ALFALFA INTERSEEDING FURROW WIDTH TECHNIQUES TRIAL I

This trial was designed to evaluate alfalfa interseeding into rangeland with different widths of the furrow openings. The intended purpose of the data will be primarily to assist in the determination of a recommended furrow width for alfalfa interseeding into rangeland for pasture use in western North Dakota.

These plots were established on 0.60 acres located on the NE¼, NW¼, SW¼ Sec. 23, T. 143 N., R. 96 W. at the ranch headquarters of the Dickinson Experiment Station. The 33 x 50 foot plots were arranged in a randomized block design with three replications. The soil was vebar fine sandy loam. The range site was sandy with a few thin claypan sites. Travois alfalfa was seeded at a rate of 0.50 lbs. PLS/row/acre on 21 April 1983. A three foot row spacing was used. Two inch straight, three inch twisted and four inch twisted chisel plow shovels were used as the furrow openers. A control plot of no interseeding was included in each replication.

The data that were collected from these plots were: alfalfa plant counts per meter of row, alfalfa plant heights and species composition by point frame.

The alfalfa plant counts were made by counting the number of plants along two randomly placed meter sticks for each row of each plot. The mean number of plants per meter of row was determined for each treatment. Alfalfa plant heights were measured from ground level of randomly selected plants.

Quantitative species composition data for each plot was collected. The herbacious plants were sampled by the ten pin point frame method (Levy and Madden 1933, Tinney, Aamodt, and Ahlgren 1937, Heady and Rader 1958, and Smith 1959). Fifteen hundred points were read for each treatment (500 points per plot). A systematic sampling scheme was used for each plot. A permanent major transect was established three feed inside and parallel to the east boundary of each plot. Five minor transects were established perpendicular to the major transect at nine foot intervals starting nine feet from the south boundary of the plot. One hundred points were read on each minor transect equally spaced across the plot.

Alfalfa Interseeding Furrow Width Techniques Trial I

Location:	Dickinson Experiment Station Ranch Headquarters NE¼, NW¼, SW¼ Sec. 23, T. 143 N., R. 96 W.
Replications:	Three Randomized Block Design
Study Size:	183° x 142° 0.60 acres
Plot Size:	33° x 50° 0.04 acres
Perimeter Border	10° on east and south, 3° on north and 0° on west
Alleys:	10°
Soil:	Vebar
Range Site:	Sandy with a few thin claypan sites
Seeding Date:	21 Apr 1983
Seeding Rate:	0.50 lbs. PLS/row/acre
Alfalfa Variety:	Travois
Row Spacing:	3°
Chisel Plow Shovels:	0", 2", 3" twisted and 4" twisted

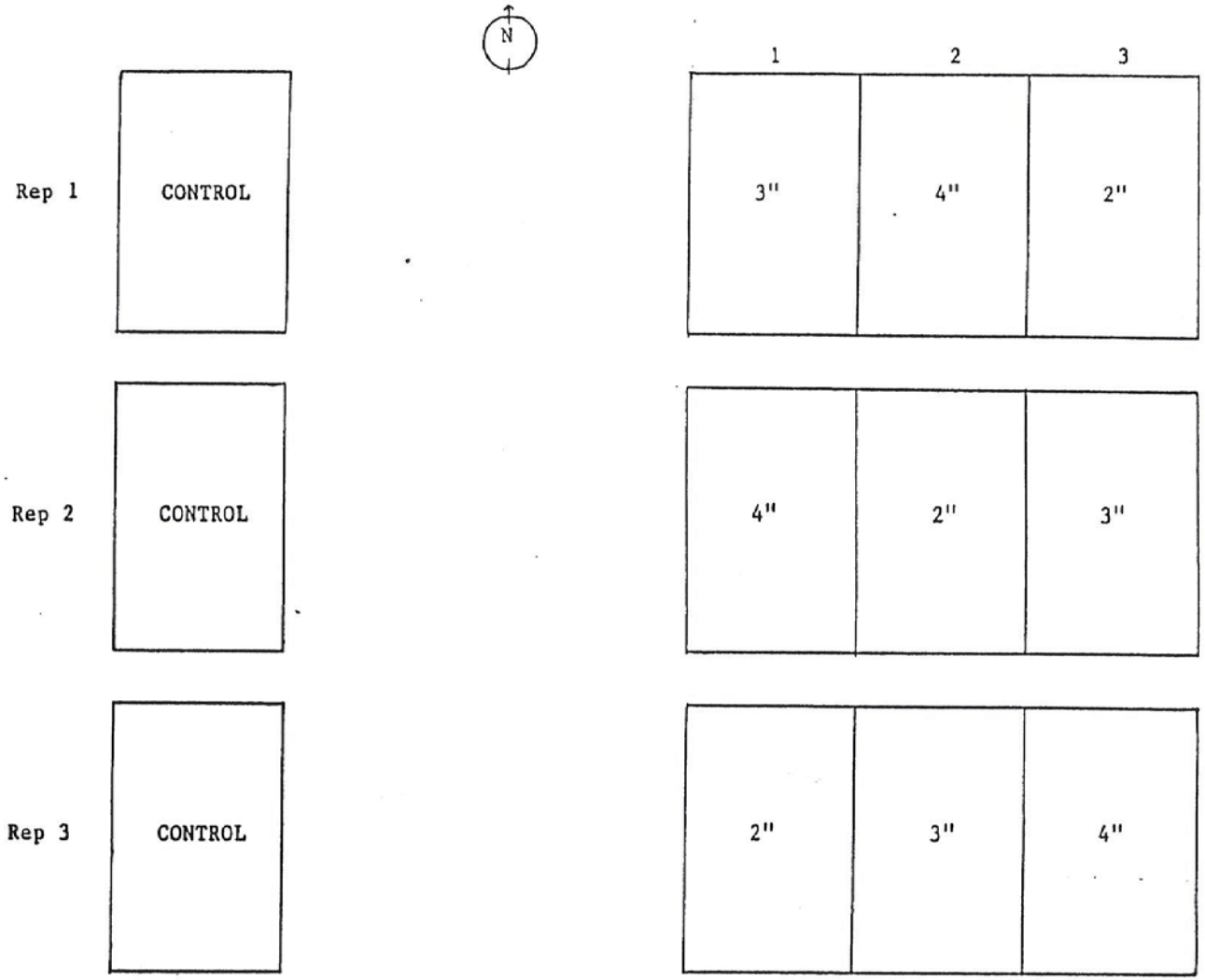

Figure 2. Alfalfa interseeding furrow width techniques trial using 2, 3 and 4 inch chisel plow shovels, seed 21 Apr 1983.

Table 22. Alfalfa Plant Count per Meter of Row for the Alfalfa Interseeding Furrow Width Techniques Trial at the Dickinson Experiment Station, 1988

Furrow Width	Rep 1			Rep 2			Rep 3			Mean		
	10 Jun	6 Jul	4 Aug	10 Jun	6 Jul	4 Aug	10 Jun	6 Jul	4 Aug	10 Jun	6 Jul	4 Aug
Control	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 inch	0.50	0.79	0.25	0.38	0.33	0.29	0.17	0.29	0.13	0.35	0.47	0.22
3 inch	0.04	0.00	0.00	0.71	0.96	0.63	0.13	0.29	0.13	0.29	0.42	0.25
4 inch	0.29	0.08	0.09	0.71	0.80	0.42	0.17	0.50	0.33	0.39	0.46	0.28

Table 23. Alfalfa Plant Count per Foot of Row for the Alfalfa Interseeding Furrow Width Techniques Trial at the Dickinson Experiment Station, 1988

Furrow Width	Rep 1			Rep 2			Rep 3			Mean		
	10 Jun	6 Jul	4 Aug	10 Jun	6 Jul	4 Aug	10 Jun	6 Jul	4 Aug	10 Jun	6 Jul	4 Aug
Control	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 inch	0.15	0.24	0.08	0.11	0.10	0.09	0.05	0.09	0.04	0.10	0.14	0.07
3 inch	0.01	0.00	0.00	0.22	0.29	0.19	0.04	0.09	0.04	0.09	0.13	0.08
4 inch	0.09	0.02	0.03	0.22	0.24	0.13	0.05	0.15	0.10	0.12	0.14	0.09

Table 24. Mean Alfalfa Plant Height in Centimeters for the Alfalfa Interseeding Furrow Width Techniques Trial at the Dickinson Experiment Station, 1988

Furrow Width	Rep 1 10 Jun	Rep 2 10 Jun	Rep 3 10 Jun	Mean 10 Jun
Control	0.0	0.0	0.0	0.0
2 inch	22.5	25.2	29.9	25.0
3 inch	19.1	25.6	30.6	25.2
4 inch	20.8	26.4	25.8	24.1