

ANNUAL REPORT

Molybdenum

Molybdenum deficiency and response was definitely established in a replicated trial on sub-clover in Mendocino County. The yields and nutrient content of the clover are given in Table 1.

Since the area was also phosphorus deficient, ~~there~~ ^{there was} only a slight response to Molybdenum alone. However, ^{Sulfur} there was a marked response to Molybdenum where Phosphorus was added. ~~XXXXX~~ consistently depressed Molybdenum uptake in all comparisons. Sulfur also depressed yield except where adequate Molybdenum was applied. The ~~magnitude~~ ^{magnitude} of the yield depression due to sulfur was the greatest where phosphorus had been applied. Phosphorus and sulfur deficiencies are common in the area ^{and these} fertilizers are used singly and in combination. It may be possible to use this yield depression due to sulfur as a means of delineating Molybdenum deficient areas.

As indicated above, sulfur greatly depressed the Molybdenum uptake but had no appreciable effect on ^{of sub-cloves} the phosphorus content. Molybdenum application had a depressing effect upon sulfur content and, to a lesser degree, upon phosphorus content. Phosphorus application had little or no effect upon sulfur or Molybdenum content ^{of sub-clover}.

~~TABLE 1~~

Table 1 The Effect of Applications of Molybdenum, Phosphorus and Sulfur on the Yield and Nutrient Content of Sub-Clover in Mendocino County, 1964.

<u>Treatment</u>	<u>Yield</u> Grams/plot	<u>Mo</u> ppm	<u>PO₄-P</u> ppm	<u>SO₄-S</u> ppm
Check	54	0.9	500	450
Sulfur	51	0.6	800	2,920
Molybdenum	71	7.0	600	420
Phosphorus	129	0.5	1,500	220
P plus S	98	0.7	1,600	2,980
Mo plus S	81	1.1	500	1,730
Mo plus P	184	6.9	1,300	290
Mo plus P plus S	180	0.9	1,100	1,510

Mendocino (17)

Crawford Ranch

MOLYBDENUM FERTILIZER TEST

April 28, 1964

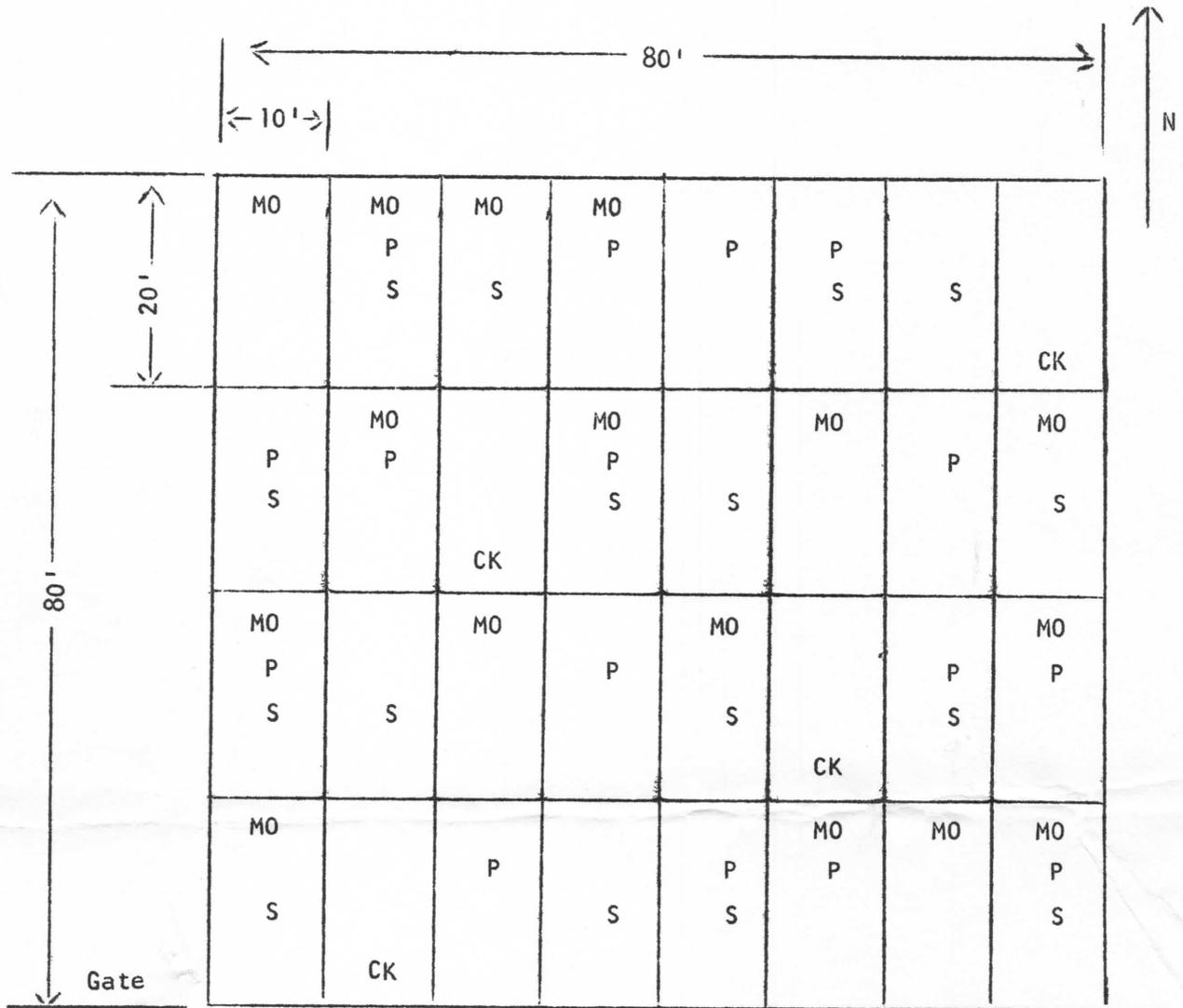
GREEN WEIGHTS PER SQUARE FOOT IN OUNCES

AVERAGE OF FOUR REPLICATIONS

Check	$6\frac{1}{2}$
Sulfur	$5\text{-}2/3$
Phosphorus	$18\frac{1}{4}$
Phosphorus + Sulfur	$9\text{-}3/4$
Moly + Sulfur	$9\frac{1}{8}$
Moly + Phosphorus	$28\frac{1}{4}$
Moly + Phosphorus + Sulfur	25
Moly	$8\frac{1}{2}$

CRAWFORD - AUSTIN RANCH, UKIAH

SUB CLOVER FERTILIZATION



Seeded to sub clover October 30, 1963
 The seedbed was prepared by discing the ground after the rains,
 and many annuals had germinated. Seed was broadcast and ring-
 rolled in. Fertilizer applied November 4, 1963

- P = 100 lbs. per acre
- S = 100 " " "
- MO = 80 oz. H₂MoO₄ per acre

W.H. Brooks III, Farm Advisor
 Mendocino County
 April 1964

CRANFORD PINE - URMING SUMMARY MULTIVARIATE TRIALS

 ESTABLISHED 1963

TREATMENT	YIELD LB/ACRE 1964	1965	1966
1 CHECK	1741 a	2340 a	2002 a
2 SULFUR	1620 a	2030 a	2248 a
3 MULLYDENUM	2276 ab	2620 a	2184 a
4 PHOSPHORUS	4129 c	5040 b	2840 b
5 SULFUR + MULLY	3137 bc	4430 b	3400 c
6 SULFUR + MULLY	2606 ab	2420 a	2322 ab
7 PINS + MULLY	5899 d	5800 c	3880 c
8 FERT + MULLY + S	5775 d	6200 c	5024 d

	1967	1968	ACCUMULATED TOTAL	INCREASE LB/ACRE OVER CHECK
1 CHECK	2160 a	2298 a	10497	
2 S	2736 b	2264 a	10898	401
3 M	2520 a	2192 a	11792	1295
4 P	4360 b	3368 bc	19737	9240
5 P+S	4624 b	3760 c	19351	8854
6 S+M	2792 a	2824 ab	12970	2473
7 P+M	4288 b	2848 ab	22715	12218
8 P+M+S	4576 b	4024 c	25599	15102