Clover Fertility Section

Lee Goodrich Farm

The past five years of conducting clover fertility trials has highlighted one salient point, the difficulty in determining response to fertilizers using seed yield as a measure of that response.

Because of the extreme variation encountered under normal field conditions, row seedings with one-foot rows were made on the Lee Goodrich farm in Cloverdale during the spring of 1952. The stand obtained from this seeding was heavy and quite uniform in one replication but very spotty in the other three.

During late spring in 1953, an attempt was made to transplant the clover plants in order that the first three replications would have a uniform stand of one plant per square foot.

The thinning and transplanting was very slow work and extended over several weeks during the month of May. During the early part of transplanting, the weather was cold and wet and the transplanted plants turned a rust red and laid dormant for nearly two weeks. During the latter part of the transplantings the plants were too far advanced and failed to recover in time to make a good seed set. The transplanted area was not harvested.

The seed yield results from the replication harvested is presented in Table No. 54. The results are what would be expected from a field planting; a seed yield variation of 300 pounds of seed per acre not associated with difference in treatment. The soil analysis is presented in Table No. 55.

Roy Stevenson Farm

This trial was principally conducted by the Jefferson County Extension Agents. The trial was initiated in the spring of 1951 by Paul Barnes and Marvin Shearer and has been maintained since that time by the Extension Service and Roy Stevenson.

The original plans were to harvest the seed each year with a combine; however, it was found necessary to harvest across the plots in order to do a good job of harvesting; consequently, no yield estimates were taken.

Since the plots are to be plowed during 1954, the Central Oregon Experimental Area was requested to harvest samples from the plots in order that some estimate of the yields might be determined. The trial consisted of plots 10 feet wide and approximately 400 - 500 feet long. The experiment consisted of seven treatments with 6 of the treatments replicated three times. The seventh treatment, a check, was along the north edge of the trial.

At the time the samples were taken, the plots were being harvested by the farmer and it was necessary to confine the sampling to the top 80' of the plots. Four 9 square foot samples were taken from each plot and composited. The composited samples were brought to uniform moisture content in the dryer and threshed. Yield estimates are presented in pounds of seed per acre.

The results (Table No. 56) indicate that there is no significant difference between the sulfur treatments. Sulfur treatments were significantly higher than no treatment.

Table No. 54

Alsike Clover Seed Yield, Obtained from Five Levels of Sulphur, alone and in combination with Phosphate and Potash fertilizers

Yield in Pounds Per Acre

Lee Goodrich Farm — Cloverdale, Oregon

Treatment No.	Fertilizer Application Pounds Per Acre				Pounds Per Acre
	S	P_2O_5	K_2O	N	
1	0	0	0	0	927.5
2	35	0	0	0	1051.8
3	70	0	0	0	1197.5
4	140	0	0	0	979.0
5	280	0	0	0	1019.9
6	0	100	0	0	1028.7
7	0	0	100	0	1194.0
8	0	100	100	0	732.0
9	35	100	0	0	776.4
10	35	0	100	0	1154.9
11	35	100	100	0	961.2
12	70	100	0	0	906.1
13	70	0	100	0	765.8
14	70	100	100	0	941.7
15	140	100	0	0	998.5
16	140	0	100	0	1014.5
17	140	100	100	0	1174.4
18	280	100	0	0	977.2
19	280	0	100	0	941.7
20	280	100	100	0	980.8
21	280	100	100	50	1027.0

Table No. 55

Lee Goodrich Farm
Cloverdale, Oregon

1953

Deschutes Sandy Loam

Range of Depth	pH	P_2O_5 ppm	K_2O ppm	Total Salts ppm	Sodium ppm
0-6	5.9	22.3	385	87	80
6-12	5.9	18.9	315	94	82
12-18	6.0	20.3	345	94	80

Table No. 56

Effect of Two Sources of Sulfur applied at Four Rates
Over a Three Year Period on Ladino Clover
Seed Yield

Roy Stevenson Farm — Madras, Oregon

Fertilizer Application Pounds Per Acre	Years Applied	Pounds of Seed Per Acre Replication No. 1	2	3	Mean Yield
100# Sulfur	1951, 1952, 1953	277.2	222.5	166.6	222.1
100# Sulfur	1951, 1953	234.5	251.9	177.6	203.0
100# Sulfur	1951	159.9	226.5	137.3	174.6
100# Gypsum	1951, 1952, 1953	166.6	186.6	103.9	152.5
200# Gypsum	1951, 1952, 1953	149.3	255.9	146.6	183.9
300# Gypsum	1951, 1952, 1953	251.9	213.2	183.9	216.3
400# Gypsum	1951, 1952, 1953	207.9	195.9	174.6	192.8
No Treatment	1951, 1952, 1953	-	-	109.3	109.3

L.S.D. bet. S. Treats N.S.

(1) Conducted by Jefferson County Extension Agents and Roy Stevenson.