YEAR/PROJECT: 1996/755

TITLE: Safflower Plant Population Study - Dryland

PERSONNEL: Leon Welty, NWARC
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On May 21, 1996 `Centennial' safflower was seeded in 6- and 12-inch rows at rates of 10, 20, 30, and 40 lbs. PLS/acre. Stands (# of plants/ft^2) increased as seeding rate increased. The 6-inch spacing produced slightly denser stands than the 12-inch spacing. Weed emergence and safflower plant vigor were not influenced by either seeding rate or row spacing. Plant height at harvest decreased slightly as seeding rate increased. The 40-lb seeding rate seemed to slow maturity.

The trial was harvested Aug.15 when 4-24% of the flowers had wilted. Neither seeding rate nor row spacing produced significant differences in forage yield. The lack of response indicates that 10 lbs/acre PLS is sufficient for either 6- or 12-inch rows.

Protein and fiber content is being analyzed. Since stand density did not affect weed emergence or stand vigor, the only advantage to higher seeding rates could be the retardation of maturity and higher forage quality.

SAFFLOWER POPULATION TRIAL
KALISPELL, 1996

Stand (plants/ft²)

Seeding Rate(lbs/a)	Row Spacing 6-inch	12-inch	mean		
10	6.4	6.8	6.6		
20	10.5	9.0	9.8		
30	15.0	13.4	14.2		
40	18.5	16.6	17.6		
				LSD(0.05)	SR = 1.7
mean	12.6	11.4	12.0		RS = 1.2(P=.06
					SR x RS = NS

Weeds (#/ft²)

Seeding Rate(lbs/a)	Row Spacing 6-inch	12-inch	mean		
10	1.5	1.4	1.4		
20	1.6	1.9	1.8		
30	1.4	1.5	1.4		
40	1.6	1.5	1.6		
				LSD(0.05)	SR = NS
mean	1.5	1.6	1.5		RS = NS
					SR x RS = NS

Vigor (0-5)

Seeding Rate(lbs/a)	Row Spacing 6-inch	12-inch	mean		
10	4.3	4.0	4.1		
20	4.5	4.5	4.5		
30	4.3	4.0	4.1		
40	4.0	4.0	4.0		
				LSD(0.05)	SR = NS
mean	4.3	4.1	4.2		RS = NS
					SR x RS = NS

Height (inches)

Seeding Rate(lbs/a)	Row Spacing 6-inch	12-inch	mean	
10	31.3	31.3	31.3	
20	30.5	30.8	30.6	
30	30.0	30.0	30.0	
40	29.0	30.0	29.5	
				LSD(0.05) SR = 0.9
mean	30.2	30.5	30.3	RS = NS
				SR x RS = NS

Stage of Maturity at Harvest (% wilt)

Seeding Rate(lbs/a)	Row Spacing 6-inch	12-inch	mean	
10	14	24	19	
20	11	9	10	
30	9	23	16	
40	6	4	5	
				LSD(0.05) SR = 11(P=.07)
mean	10	15	12	RS = NS
				SR x RS = NS

Dry Matter Yield (t/a)

Seeding Rate(lbs/a)	Row Spacing 6-inch	12-inch	mean	
10	3.74	3.62	3.68	
20	3.91	3.78	3.85	
30	3.63	4.03	3.83	
40	3.80	3.62	3.71	
				LSD(0.05) SR = NS
mean	3.77	3.76	3.77	RS = NS
				SR x RS = NS

Seeded 5/21/96
Harvested 8/15/96