

California Soil Vegetation Survey
 Department of Agronomy
 University of California
 Davis, California

MILLSHOLM soil series 11-2
 Soil Nutrient Plot No. 52-3
 Glenn County, Quad. 41C-3

BOTANICAL COMPOSITION
 Sampled May 26, 1958

	$N_0P_0S_0$	$N_0P_0S_{100}$	$N_0P_{200}S_0$	$N_0P_{200}S_{100}$	$N_{150}P_0S_0$	$N_{150}P_0S_{100}$	$N_{150}P_{200}S_0$	$N_{150}P_{200}S_{100}$
Ground Cover %	50	72	78	87	82	93	92	95
<u>DAG</u>								
Bromus mollis	13	8	8	11	20	19	33	37
Avena barbata	6	12	11	10	18	30	25	26
<u>UAG</u>								
Bromus rubens	10	4	3	5	5	10	13	12
Festuca spp.	1	-	1	1	1	2	2	-
Bromus rigidus	-	-	-	-	-	-	-	1
<u>D.F.</u>								
Erodium botrys	32	31	16	10	51	36	26	21
Medicago hispida	14	25	50	54	1	1	1	3
Trifolium spp.	1	2	7	3	1	-	-	-
<u>U.F.</u>								
Plantago erecta	18	16	4	5	3	1	-	-
Navarretia spp.	2	1	-	1	-	-	-	-
Rumex acetosella	1	-	-	-	-	-	-	-
Other forbs	2	1	-	-	1	1	-	-

DAG = Desirable annual grass

UAG = Undesirable annual grass

D.F. = Desirable forb

U.F. = Undesirable forb

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MILLSHOLM soil series
 Soil Nutrient Plot No. 11-2
 Glenn County, Quad. 41C-3

FORAGE YIELD
 Pounds per acre, dry matter
 Sample taken May 26, 1958

Treatment	Lbs/Acre	Duncan's test of significance*
N ₀ P ₀ S ₀	1,264]]]
N ₀ P ₂₀₀ S ₀	1,974	
N ₀ P ₀ S ₁₀₀	2,058	
N ₀ P ₂₀₀ S ₁₀₀	2,704]]
N ₁₅₀ P ₀ S ₀	3,386	
N ₁₅₀ P ₂₀₀ S ₀	4,938]]]
N ₁₅₀ P ₀ S ₁₀₀	5,158	
N ₁₅₀ P ₂₀₀ S ₁₀₀	5,878	

*Treatments bracketed by same line are not significantly different from each other. Treatments not bracketed by same line are significantly different at 1% level.

NEWVILLE soil series
 Soil Nutrient Plot No. 52-1
 Tehama County, Quad. 41B-3

BOTANICAL COMPOSITION
 Fertilized October 27, 1955
 Sampled May 22, 1956

Treatment	$N_0P_0S_0$	$N_0P_0S_{100}$	$N_0P_{200}S_0$	$N_0P_{200}S_{100}$	$N_{150}P_0S_0$	$N_{150}P_0S_{100}$	$N_{150}P_{200}S_0$	$N_{150}P_{200}S_{100}$
Ground Cover, %	68	68	70	68	83	80	82	79
Percent of Stand								
<u>Desirable Annual Grasses</u>								
Bromus mollis	4	6	8	9	17	18	12	17
<u>Undesirable Annual Grasses</u>								
Festuca spp.	12	15	13	11	3	12	5	7
Bromus rubens	6	9	4	9	6	16	9	15
Gastridium ventricosum	3	2	1	2	5	2	2	1
Elymus caput-medusae	1	-	-	1	-	1	1	1
<u>Desirable Forbs</u>								
Erodium botrys	19	15	21	13	33	15	28	27
Lotus spp.	1	-	-	1	-	-	-	-
Trifolium spp.	-	2	2	1	-	1	1	-
Lupinus spp.	-	1	-	-	-	-	-	-
<u>Undesirable Forbs</u>								
Navarretia spp.	2	4	1	5	3	1	3	2
Plantago erecta	18	18	23	17	5	5	2	5
Madia spp.	5	5	7	3	1	3	1	1
Rumex acetosella	-	1	1	-	-	-	-	-
Godetia spp.	-	1	1	-	-	-	-	-
Other forbs	29	21	18	28	27	26	36	24

NEWILLIE soil series
 Soil Nutrient Plot No. 52-1
 Tehama County, Quad. 41B-3

FORAGE YIELD
 Pounds per acre, Dry matter
 Fertilized October 27, 1955
 Sampled May 23, 1956

Treatments	Lbs/Acre	*Duncan's test of significance
N ₀ P ₀ S ₀	366]
N ₀ P ₀ S ₁₀₀	365	
N ₀ P ₂₀₀ S ₀	337	
N ₀ P ₂₀₀ S ₁₀₀	296	
N ₁₅₀ P ₀ S ₀	848]
N ₁₅₀ P ₀ S ₁₀₀	1148	
N ₁₅₀ P ₂₀₀ S ₀	1050	
N ₁₅₀ P ₂₀₀ S ₁₀₀	864	

*Treatments bracketed by same line are not significantly different from each other. Treatments not bracketed by same line are significantly different at 1% level.

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NEWVILLE soil series
 Soil Nutrient Plot No. 52-1
 Tehama County, Quad. 41B-3

BOTANICAL COMPOSITION
 Fertilized October 27, 1955
 Sampled April 25, 1957

	N ₀ P ₀ S ₀	N ₀ P ₅ S ₁₀₀	N ₀ P ₂₀₀ S ₀	N ₀ P ₂₀₀ S ₁₀₀	N ₁₅₀ P ₀ S ₀	N ₁₅₀ P ₅ S ₁₀₀	N ₁₅₀ P ₂₀₀ S ₀	N ₁₅₀ P ₂₀₀ S ₁₀₀
Ground Cover, %	32	28	35	30	61	50	53	49
	Percent of Stand							
<u>Desirable Annual Grasses</u>								
<i>Fromus mollis</i>	3	3	2	5	6	10	8	11
<u>Undesirable Annual Grasses</u>								
<i>Bromus rubens</i>	1	1	-	-	1	1	2	7
<i>Festuca</i> spp.	4	6	3	8	1	9	1	1
<u>Desirable Perennial Grass</u>								
<i>Stipa</i> spp.	-	-	-	-	-	-	1	-
<u>Desirable Forbs</u>								
<i>Erodium botrys</i>	32	29	24	35	52	43	50	42
<i>Lotus</i> spp.	1	3	3	2	-	-	-	-
<i>Trifolium</i> spp.	1	1	11	3	1	1	4	5
<u>Undesirable Forbs</u>								
<i>Hypochoeris glabra</i>	14	13	8	6	10	6	10	5
<i>Plantago erecta</i>	28	29	36	25	20	15	15	13
<i>Cerastium</i> spp.	3	1	2	1	-	8	3	5
<i>Plagiobothrys</i> spp.	5	8	3	6	6	4	2	5
<i>Micropus</i> spp.	3	1	1	1	1	-	1	1
<i>Eremocarpus setigerus</i>	1	1	-	1	-	-	-	-
<i>Navarretia</i> spp.	-	2	1	1	2	1	1	3
<i>Zygadenus</i> spp.	-	1	-	-	-	-	-	-
<i>Brodiaea</i> spp.	3	1	2	3	-	2	1	1
<i>Orthocarpus</i>	-	-	1	2	-	-	-	-
Other forbs	1	-	3	1	-	-	1	1

California Soil Vegetation Survey
 Department of Agronomy
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 Davis, California

SEHORN soil series
 Soil Nutrient Plot No. 52-3
 Tehama County, Quad. 42A-1

FORAGE YIELD
 Pounds per acre, dry matter
 Sample taken May 1, ~~1956~~
 1957

Treatment	Lbs/Acre	Duncan's test of significance*
N ₀ P ₀ S ₀	2,540]
N ₀ P ₀ S ₁₀₀	3,040	
N ₀ P ₂₀₀ S ₀	3,010	
N ₀ P ₂₀₀ S ₁₀₀	3,200	
N ₁₅₀ P ₀ S ₀	5,040]
N ₁₅₀ P ₀ S ₁₀₀	5,400	
N ₁₅₀ P ₂₀₀ S ₀	5,610	
N ₁₅₀ P ₂₀₀ S ₁₀₀	5,900	

*Treatments bracketed by same line are not significantly different from each other. Treatments not bracketed by same line are significantly different at 1% level.

California Soil Vegetation Survey
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SEHORN soil series
 Soil Nutrient Plot No. 52-3
 Tehama County, Quad. 42A-1

BOTANICAL COMPOSITION
 Sampled May 1, 1958 1957

	$N_0P_0S_0$	$N_0P_0S_{100}$	$N_0P_{200}S_0$	$N_0P_{200}S_{100}$	$N_{150}P_0S_0$	$N_{150}P_0S_{100}$	$N_{150}P_{200}S_0$	$N_{150}P_{200}S_{100}$
Ground Cover %	71	81	70	75	95	98	93	96
<u>DAG</u>								
Avena fatua	34	35	33	27	56	61	64	63
Bromus mollis	13	9	9	6	1	1	3	1
<u>UAG</u>								
Festuca spp.	1	-	-	1	-	-	-	-
Bromus rigidus	1	1	-	-	-	-	1	-
Hordeum leporinum	2	4	2	5	11	9	4	7
H. hystrix	1	2	-	3	-	-	-	2
Elymus caput-medusae	2	7	6	2	1	1	-	-
<u>D.F.</u>								
Erodium botrys	1	-	5	6	1	1	1	3
E. cicutarium	18	18	18	16	24	17	20	14
E. moschatum	2	3	3	3	2	5	4	6
Medicago hispida	2	3	5	17	-	-	-	-
Trifolium spp.	-	-	-	1	-	-	-	-
Lupinus spp	2	1	2	3	-	-	-	-
<u>U.F.</u>								
Amsinckia intermedia	10	12	8	6	3	5	3	3
Plagiobothrys	9	4	7	3	1	-	-	-
Eremocarpus setigerus	1	-	-	-	-	-	-	-
Centaurea spp.	-	1	-	-	-	-	-	-
Cerastium spp	-	-	1	1	-	-	-	-
Brassica spp	-	-	-	-	-	-	-	1
Other forbs	1	-	1	-	-	-	-	-

DAG = Desirable annual grass
 UAG = Undesirable annual grass

D.F. = Desirable forb
 U.F. = Undesirable forb

MILLSAP soil series
 Soil Nutrient Plot No. 52-2
 Tehama County, Quad. 31D-4

California Soil Vegetation Survey
 Department of Agronomy
 University of California
 Davis, California

BOTANICAL COMPOSITION
 Sampled April 26, 1957

	$N_0P_0S_0$	$N_0P_0S_{100}$	$N_0P_{200}S_0$	$N_0P_{200}S_{100}$	$N_{150}P_0S_0$	$N_{150}P_0S_{100}$	$N_{150}P_{200}S_0$	$N_{150}P_{200}S_{100}$
Ground Cover %	46	36	52	42	85	87	90	92
<u>DAG</u>								
Bromus mollis	5	5	5	2	12	22	3	11
Avena barbata	-	1	1	1	-	-	1	-
<u>UAG</u>								
Bromus rubens	1	1	1	-	2	1	-	-
B. rigidus	1	-	-	-	1	-	-	-
Festuca spp.	-	-	1	-	1	-	1	-
<u>D.F.</u>								
Erodium botrys	33	33	21	26	64	57	83	68
E. cicutarium	-	-	-	1	6	2	6	7
Medicago hispida	3	2	8	5	1	-	-	1
Trifolium spp	7	8	7	11	1	1	1	-
Lotus spp.	1	-	1	1	-	-	-	-
Lupinus spp.	3	2	2	2	1	-	-	1
<u>U.F.</u>								
Hypochoeris glabra	31	33	39	28	8	10	3	11
Brodiaea spp.	2	1	1	-	-	1	-	-
Astragalus spp.	2	3	2	3	-	-	-	-
Nemophila spp.	1	1	2	-	-	-	-	-
Plantago erecta	4	8	4	10	-	-	-	-
Orthocarpus spp.	1	1	1	-	-	-	-	-
Micropus spp.	2	-	1	-	-	-	-	-
Cerastium spp.	-	1	-	-	-	2	-	-
Linum spp.	-	-	-	3	-	-	-	-
Navarretia spp.	-	-	-	1	1	-	-	-
Delphinium spp.	-	-	-	-	-	2	-	-
Other forbs	3	1	3	6	2	2	2	1

DAG = Desirable annual grass
 UAG = Undesirable annual grass
 D.F. = Desirable forb
 U.F. = Undesirable forb

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MILLSAP soil series 52-2
 Soil Nutrient Plot No. 11-2-
 Tehama County, Quad. 31D-4

FORAGE YIELD
 Pounds per acre, dry matter
 Sample taken May 1, 1957

Treatment	Lbs/Acre	Duncan's test of significance*
$N_0P_{200}S_0$	709]
$N_0P_0S_0$	894	
$N_0P_{200}S_{100}$	916	
$N_0P_0S_{100}$	980	
$N_{150}P_0S_0$	2,951]
$N_{150}P_{200}S_0$	4,693]
$N_{150}P_0S_{100}$	5,368	
$N_{150}P_{200}S_{100}$	5,380	

*Treatments bracketed by same line are not significantly different from each other. Treatments not bracketed by same line are significantly different at 1% level.

California Soil Vegetation Survey
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SEHORN soil series
 Soil Nutrient Plot No. 11-3
 Glenn County, Quad. 41C-3

BOTANICAL COMPOSITION
 Sampled May 26, 1958

	$N_0P_0S_0$	$N_0P_0S_{100}$	$N_0P_{200}S_0$	$N_0P_{200}S_{100}$	$N_{150}P_0S_0$	$N_{150}P_0S_{100}$	$N_{150}P_{200}S_0$	$N_{150}P_{200}S_{100}$
Ground Cover %	78	87	88	98	92	96	97	100
<u>DAG</u>								
Avena fatua	14	15	13	6	52	62	65	63
Bromus mollis	6	5	1	1	10	16	17	13
Lolium multiflorum	-	1	-	-	2	1	1	5
<u>UAG</u>								
Festuca spp.	12	10	5	1	14	7	10	4
Elymus caput-medusae	9	1	1	-	2	3	1	-
Koeleria phleoides	1	1	1	-	1	1	-	-
Bromus rubens	1	-	-	-	-	-	2	2
<u>D.F.</u>								
Medicago hispida	30	58	74	90	2	5	2	10
Plantago spp.	1	-	-	-	-	-	-	-
Erodium botrys	-	-	-	-	3	1	1	-
<u>U.F.</u>								
Micropus spp.	12	1	1	-	7	1	-	-
Centauria solstitialis	6	4	1	-	5	3	1	2
Achyrrachaena mollis	3	1	1	-	1	-	-	1
Plantago erecta	2	-	-	-	-	-	-	-
Potentilla spp.	1	1	-	1	-	-	-	-
Lupinus spp.	-	1	1	1	-	-	-	-
Navarretia spp.	1	-	-	-	1	-	-	-
Brodiaea spp.	1	1	-	-	-	-	-	-
Other forbs	-	-	1	-	-	-	-	-

DAG = Desirable annual grass
 UAG = Undesirable annual grass
 D.F. = Desirable forb
 U.F. = Undesirable forb

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California Soil Vegetation Survey
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SEHORN soil series
Soil Nutrient Plot No. 11-3
Glenn County, Quad. 41C-3

FORAGE YIELD
Pounds per acre, dry matter
Sample taken May 26, 1958

Treatment	Lbs/Acre	Duncan's test of significance*
$N_0P_0S_0$	2186]
$N_0P_0S_{100}$	2992	
$N_0P_{200}S_0$	3536]
$N_{150}P_0S_0$	4150]
$N_0P_{200}S_{100}$	4704]
$N_{150}P_0S_{100}$	5386]
$N_{150}P_{200}S_0$	5786]
$N_{150}P_{200}S_{100}$	6342]

*Treatments bracketed by same line are not significantly different from each other. Treatments not bracketed by same line are significantly different at 1% level.

California Soil-Vegetation Survey
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MILLSHOLM soil series
Field Nutrient Plot No. 11-2
Glenn County, Quad. 41 C-3

FORAGE YIELD

Pounds Per Acre, Oven Dry

Fertilized: 11 October 1957

Sample Taken: 21 April 1959

<u>Treatment</u>	<u>Yield</u>
P	1018
S	1498
Check	1686
NPS	1686
N	1792
NS	1904
NP	2125
PS	2214

There are no significant differences between treatments or for any comparison of main effects (e.g., N₀ vs N₁₅₀).

Variability of the data was very great.

California Soil-Vegetation Survey
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MILLSHOLM soil series
 Field Nutrient Plot No. 11-2
 Glenn County, Quad 41 C-3
 Sec 12, T20N, R6W

BOTANICAL COMPOSITION

Fertilized: 11 October, 1957

Sampled: 21 April, 1959

Fertilizer Treatment ^{1/}	Check	S	F	PS	N	NS	NP	NPS
Ground Cover Density, %	63	66	65	75	74	81	77	88
<u>Desirable Annual Grasses</u>		<u>Percent of Stand</u>						
Bromus mollis	13	3	8	7	10	15	19	21
Avena barbata	21	12	26	16	32	51	30	34
Avena fatua	1	2	2	17	4	2	9	12
<u>Undesirable Annual Grasses</u>								
Bromus rubens	4	2	2	4	-	2	3	6
Festuca spp.	-	4	1	5	-	-	5	1
Bromus rigidus	-	2	-	-	-	-	1	-
Other	4	5	5	1	3	7	7	6
<u>Desirable Forbs</u>								
Medicago hispida	8	15	16	24	1	2	1	5
Erodium botrys	30	24	22	15	29	18	19	11
Trifolium spp.	2	1	1	-	2	-	-	-
Lupinus spp.	1	1	-	-	-	-	-	-
Geranium spp.	-	-	-	-	-	1	-	-
<u>Undesirable Forbs</u>								
Plantago erecta	13	26	17	17	18	2	6	3
Plagiobothrys	-	1	-	1	-	-	-	-
Other	3	2	-	3	1	-	-	1

^{1/} Nitrogen, 150 lbs/A; Phosphorus, 200 lbs/A; Sulfur, 100 lbs/A.

California Soil-Vegetation Survey
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SEHORN soil series
 Field Experiment Plot No. 11-3
 Glenn County, Quad 41 C-3

FORAGE YIELD
 Pounds Per Acre, Oven Dry

Fertilized: 17 October, 1957

Sample Taken: 22 April 1959

Treatment	Yield
Check	1597
N	1709
NP	1709
P	1814
NS	2160
S	2246
NPS	2272
PS	2637

* Treatments not bracketed by same line are significantly different from each other at the 5% level.

In analysis of variance, the yield of S_0 vs S_{100} gave the only significant F-test.

Mean yield of all S_0 plots = 1705 Lbs/A.

" " " " S_{100} " = 2325 "

L.S.D. for these two values = 537 Lbs/A.

(1% level of significance)

* Duncan's Range Test.

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SEHORN soil series
 Field Nutrient Plot No. 11-3
 Glenn County, Quad 41 C-3
 See 13, T20N, R6W

BOTANICAL COMPOSITION

Fertilized: 17 October 1957

Sampled: 22 April 1959

Fertilizer Treatment ^{1/}	Check	S	P	PS	N	NS	NP	NPS
Ground Cover Density, %	47	68	53	81	53	55	54	62
		<u>Percent of Stand</u>						
<u>Desirable Annual Grasses</u>								
Bromus mollis	15	20	24	7	29	32	42	56
Avena fatua	18	18	29	24	37	36	40	45
Avena barbata	6	6	6	6	7	5	1	5
Lolium multiflorum	-	1	1	3	-	1	-	5
<u>Undesirable Annual Grasses</u>								
Festuca spp.	19	11	15	7	6	9	8	5
Bromus rigidus	1	-	-	1	1	-	-	2
Elymus caput-medusae	1	1	1	-	-	1	-	1
Other	-	-	-	1	1	-	1	-
<u>Desirable Forbs</u>								
Medicago hispida	13	31	10	36	1	8	1	5
Erodium cicutarium	2	-	-	2	1	-	-	1
<u>Undesirable Forbs</u>								
Micropus californicus	10	5	3	1	12	3	2	-
Achyraea mollis	10	5	7	2	2	2	1	2
Plantago erecta	-	-	-	-	1	-	1	-
Amsinckia intermedia	-	-	-	-	-	-	-	1
Plagiobothrys infectivus	-	1	2	3	-	1	1	1
Lepidium spp.	-	-	-	1	-	-	-	1
Lupinus spp.	1	-	-	-	-	-	-	-
Ranunculus californicus	-	-	1	-	1	1	1	-
Navarretia spp.	-	-	-	1	-	1	-	-
Other	4	1	1	6	1	-	1	-

^{1/}Nitrogen, 150 lbs/A; Phosphorus, 200 lbs/A; Sulfur, 100 lbs/A.

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LODO Soil Series
Field Nutrient Plot No. 11-4
Glenn County, Quad 42 D-1

FORAGE YIELD

Pounds Per Acre, Oven Dry

Fertilized; 8 October 1958

Sample taken: 20 March 1959

<u>Treatment</u>	<u>Yield</u>
N	736
NS	992
NP	976
<u>NPS</u>	<u>2328</u>

Because of minimal rainfall and early warm temperature, vegetation on this shallow soil dried very early, making sampling difficult. Above figures are mean values of only two replications and no statistical significance can be attached to them. Vegetation on check, S, P, and PS treatments was too limited to harvest, being little more than that outside the plot.

California Soil-Vegetation Survey
 Department of Agronomy
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LODO soil series
 Field Nutrient Plot No. 11-4
 Glenn County, Quad 42 D-1

Sec 8 T21N R6W

BOTANICAL COMPOSITION

Fertilized: 8 October 1958

Sampled: 19 March 1959

Fertilizer Treatment ^{1/}	Check	S	P	PS	N	NS	NP	NPS
Ground Cover Density, %	16	19	29	5	74	87	79	94
<u>Desirable Annual Grasses</u>		<u>Percent of Stand</u>						
Avena barbata	3	-	2	1	-	1	1	1
Bromus mollis	-	4	-	2	5	3	3	2
<u>Undesirable Annual Grasses</u>								
Festuca spp.	30	10	24	11	24	29	30	35
Bromus rigidus	5	2	3	4	5	12	3	22
Hordeum hystrix	-	-	1	-	-	-	-	-
<u>Desirable Forbs</u>								
Erodium botrys	35	33	32	29	31	27	34	30
Trifolium spp.	2	6	10	2	2	-	-	-
Lotus spp.	2	2	2	1	-	1	1	1
Lupinus spp.	1	-	-	-	-	-	-	-
Medicago hispida	-	1	-	-	-	-	-	-
<u>Undesirable Forbs</u>								
Plantago erecta	17	33	20	33	25	20	20	4
Sedella spp.	2	4	4	9	2	1	-	-
Brodiaea spp.	-	1	1	3	2	2	1	2
Plagiobothrys spp.	-	-	-	3	-	1	-	1
Lepidium nitidum	-	-	-	1	2	1	4	-
Orthocarpus erianthus	-	-	-	-	1	-	-	-
Other	3	4	1	1	1	1	4	3

^{1/}Nitrogen, 150 lbs/A; Phosphorus, 200 lbs/A; Sulfur, 100 lbs/A.