YEAR/PROJECT: 1995/755 **Safflower Plant Population Study - Dryland**

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On May 4, 1995 'Centennial' safflower was broadcast seeded and seeded in 6- and 12-inch rows at rates of 30, 40, and 50 lbs PLS/acre. Stands (# of plants/ft^2) increased as seeding rate increased. There was no significant difference in stand between the 6-inch and 12-inch spacing, but both produced significantly denser stands than broadcasting. The 6-inch spacing resulted in slightly taller plants than broadcasting.

There were no significant differences in dry matter percentage among treatments. The mean dry matter content was 35% at harvest on August 8 when the plants were between late bud and early bloom. Seeding rate produced no significant differences in forage yield, although there was a tendency toward higher yield at higher seeding rates. Six-inch spacing produced slightly more forage than 12-inch spacing (5.44 vs 5.07 tons/acre). Broadcast seeding produced significantly lower mean yield than row seeding (4.18 tons/acre), but it interacted with seeding rate, increasing from 3.46 tons/acre at the 30-lb rate to 5.03 tons/acre at the 50-lb rate. The lack of response to increased seeding rate for row-planted safflower indicates that 30 lbs/acre is sufficient for either 6- or 12-inch rows.

SAFFLOWER POPULATION TRIAL - SEEDING RATE / ROW SPACING

Kalispell, 1995

STAND (#/sqft)

Seeding Rate (lbs/a)	Spacing 6"	12"	broadcast	means
30	7.8	9.0	4.0	6.9
40	10.5	12.9	8.5	10.6
50	15.5	14.1	9.8	13.1
means	11.3	12.0	7.4	

LSD(0.05) SR = 3.0
RS = 2.2
SR x RS - NS

HEIGHT (inches)

Seeding Rate (lbs/a)	Spacing 6"	12"	broadcast	means
30	40.8	40.8	38.8	40.1
40	41.3	40.0	39.8	40.3
50	40.0	40.5	39.8	40.1
means	40.7	40.4	39.4	

LSD(0.05) SR - NS
RS = 1.2
SR x RS - NS

DRY MATTER (%)

Seeding Rate (lbs/a)	Spacing 6"	12"	broadcast	means
30	35.1	37.4	34.1	35.5
40	36.9	36.6	36.8	36.8
50	35.7	35.0	35.7	35.4
means	35.9	36.3	35.5	

LSD(0.05) SR - NS
RS = NS
SR x RS - NS

DRY MATTER YIELD (tons/acre)

Seeding Rate (lbs/a)	Spacing 6"	12"	broadcast	means
30	5.35	5.16	3.46	4.65
40	5.62	4.90	4.05	4.85
50	5.35	5.16	5.03	5.18
means	5.44	5.07	4.18	

LSD(0.05) SR - NS
RS = 0.55
SRxRS = 1.00 (P=0.10)

Forage quality: No significant differences among treatments
Mean protein = 10.5%; NDF = 47.2%; ADF = 37.0%

Seeding date: 5/4/95
Stand counts: 5/26/95
Harvest date: 8/8/95
Harvest area: 59 sqft
Growth stage at harvest: late bud - early bloom
Crop year precipitation (Apr 95-Aug 95): 12.70", avg.9.86"
Yearly Precipitation (Sep 94 - Aug 95): 22.64", avg.19.71"
Last spring frost: 5/27/95, 32 degrees F
First fall frost: 9/21/95, 22 degrees F
Avg. frost free period: 112 days
Soil series: Flathead Very Fine Sandy Loam
Elevation: 2,940 ft.