and corn silage together.
3. Cattle fed clover hay at a level of one pound for each 100 pounds live weight made the same daily gain as cattle fed clover hay at a two pound level for each 100 pounds live weight.
4. One ton of corn silage produced 89 pounds gain when the clover hay was fed at a level of one pound for each 100 pounds live weight.
5. One ton of corn silage produced 101 pounds gain when the clover hay was fed at a level of two pounds for each 100 pounds live weight.
6. One ton of clover hay was worth 2.1 tons of corn silage (Lots 1 and 4 compared).

7. Cattle fed grain in winter in addition to corn silage and clover hay made faster daily gains than the others and are fleshier.
8. Cattle that make the highest rate of gain usually make the most economical gain.

It should be realized that the best winter ration cannot be determined until after the cattle have grazed all summer and are then finished to a grade of "good" next fall. The total feed required to produce the finished product is the important consideration. Cattlemen attending Livestock Day next fall will see these cattle and obtain the final data.

Table 9.--A Comparison of Winter Rations for Steer Calves - Preliminary Data
(Cattle to be Grazed This Summer)

Section		Lot 1	Lot 2	Lot 3	Lot 4	Lot 5
A	Avg. Wt. Dec. 14, 1948 (lbs)	476	476	475	477	475
	Avg. Wt. Mar. 29, 1949 (lbs)	590	618	620	609	642
	Avg. Total Gain (lbs)	114	142	145	132	167
	Avg. Daily Gain (lbs)	1.09	1.35	1.38	1.26	1.59
B	Avg. Total Feed Consumed (per head)					
	Corn Silage	2275.4	2054	1153		1682
	Legume Hay	640.8	656	1123	1722	673
	Soybean Oil Meal		101	101		37
	Shelled Corn					364
C	Avg. Daily Ration (per head)					
	Corn Silage	21.7	19.6	11.00		16
	Legume Hay	6.1	6.3	10.7	16.4	6.4
	Soybean Oil Meal		.97	.97		.35
	Shelled Corn					3.47
D	Feed Required Per Cwt. Gain (per head)					
	Corn Silage	1996	1447	795		1007
	Legume Hay	562	462	774	1304	403
	Soybean Oil Meal		71	70		22
	Shelled Corn					218

Table 10. -- Producing Fat Cattle With Less Corn - (Final Data)
Results on Roughage, 2 Winters; Pasture, 2 Seasons; Then Full Fed In Dry Lot
-Range and Native Steers Compared-

Section	Periods	Rations		Feed Consumed By Periods: Lot 1 Range Steers	Lot 2 South Mo. Steers	Lot 3 North Mo. Steers	Lot 4 Range Steers	Lot 5 South Mo. Steers	Lot 6 North Mo. Steers
A	1st Winter Dec. 27, 1946 to May 3, 1947	Legume Hay	(lbs)	842	797	799	794	784	782
		Corn Silage	(lbs)	2642	1998	1948	none	none	none
		Atlas Sorgo Silage	(lbs)	none	none	none	2282	2282	2385
		Shelled Corn	(bus)	none	none	none	5.2	1.9	1.5
		Soybean Oil Meal	(lbs)	none	none	none	29	11	8.4
B	1st Summer May 3, 1947 to Dec.10,1947	Pasture		(Wheat - Korean Lespedeza Pasture; Bluegrass after October 31, 1947)					
C	2nd Winter Dec.10,1947 to April 14, 1948	Legume Hay	(lbs)	828	826	832	853	836	836
		Corn Silage	(lbs)	4335	3902	4235	3944	3561	3500
		Shelled Corn	(bus)	6.2	6.1	6.2	none	none	none
		Soybean Oil Meal	(lbs)	35	34	34	none	none	none
		Wheat Straw	(lbs)	none	none	none	58	82	96
D	2nd Summer April 14, 1948 to Sept. 30, 1948	Pasture		(Wheat - Korean Lespedeza Pasture)					
E	Fattening Period Sept. 30, 1948 to Nov. 20, 1948	Shelled Corn	(bus)	12.3	12.8	13.2	12.5	12.9	12.6
		Soybean Oil Meal	(lbs)	42	45	46	45	45	45
		Clover Hay	(lbs)	631	642	637	613	627	633
		Wheat Straw	(lbs)	43	40	43	46	44	44
F	Summary:	Total Feed Consumed To Produce Fat 2 Year Olds (Summary of Above Data)							
		Legume Hay	(tons)	1.2	1.1	1.1	1.1	1.1	1.1
		Corn & Atlas Sorgo Silage Combined	(tons)	3.5	3.0	3.1	3.1	2.9	2.9
		Shelled Corn	(bus)	18.5	18.9	19.4	17.7	14.8	14.1
		Soybean Oil Meal	(lbs)	77.0	79.0	80.0	74.0	56.0	53.0
		Wheat Straw	(lbs)	120	119	123	178	182	193
		Pasture		13 mos.	13 mos.	13 mos.	13 mos.	13 mos.	13 mos.
G	Periods			Gains and Percentage* of the Total by Periods					
	Initial Wt. (lbs)			451	434	411	440	432	413
	1st Winter			164 (19%)	125 (15%)	119 (14%)	151 (20%)	113 (13%)	109 (13%)
	1st Summer			291 (34%)	301 (35%)	285 (33%)	248 (32%)	294 (34%)	271 (33%)
	2nd Winter			121 (14%)	129 (15%)	149 (17%)	66 (9%)	102 (12%)	90 (11%)
	2nd Summer			171 (20%)	181 (21%)	178 (21%)	223 (29%)	226 (26%)	228 (28%)
	Dry Lot (Full Fed)			109 (13%)	119 (14%)	119 (14%)	83 (11%)	116 (14%)	118 (14%)
H	Final Weight (lbs)			1306	1289	1269	1212	1284	1228
I	Selling Price Per Cwt.			27.50	30.00	32.00	30.00	29.00	31.00
J	Dressing Percentage (warm wt.)			62.20	63.06	62.44	61.73	62.13	62.45

*Figures Rounded To The Nearest Whole Number