

RANGE FERTILIZATION

Tests of Santa Clara County rangeland soils show that many of them are deficient in sulfur.

Production and quality of both legume and grass forage are improved when fertilizers containing sulfur are applied. Application of 10 to 20 pounds of sulfur each year may be needed to overcome a sulfur deficiency. Application of 200 pounds of gypsum per acre every two years could increase production by 50 per cent where responsive legumes are present.

Nitrogen fertilizer with sulfur will increase grass production and early growth. Present recommendations are for 60 to 80 pounds per acre. Phosphorus usually increases yields when applied with nitrogen and sulfur. If phosphorus is needed, 30 to 40 pounds per acre should be adequate.

Fertilizing rangeland is a relatively high cost item. To recover these costs, the operator must be able to utilize the greatly increased amount of feed produced. This means that he must have sufficient cattle available to graze the flush growth of forage before it passes its optimum nutritional stage.

FRANK NELSON RANGE FERTILIZER PLOT

Grazing Period: 90 days
February 24 to May 27, 1954

Fertilizer Treatment	Control	Ammonium Sulphate 300 lbs/a	16-20 lbs/a
Feb. 24 - Mar. 27		46.3	101.2
Mar. 27 - May 9	40.1	82.0	103.2
May 9 - May 27	12.6	22.0	20.4
Total	52.7	150.3	224.8

Gain from fertilizer 97.6 172.1
 Value of gain @ 20¢ cwt. \$19.52 \$34.42
 Fertilizer cost per acre 9.39 18.00
 Gross Profit per Acre \$10.13 \$16.42
 Return per fertilizer dollar \$ 2.08 \$ 1.91

RANGE MANAGEMENT

Overgrazing perennial plants reduces their vigor and results in lower production. Continued overuse will reduce the stand. Moderate use of annual range will produce greater beef yields than will overstocking.

Cattle prefer flat or rolling land, but fences are an aid to use of steeper slopes. A good distribution of watering places, stock ponds and salt licks will increase effective use of the range.

CARRYING CAPACITY OF UNIMPROVED SANTA CLARA
RANGELAND

Distribution and amount of rainfall account for wide variations in the productivity of rangeland. However, experienced ranchers are able to figure their expected gains per acre.

From 6 to 25 acres of open, low elevation rangeland are required to furnish feed for one animal unit for 1 year. This means that feed production may vary from two animal unit months per acre down to one-half an animal unit month per acre. High producing ranges will put from 200 to 300 pounds gain on a yearling steer over a 7-month period. If the range is stocked at one animal per 5 acres, the beef produced would be 40 to 60 pounds per acre.

The higher elevation ranges require 20 to 80 acres to support one animal unit for 1 year. This type of rangeland may be said to produce from .6 to .15 animal unit months of feed per acre. (Table 1)

RESEEDING BRUSH BURNS

The most successful method of establishing perennial grasses on brush burns is by range drill. This especially designed equipment is capable of working on rough land. A fertilizer hopper distributes fertilizer over the seed row. This relatively expensive technic should be reserved for the best sites where good management is used. Estimated seeding costs are \$5 per acre, compared with 60-75 cents per acre for broadcast seeding by airplane or helicopter. However, drilling requires less seed, and the large first year production achieved by drilling and fertilizing makes this process worth consideration.

On larger areas of rough land, aerial seeding is often the only practical method. Results have been successful and the practice is economically sound. Seeding rates range from 5 to 10 pounds per acre. Where time is not a factor and manpower is available, smaller burns often are seeded by men on horseback.

RESEEDING OPEN RANGELAND

It is almost impossible to establish a satisfactory stand of perennial grasses on open rangeland unless the competition from native annuals is reduced. Merely working the soil is not effective. It is necessary to plant a fast growing intermediate crop. Barley, wheat and oats are helpful.

Sudangrass planted in April or May is most successful as a summer crop that provides abundant forage and reduces competition. Work the area early to turn under the annuals and conserve moisture. Seed perennial grasses and annual legumes, preferably by drill, in the Sudan stubble in the fall.