not recommended for new pasture seedings with legumes since it would increase weed problems, increase competition from seeded grasses, and reduce nitrogen fixation by legume bacteria.

Phosphorus availability in soils can be determined through special soil testing procedures. Information developed by Dr. Milton Jones at the U.C. Hopland Field Station produced the following criteria for phosphorus deficiencies on grasslands. Clover plants growing without adequate phosphate are small with dark green leaves. Available soil phosphorus levels are rated as very low at less than 5 ppm, low at 5-10 ppm, intermediate at 10-20 ppm, and high over 20 ppm.

Sulfur availability in soils can be determined through special sub clover tissue testing procedures. Dr. Milton Jones developed criteria for sulfur deficiencies of sub clover at the U.C. Hopland Field Station. Sub clover growing in soils without adequate sulfur may have a definite yellow color.

Fertilizing Established Stands

To maintain high yields from clover pastures, adequate levels of mineral nutrients must be maintained in the soil. Based on soil tests for phosphorus the following is a guide to fertilizing established pasture with different levels of available phosphorus in the soil.

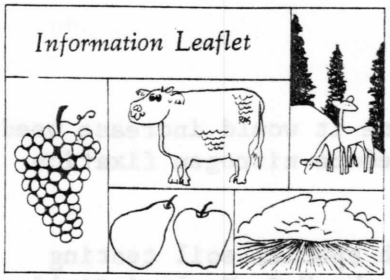
Available Soil Phosphorus	Amount Single Super Phosphate or Equivalent Lbs/Acre
Less than 5	500 every fourth year
5 - 10	250 every third year
Over 10	100 every second year

Management of fertilized sub clover for maximum production should include the following features:

- Complete removal of forage and residue by summer grazing prior to fall rains.
- If grass makes excessive growth it can crowd out clover. Graze hard enough to maintain clover balance.
- Graze as available or cut as hay before maturity.
- Short periods of heavy use can help maintain balance of clovers and grasses.

Prepared by William H. Brooks III, Farm Advisor 8/82

County Agricultural Center - 579 Low Gap Road, Ukiah, CA 95482
(707) 468-4495



UNIVERSITY OF CALIFORNIA
COOPERATIVE EXTENSION
MENDOCINO COUNTY

FERTILIZING IMPROVED PASTURES IN MENDOCINO

Fertilization of improved or legume pastures in Mendocino is required on most soil conditions where high yield and quality of forage is desired. To maintain a desirable balance of grasses and legumes involves fertilization of legumes and filling nitrogen needs from legume bacteria. The major soil nutrient deficiencies found throughout Mendocino County are nitrogen, phosphorus, and sulfur. Occasional potash deficiencies have been demonstrated, and rarely, molybdenum.

Effective fertilization of improved pasture can result in:

- Increased yield
- Higher quality forage produced
- Livestock will consume more forage
- Livestock will make greater gains/pound of feed consumed
- Longer effective stand life.

The following fertilizer recommendations are based on a large number of fertilizer test plots on pasture in every section of the county. It is an average application for pastures that have no history of fertilizer treatments. Fertilizer applications are based on annual requirements for legumes of P_2O_5 at 20 lbs/acre/year and of Elemental Sulfur at 20 lbs/acre/year.

	Fertilizer	Rate/Acre	Lbs P_2O_5	Lbs Elemental Sulfur
1)	0-36-0-20S	@ 275 lbs	99	55
2)	0-20-0	@ 500 lbs	100	
	PLUS			
	Popcorn or elemental soil sulfur	@ 100 lbs		100
3)	0-46-0	@ 220 lbs	101	
	PLUS			
	Popcorn or elemental soil sulfur	@ 100 lbs		100

The phosphate and sulfur fertilizers recommended do not leach significantly. The rates suggested should provide adequate phosphorus and sulfur for four to five years. For annual application, one fourth these rates would be suggested.

Mendocino County is a high rainfall area so nitrogen fertilizers are only recommended for special pasture or special seasonal feed requirements. Nitrogen fertilizers are