

Jim Strub

BEEF CATTLE RATE OF GAIN TRIAL

RANGE IMPROVEMENT

Cooperator: Chamberlain Estate Co. Ranch - Ed Pjelline, Manager.

Location: T13N, R6E, Sec. 32.

Date Planted: December 9 & 10, 1964.

Soil Type: Placentia Sandy Loam.

Purpose: To check actual meat gains on range improvement practices.

Plan: Two equal adjacent fields of 49 acres each are involved in the trial beginning December of 1964. One field was fertilized with 500 lbs. single Superphosphate per acre and seeded with 11 lbs. per acre of Rose and Subterranean Clover. 300 lbs. of Rose and 200 lbs. Sub were used on the one 49 acre field. The second 49 acre field was not touched.

The native vegetation was made up of nodushead, filaria, soft chess and other grasses. Rose Clover had been flown on the fields about 11 years ago and patches are still visible in the fields. No fertilizer was applied during the past 11 years. The field had been grazed each year.

Procedures: The fields will be grazed according to carrying capacity. Weaners and yearlings will be used in the trial. Cattle will be weighed in and out of each field. All cattle are registered and tattooed. Cattle will be individually identified.

Seed was inoculated using the new method of gluing the bacteria on the seed with gum arabic and white calcite.

Land preparation included in this order:

Broadcasting fertilizer
Dicing
Harrowing
Broadcasting seed

Rain occurred following seeding and prevented ring-rolling.

Control
Field

49 Acre
Field - Seeded with Rose
and Sub Clover and
Fertilized with
500 lbs. S.S/A.

Dudgamp Subclover (2A)
Woodchips Sub (2A)
Rothmans Sub (2A)
Fertilizer

64'
64'
64'
15'

Wise Power House Rd.

Highway 90



Agronomy Extension

December 29, 1966

Mr. Sidney H. Bierly
General Manager
California Fertilizer Association
719 K Street
Sacramento, California 95814

Dear Sid:

Enclosed are a couple of reports on the grazing trial at the Chamberlain Ranch in Placer County. You recall this compares cattle gains on sub and rose clover fertilized with single superphosphate as compared with unimproved pasture.

In 1965 we just didn't have enough cattle to measure a difference.

In 1966 note we have 92 more pounds gain in the fertilized field even in this very poor spring. There is getting to be clover in both fields so the difference is mostly due to single super.

We had Don Razee over there last week to get a story on this for their "fertilizer" special issue of California Farmer.

Sacramento Valley Farm Advisors visited this experiment two years ago and we hope to have a tour there again this spring. Jack Herr keeps his local folks well informed about the good gains we are getting from clover and super. The Fiddymont Ranch nearby is just one example of considerable acreage going out of grain and into the clover and single superphosphate program on the strength of what has happened at Chamberlain's.

We are, of course, very grateful for your interest in these matters and for your arranging to get the single superphosphate for this experiment. Kindly let me know if there are any details of this work you would wish to have. I believe, collectively, we have gone a long way toward getting range fertilization off from dead center in the past couple of years.

Sincerely yours,

J. E. Street
Extension Range Specialist

JES/tp
Enclosure

RANGE IMPROVEMENT TRIAL
CHAMBERLAIN RANCH

1965 - Field #1 - Seeded and Fertilized

Date In	Date Out	# Hd.	Sex	Lbs. Total Wt.	Lbs. Ave. Wt.	Lbs. Total Gain	Lbs. Ave. Gain	Head Days Grazing	Lbs. Gain/Hd/Day
3/29/65		43	H	21,700	505				
	6/18/65	43	H	30,335	705	8635	201	3483	2.48
9/9/65		43	H	32,490	756				
	10/17/65	43	H	35,490	825	3000	70	3078	1.84
Total Gain 1965						11,635			
Total Gain/Acre						258.6			

Field #2 - Check

3/29/65		43	H	21,470	499				
	6/18/65	43	H	30,038	698	8558	199	3483	2.46
9/9/65		39	H	27,760	712				
	10/17/65	39	H	30,720	788	2960	76	1482	2.00
Total Gain 1965						11,518			
Total Gain/Acre						256.0			

1966 - Field #1 - Treated Field

3/18/66		54	H	24,310	450.2			3186	
4/1/66		4	H	1,780	445.0			180	
	5/16/66	58	H	34,819.7	600.3	8729.7	150.5	3366	2.59
						193.6 lbs/acre			

Field #2 - Check

3/18/66		34	H	15,320	450.6				
	5/16/66	34	H	19,878	584.6	4558.0	134.0	2006	2.27
						101.3 lbs/acre			

JUN 23 Rec'd

AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF CALIFORNIA
PLACER COUNTY

217 Maple Street
Auburn, California
Telephone 885-4551

June 22, 1965

Jim Street
Extension Range Specialist
Davis, California

Dear Jim:

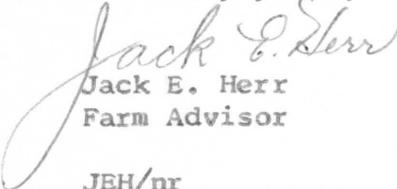
We weighed the cattle out of the two fields at the Chamberlain Ranch last Friday, June 18th. As expected because of the excellent clover year and the fact we didn't have enough animals to utilize all of the feed, both groups came out gaining the same. We may get some encouraging results this fall as cattle are put in to clean up the dry feed and let's hope the improved field comes on strong.

The following is a brief summary so far:

	<u>Improved Field</u>	<u>Untreated Field</u>
Number of head	43	43
Pasture Days	81	81
Date In	3/29/65	3/29/65
Weight In	21,700	21,470
Date Out	6/18/65	6/18/65
Weight Out	30,335	30,028
Weight/Head/In	505	499
Weight/Head/Out	705	698
Gain/Head	200	199
Gain/Head/Day	2.47	2.46

One of these days when you want to get up in the hills, why don't we take a look at the varietal trial at Martis Valley and see if anything is left? I also put in the red clover, etc. that you supplied me at Yuba Gap, but suspect we'll have a hard time finding anything to come.

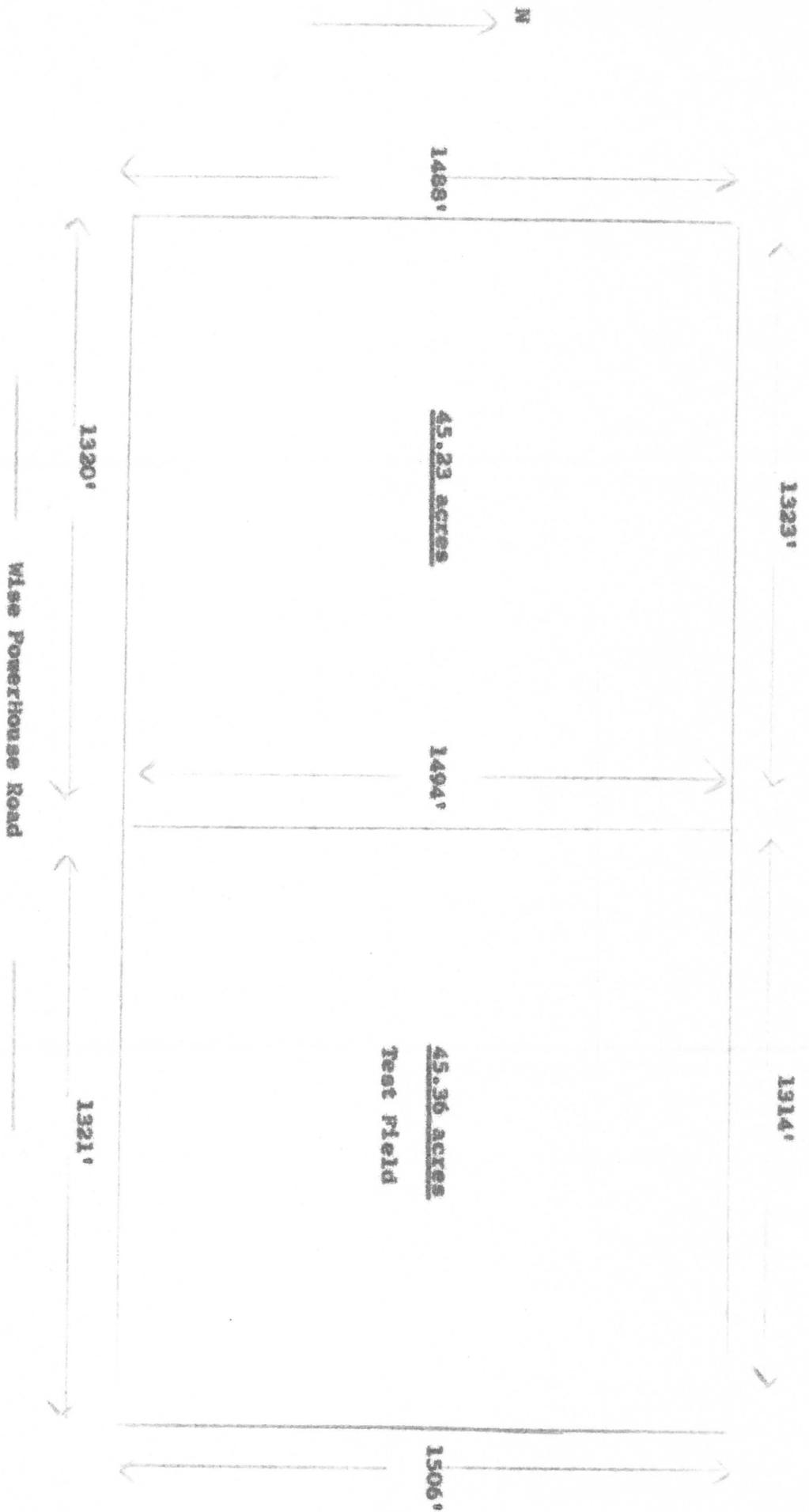
Sincerely yours,


Jack E. Herr
Farm Advisor

JEH/nr

cc: Lou Chamberlain
Ed Fjelline
Jim Elings

RANGE IMPROVEMENT TRIAL
CHAMBERLAIN ESTATE CO.



PRODUCE BEEF FOR 11¢ A LB.

ON ANNUAL CLOVERS

By

Placer-Nevada Farm Advisor Jack Herr

Woogenellup, Dinninup, Bacchus Marsh, Yarloop, Kondinin and Dixie may be strange words to many of us, but they are names of annual clovers that have played a significant role in range improvement practices in California over the past 20 years. These subterranean, rose and crimson clover varieties do extremely well in the lower foothill and valley regions of Placer-Nevada Counties and have increased meat production on our range lands as much as four times.

The following chart indicates the improvement possible on our native ranges through the introduction of annual clovers, the addition of proper fertilizers and what we call pre and post irrigation.

BEEF PRODUCTION ON

ANNUAL CLOVERS

BASED ON 25¢ CATTLE

	<u>LBS. BEEF</u>	<u>VALUE</u>
Native Range	50	\$12.50
Annual Clovers	75-100 (85)	21.25
Fert. Annual Clovers	150-200 (175)	43.75
Pre-Irrig. & Fert. Annual Clovers	200-300 (250)	62.50

Recent research trials have shown even greater results with improved management practices. The introduction of annual clovers to our range areas has been the most significant change in range improvement in the past 20 years.

Economically the conversion of native range to improved annual clover range is very significant. Let us look at the costs to establish annual clovers.

COSTS TO ESTABLISH
10 YEAR STAND

	<u>Per Acre</u>	<u>Dep.</u>	<u>Int.</u>
Disc 1 X	2.50	.25	.125
Fert. - 400# 0-20-0	9.40	.94	.47
Seed 10#/A	5.40	.54	.27
Broadcast Seed	1.50	.15	.075
Harrow or Roll	<u>1.00</u>	<u>.10</u>	<u>.05</u>
Total	\$19.80	\$1.98	\$.99

Total Cost/A/Yr. to Establish == Dep. + Int. == \$2.97

An additional incentive to improve rangelands in our area is that the ASC office will share approximately 40% of the costs to establish and fertilize these annual clovers.

Yearly cost per acre per year including stand establishment, investment and yearly cultural costs amounts to about \$28.70. To produce beef at 11¢ a lb. then, we must produce about 260 lbs. of beef per acre. A breakdown of costs of production for our Sierra Foothill area is as follows:

YEARLY COSTS

Stand Establishment (10 yr. life)		\$ 2.97
	<u>Dep.</u>	<u>Int.</u>
Land (\$200/A) @ 7%	-	14.00
Fences (25 years)	<u>1.00</u>	<u>.88</u>
	1.00	14.88
		<u>\$15.88</u>
Yearly Cultural Costs		
Fert. 250# 0-20-0 @ \$47/T		5.87
Taxes \$200 ÷ 4 x \$8 Rate		<u>4.00</u>
Total Cash Cost		<u>\$ 9.87</u>
Total Cost/A/Yr. -		<u>\$28.72</u>

Tests in Madera, Tehama, San Joaquin and other Sacramento and San Joaquin valley areas have indicated meat gains per acre of from 100 to 325 lbs. per season. An extensive trial was conducted at the Chamberlain Ranch north of Lincoln in Placer County with the following results. The annual clovers had been fertilized with single superphosphate and the 90 acre trial was conducted on a Placentia sandy loam soil.

SPRING PERIOD

3/29/65 - 6/18/65 (81 days)

Total weight in (86 Head)	43,170
Total weight out (86 Head)	60,373
Total gain spring period	17,203
Average gain/Head	200 lbs.
Average gain/Head/day	2.47 lbs.

FALL PERIOD

9/9/65 - 10/17/65 (38 days)

Total weight in (82 Head)	60,250
Total weight out (82 Head)	66,210
Total gain fall period	5,960
Average gain/Head	72.7 lbs.
Average gain/Head/day	1.91 lbs.

Total pounds gain/Acre 1965	257.4 lbs.
Average daily gain/Head/ (Spring & Fall) 1965	2.29 lbs.

SPRING PERIOD

Total Weight in (92 Head)	41,410
Total Weight Out (92 Head)	54,698
Total Gain Spring Period	13,288
Average gain/Head	144 lbs.
Average gain/Head/day	2.44 lbs.

In this trial we produced 257.4 lbs. of meat per acre. Dividing the \$28.72 by 257.4 gives us about 11¢ lb. cost of gain.

Other trials in our foothill area produced the following results:

Dream Ranch, Newcastle - cows gained 42 lbs. each during a 30 day grazing period during the month of July on dry annual clovers.

John Fiddyment Ranch, Roseville - a 300 acre annual clover field provided all of the feed for 1600 head of yearling ewes from December 1, 1968 to April 1, 1969. This field was grazed again by 400 head of yearling cows from June 1, 1969 to December 1, 1969.

Walaire Ranch, Lincoln - 1100 acres of annual clover range and 400 acres of native grass range fertilized heavily with turkey manure supports 300 commercial cows. 250 tons of hay are purchased to supplement these animals during the winter months. Steer calves were weaned June 15, 1969 and averaged 535 lbs. each.

Frank Schollerman Ranch - Pre and post irrigating subterranean clover produced 10 months of green feed. In addition to supplying good grazing from August to June, a hay cutting produces 1½ tons per acre.

*MT Vernon Rd.
Fiddyment Rd.*

This past year a trial in Madera County produced 325 lbs. of meat per acre and Bill Helphinstine, Farm Advisor in San Joaquin County reported the production on improved range of 269 lbs. of beef per acre.

Trials in our area have shown that the following keys to success are good rules to follows:

KEYS TO SUCCESS!!

1. 10 lbs. Seed/A. - Pellet inoculated.
2. 80-100 lbs. Phosphate/A at planting time.
3. Plant October- November.
4. Graze March - May 1.
5. Produce 100 lbs. Seed per acre.
May 1 - June 15 1st year.
6. Heavily graze before fall rains.
7. Fertilize as needed.

USE THE FEED!!!