

IRRIGATED PASTURE FERTILIZATION DEMONSTRATION PLOT

1956

Cooperators: H. Clay Daulton
California Spray-Chemical Corporation

Farm Advisors: Walter E. Emrick
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This irrigated pasture fertilization plot was on the H. Clay Daulton ranch located about three miles north of Madera on Highway 99. The soil was mostly San Joaquin sandy loam. A fifty acre field was fertilized and a seventy acre field was left unfertilized. The diagram on the following page shows the layout of the test and gives the kind and amount of fertilizer used and the dates that it was applied.

Yearling steers were pastured on each of the fields to measure the amount of forage produced. They were weighed at the beginning and end of each pasture period at 8 o'clock in the morning. During the first pasture period, May 8th to September 26th, 1956, the steers were not supplemented.

RESULTS

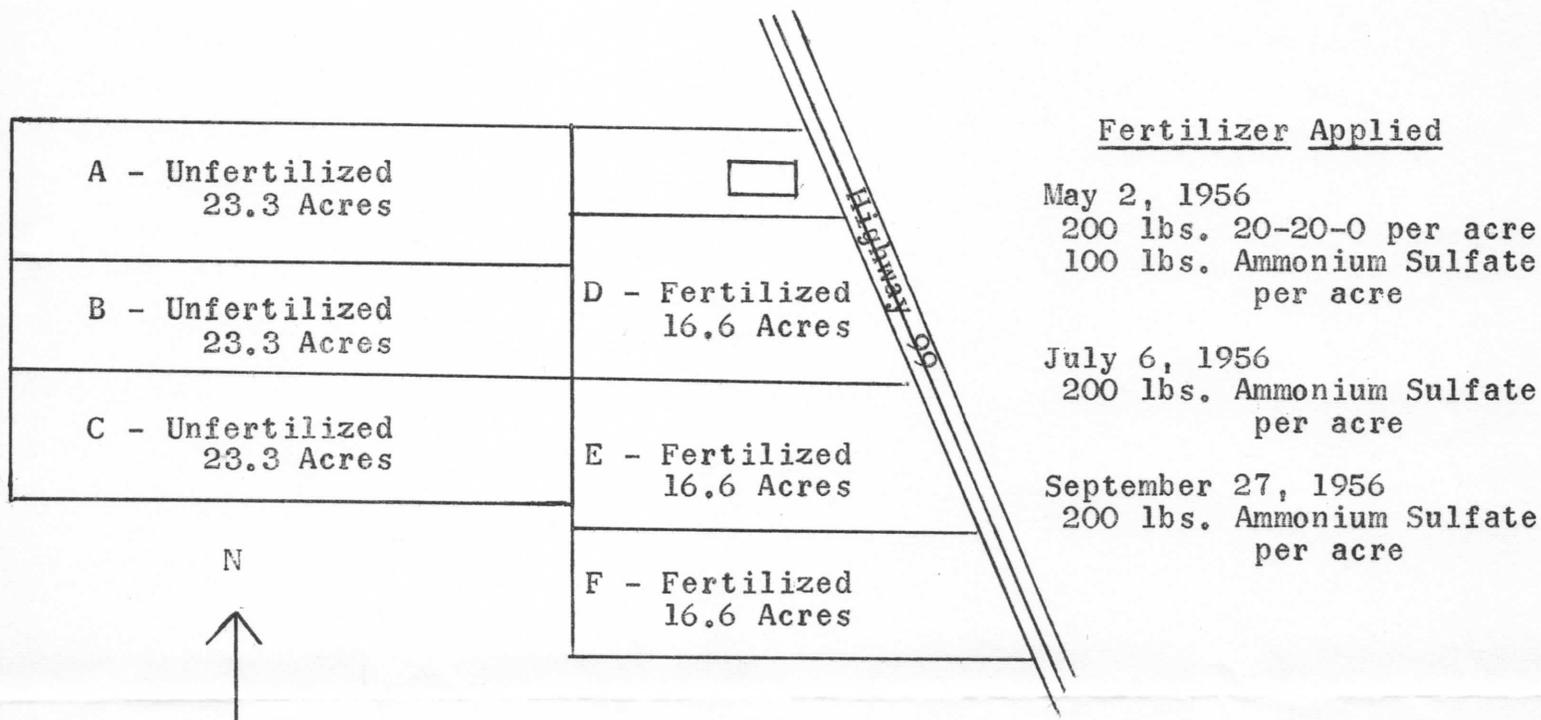
First Period

During the first pasture period there were 602 pounds of beef produced per acre on the fertilized field, while the unfertilized, during the same period, produced 324 pounds of beef per acre, resulting in a difference of 278 pounds. This 278 pounds, when figured at 18¢ per pound, amounts to \$50.04. After the cost of fertilizing is deducted, \$23.13 is left as a profit resulting from fertilization.

Second Period

Chopped irrigated pasture hay was fed to cattle in both of the pasture fields during the second period from September 29th to November 13th. The hay was fed daily at the rate of 6 pounds per head. The results obtained during this last period are found tabulated at the end of this report. It will be noted that the steers failed to gain during this period. Rather cold weather during the last three weeks of the test slowed the pasture growth to the point where the steers were not more than holding their own. For the final weighing on November 13th, they were not carrying a fill as they were when they were weighed at the start and end of the first pasture period.

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RESULTS FROM MAY 8, 1956 TO SEPTEMBER 26, 1956

	<u>Unfertilized</u>	<u>Fertilized</u>
Number of acres	70	50
Number of yearling steers	189	204
Average weight of steers at start	494 lbs.	480 lbs.
Average weight of steers at end	617 lbs.	640 lbs.
Days pastured	103 to 141	103 to 141
Total gain per head	123 lbs.	160 lbs.
Daily gain per head	.93 lbs.	1.18 lbs.
Production of beef per acre	324 lbs.	602 lbs.
* Value of beef produced per acre	\$58.32	\$108.36
Value of additional beef produced per acre		\$ 50.04
Cost of fertilizer applied per acre		26.20
Interest per acre on fertilizer investment @ 6%		.71
Profit per acre resulting from fertilization		\$ 23.13

* Value of beef produced figured at 18¢ per pound

TWO AND ONE-HALF HEIFERS WHERE ONE GREW BEFORE



This is a part of the 84 head of heifers that were carried on 36 acres of Dallis grass pasture on Joe Massaro and Sons ranch at Chowchilla. On March 15, "59" 60 units of nitrogen and 40 units of phosphorus per acre was applied to a 36 acre field of old Dallis grass pasture. On April 24, "59" 80 head of yearling (average weight 550#) Holstein heifers were weighed onto this field. Twenty-nine head were weighed onto an adjoining pasture of Dallis grass. During the grazing season 4 more head were added to the fertilized pasture. Two more 40 unit applications of nitrogen were also made on the fertilized field. Other than the addition of fertilizer and an increased stocking rate, the two fields of Dallis grass pasture were treated identically all during the pasture season. The results can be seen in the figures below.

	<u>Fertilized Field</u>	<u>Control Field</u>
No. Acres	36	36
No. Head (Maximum)	84	29
In Weight (Total)	46,145 lbs.	17,270 lbs.
No. Head Days	14,520	5,829
Out Weight (Total)	66,710 lbs.	24,578 lbs.
Pounds Heifer Produced	20,565 lbs.	7,308 lbs.
Heifer Produced Per Acre	571 lbs.	203 lbs.
Daily Gain	1.42 lbs.	1.25 lbs.
Value of Gain Per Acre (gain x 25¢)	\$142.75	\$50.75
Cost of Fertilizer Per Acre	\$ 22.00	--
Value of Heifer Produced Per Acre Over Cost of Fertilizer	\$120.75	--