

State Cooperative Soil - Vegetation Survey

CALIFORNIA DIVISION OF FORESTRY
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 PACIFIC SOUTHWEST FOREST AND RANGE EXPERIMENT STATION
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SOIL FERTILITY STUDIES: No. 10 - Supan series

W. Robert Powell

Department of Agronomy, University of California, Davis

This leaflet, a product of the Soil-Vegetation Survey, is one of a series giving results of greenhouse pot tests and field fertilizer trials on soils primarily associated with range lands. The data indicate fertility status with regard to nitrogen, phosphorus, and sulfur. Field trials also give preliminary data on potential range forage production and species changes resulting from fertilizer treatments. Methods are detailed in: Powell, W. Robert. 1964. Procedures used in range land soil fertility studies. State Cooperative Soil-Vegetation Survey, Calif. Division of Forestry, Sacramento, 15 pp.

GREENHOUSE POT TESTS

Sample A (FA61-45-124)
 Shasta County
 Plot 8 of Quad 32A-2
 Center of NW $\frac{1}{4}$ Sec. 22, T30N, R3W, MDBB
 North - 25%; 400 feet
 Woodland-grass
 Collected 18 April 1961
 Tested 27 February - 17 April 1962

Sample B (FA57-52-3)
 Tehama County, Quad 33D-3
 SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 12, T26N, R2E, MDBB
 West - 35%; 3500 feet
 Brush
 Collected 16 July 1957
 Tested 12 Feb. - 15 April 1958

Treatment	Yield
None	19.8 a
S	20.2 a
P	20.0 a
PS	19.0 a
N	33.2 b
NS	58.0 d
NP	46.5 c
NPS	57.8 d

Treatment	Yield
None	22.3 a
PS	27.0 a
N	26.7 a
NS	25.3 a
NP	47.7 b
NPS	57.3 c

(N = 200, P = 88, S = 100 lb/A)
 (Yield, decigrams per pot, oven-dry)

Sample C (FA57-52-4)
 Tehama County
 Plot 11 of Quad 33B-4
 NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 23, T29N, R1E, MDMB
 South - 4%; 2500 feet
 Brush-grass
 Collected 16 July 1957
 Tested 12 Feb. - 15 April 1958

Treatment	Yield
None	14.0 a
P	15.2 a
N	25.0 b
NS	31.5 b
NP	44.8 c
NPS	60.8 d

Sample D (FA57-52-5)
 Tehama County
 Plot 2 of Quad 33B-3
 SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 5, T28N, R1E, MDMB
 Southwest - 17%; 2640 feet
 Woodland-brush
 Collected 16 July 1957
 Tested 12 Feb. - 15 April 1958

Treatment	Yield
None	8.2 a
P	12.2 ab
N	14.2 bc
NS	18.2 c
NP	29.8 d
NPS	48.5 e

Sample E (FA57-52-6)
 Tehama County
 Plot 3 of Quad 33B-3
 SE corner Sec. 18, T28N, R1E
 Northwest - 4%; 2520 feet
 Grassland
 Collected 16 July 1957
 Tested 12 Feb. - 15 April 1958

Treatment	Yield
None	15.7 a
P	23.0 a
N	42.7 b
NS	51.0 b
NP	44.0 b
NPS	67.0 c

COMMENTS:

- Sample A: A strong primary response to nitrogen; good secondary responses to sulfur and phosphorus; no apparent complementary response to phosphorus and sulfur with nitrogen.
- Sample B: A strong interaction response to nitrogen and phosphorus; a good third order response to sulfur.
- Sample C: A strong primary response to nitrogen; a good secondary response to phosphorus; a good third order response to sulfur.
- Sample D: A mild primary response to nitrogen; a good secondary response to phosphorus; a good third order response to sulfur.
- Sample E: A strong primary response to nitrogen; a good complementary secondary response to phosphorus and sulfur; possibly greater response to sulfur than to phosphorus.
- Summary: All samples indicated responses to all three nutrients used in these experiments.

