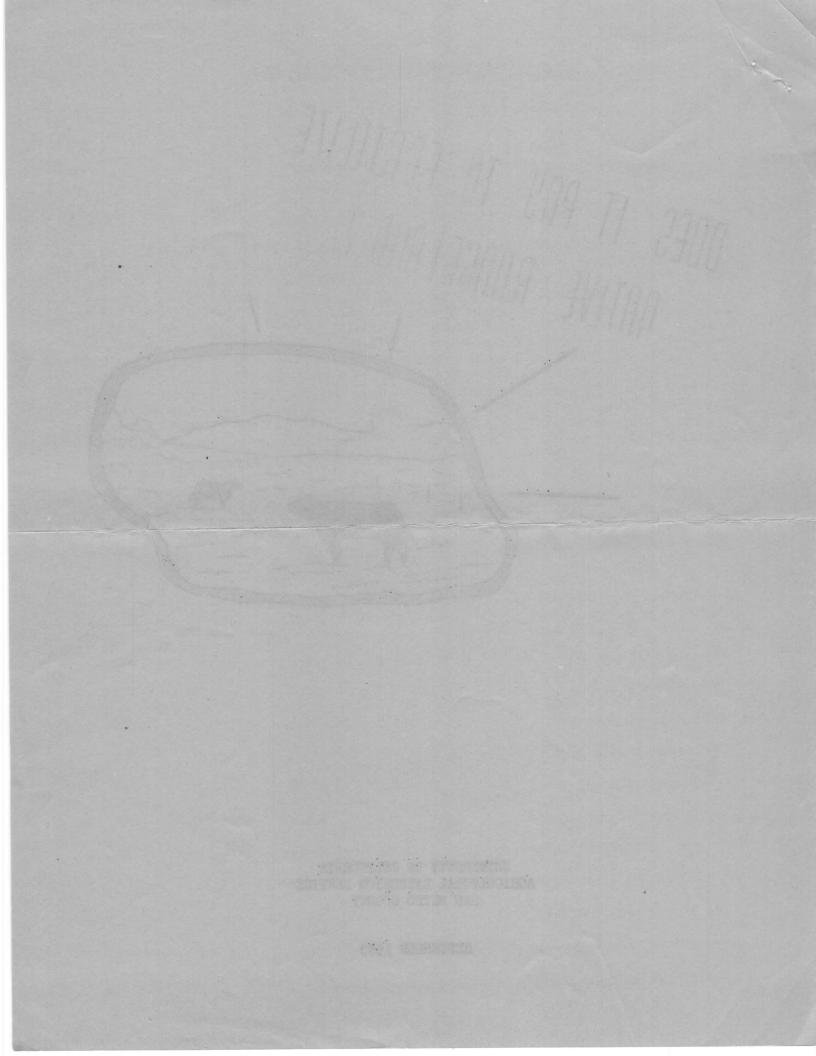


UNIVERSITY OF CALIFORNIA AGRICULTURAL EXTENSION SERVICE SAN MATEO COUNTY

SEPTEMBER 1955



## DOES IT PAY TO FERTILIZE NATIVE RANGELAND?

By

Bryan C. Sandlin Farm Advisor

Robert R. Ward Farm Advisor

This report covers the results of a 29 acre test conducted on Ed LeVesconte's "Skyway Ranch". The native pasture, consisting of ryegrass, filaree, bur clover, and foxtail was selected as being quite typical of San Mateo County rangeland. The field was divided into four equal areas of  $7\frac{1}{4}$  acres in each plot. In early November, Ed LeVesconte, in cooperation with the DuPont Chemical Company and the Agricultural Extension Service, University of California, fertilized three of the pastures with different rates of nitrogen and phosphorus, leaving one of the pastures unfertilized as a check.

Livestock was turned in February 2 with each pasture receiving the number of animals it would carry. Two animals

were turned into the check plot; three animals in the plot where only nitrogen was used, N144; six animals in the plot with the heaviest application of nitrogen and phosphorus, N144-P64; and five animals in the lighter application, N72-P64. As the weather warmed up and the amount of feed increased, extra animals were added to fully utilize the feed. Animals used in this test were Holstein heifers averaging about 500 pounds each at the beginning of the test. All animals were removed June 29 as the feed was drying up.

The following chart shows the gain per acre for each pasture, cost of fertilizer per acre for each treatment, and other data.

Fertilizer Treatment	Check	N 144	N144-P64	N72-P64
Grazing Days Per Acre	47.2	74.0	137.4	116.4
Average Daily Gain	2.69	2.35	2.88	3.17
Gain Per Acre (pounds)	126.9	175.7	395.4	368.9
Fertilizer Gain /acre (lbs.)		48.8	268.5	242.0
Value per 20¢ lb.		\$ 9.76	\$53.70	\$48.40
Fertilizer cost per acre		\$21.60	\$28.00	\$17.20
Gross Proft from Fertilizer /Acre		\$11.84	\$25.70	\$31.20
Application Cost per acre		\$ 1.00	\$ 1.00	\$ 1.00
ET PROFIT FROM FERTILIZER PER ACRE		-\$12.84	\$24.70	\$30.20

Bryon C. Sendlin Para Advisor

Robert R. Ward Fare Advisor

> tel in Ch a lo selmor out arrive dispersally al admoca Val. ha ha 'h dominoù duod 'area "Ekraley Sanoh", The outline parties, consisting of vygrams, its most bur ad bojecter and Marboll but " covole where do to troited of the Main County cour besides on bill out besided into four equal mone of A some In onch plot. In daily Movement, Ed Lavorente, In scoperation with the Dufont Chemical Company and the Agyloultonal : Extension forwice, University of California, data poredies edi in bombi bostitani."
> -sag bas segratis to sear incredito phorus leaving one of the pastures doode a an beatliff the

After S yearen a at the different State with To dedend out the second and the design aleafon out the second and the second

were turned into the cheek plot; three saluels in the plot where only nitrogen was used, NiA4; six enimels in the plot was used, NiA4; six enimels in the plot with the heaviest application of nitrogen and special and the analysis of the lighter application, As the weather warned up and the amount of feed increased, extra the amount of feed increased, extra chimals were added to fully willise the feed, Autsala used in this test were flotters averaging about 500 feed, autsala used in this test were pounds each at the beginning of the test, Atlantals were reserved June 29 test, the feed was drying up.

elle following chart shows the gain por care in teat porture cost of fortilises per care for each brogissent, and other

				The second of th
1972-P64			afa ed0	fortillings Treatment
	:		.,:	terms of the second
116,4	137.4	0.49	1,77,2	maxing Days for Acre
71.E	28,8	2,35	2,69	Average Dolly Coln
368.9	395.4	275×7	126.9	Cain For Acre (pounds)
242,0	268.5	48.8	400	Fertiliser Onia /acro (lbs.)
04.840	853,70	\$ 9,76	444	Value per 204 lb.
017,20	428,00	921,60		Fortillier cost per core
031,20	07,358	\$8,II\$		Gross Proft from Fertiliser Acre
00.60	00,f 0	00.1-0		eron voq Jaob molifenifqqA
630,20	824,470	A8.SJ\$-		NET PROPER PROMERRILIZER PER AGRE

Net profit per acre was obtained by subtracting the pounds of gain on the unfertilized pasture and the cost of the fertilizer from the gain on the fertilized pastures. Nitrogen alone did not return sufficient gain to offset the cost of the fertilizer and application. The combination of nitrogen and phosphorus gave much better returns.

## This test showed:

- 1. Fertilizer grew earlier feed.
- The fertilized area carried more animals per acre.
- More meat per acre was produced by using fertilizer.
- 4. A dollars and cents profit was made over costs.

Additional benefits from earlier pastures would include a reduction in the amount of hay necessary for winter feed. More cattle can be concentrated on a fertilized pasture in the early spring months while unfertilized pastures are developing.

Points to keep in mind when selecting a pasture for fertilization is to select a field that is well drained, usually a sloping hillside. For best results, the fertilizer should be applied before the fall rains start.

Suggested rates to use, based on this and previous tests, should be about 72 pounds actual nitrogen and 64 pounds actual phosphorus per acre. Lower rates of phosphorus may be used if the soil is in an area of high phosphorus content.

Het profit per agre was obtained by subtracting the pounds of gain on the unfertilized pacture and the cost of the fertilizer from the gain on the fertilized pactures. Mitrogen alone did not return sufficient gain to offent the cost of the fertilizer and application. The combination of nitrogen and phosphorus gave much better returns.

: hawoda jasj aldT

- 1. Fertilizer grey earlier feed,
- 2. The fertilised area estricd more enimals per acre.
- More meat per acre was produced by using fortiliser.
- A. A dollars and ocats profit was made

Additional benefits from earlier postures would include a reduction in the amount of hay necessary for winter feed. Note cattle ean be concentrated on a ferti-lized resture in the early epring months while unfertilized postures are developing.

Points to keep in mind when selecting a pasture for fertillsation is to select a field that is well drained, usually a sloping hillside. For best results, the fertillser should be applied before the fall rains start.

Suggested rates to use, based on this and previous tests, should be about 72 pounds catual attrogen and 64 pounds actual phosphorus per acre. Lower rates of phosphorus may be used if the cost of the area of high phosphorus and or high phosphorus contents.