

TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE BERKELEY, CALIFORNIA SOIL CONSERVATION SERVICE

TN - Farm and Ranch Planning - 12

September 26, 1963

FERTILIZING PASTURELAND

Some technicians have questioned the practice specification "Fertilizing (Pastureland)." This practice does not appear in the National Catalog of Practices, as a reportable item, but has been retained in California. The portion of this practice specification in question is the minimum amount of nitrogen required. We need a full understanding of the reasoning and logic relative to the use of 120 lbs. of Nitrogen per acre per year, as a minimum.

The basic principle of the Soil Conservation Service is to give farmers and ranchers the best and latest information available. We adhere to specifications on the slope of a dam or the gradient of a ditch, because experience has proven their value. Why, then, when research and experimentation have given us the data, should we hesitate to specify adequate amounts of fertilizer? Available information shows that 120 to 150 pounds of Nitrogen is needed to obtain worthwhile returns from irrigated pasture. This practice specification, "Fertilizing (Pastureland)," also recommends a minimum of 31 pounds of P (70 pounds of P_2O_5) per acre per year. On some soils, we don't hesitate to recommend much higher amounts because we know they are needed. The first year, for example, we recommend, without hesitation, 400 pounds per acre of 16-9-0 to fertilize annual range. In this instance, we are working with annual plants and uncertain and erratic winter rainfall; whereas, with irrigated pasture, we are dealing with perennial plants and a known stable watersupply. Why should we be less certain or positive in this case?

There are other aspects that must be taken into account. We are considering good irrigated pastures with good mixtures of plants that will respond. We are not considering "weed patches" that have poor stands, nor drainage ways that are continuously wet and continuously grazed; nor poorly irrigated, improperly managed pastures. These extreme cases are a waste of time and money, and should not be fertilized. Here it would be wise to recommend plowing and re-establishment.

Good management principles call for proper irrigation water use, rotation grazing, clipping, and regular and adequate fertilization. As long as the increment exceeds 15 pounds of air-dry forage per pound of Nitrogen applied, there will be an adequate return on the investment. Actually, 120 pounds of Nitrogen will produce at least an additional 1800 pounds of air-dry forage, and in most cases, twice this amount. Dr. A. L. (Haffy) Hafenrichter, a world-wide authority on pasture and forage management, uses these figures. You can, too -- with confidence!

Roche D. Bush
Range Conservationist