

YEAR/PROJECT: 1996/755

TITLE: Safflower Forage Trial - Planting / Harvest Timing - Dryland

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Safflower (cultivar 'Centennial') was seeded for forage at dryland sites at Kalispell, Sidney, Moccasin, Bozeman, and Corvallis and at an irrigated site at Sidney. The study was designed as a split plot with three planting dates as main plots and three harvest dates as subplots. At Kalispell the planting dates - "PD"s were May 3, May 21, and June 10, and the harvest dates - "HD"s were Aug.2 (when the plots with the earliest PD were just beginning to bloom), Aug.15 (PD-1 at 90% wilt), and Aug.26 (PD-1 at 95% wilt). Each delay in planting resulted in fewer weeds during stand establishment, although safflower stand was not affected by PD. Dry matter forage yield decreased with each delay in PD - from 3.74 to 2.58 tons/acre. There was a significant increase in yield with each delay in HD. Samples from each plot have been submitted for protein, ADF, and NDF analyses.

Prior to each harvest, 10 plants were randomly selected from each plot and separated into stems, leaves, and heads. Total wet weight of each component from each plot was recorded, dried, ground, and submitted for protein, ADF, and NDF analyses. Wet weight of heads decreased with each delay in PD (means across HD) and increased with each delay in harvest. The interaction between PD and HD was not significant. There were no significant differences among treatments in leaf wet weight. The plants did not show major signs of leaf disease, and leaf loss even in the more mature plants was minimal. Stem weight increased as HD was delayed. PD did not have a significant effect within each HD.

SAFFLOWER FORAGE PLANTING/HARVEST DATE TRIAL - 1996**Kalispell**

Planting Date	1/	Safflower
	Weeds (# / sqft)	Stand (# / sqft)
May 3	6.9	9.5
May 23	2.2	10.3
June 10	0.5	10.3
mean	3.2	10.0
LSD(0.05)	1.6	NS
CV(s/mean)	59.5	16.8

Height (inches)

Planting Date	Harvest Date			mean	
	Aug 2	Aug 23	Aug 26		
May 3	33.5	33.3	32.0	32.9	
May 23	29.0	28.8	28.5	28.8	
June 10	28.3	27.8	28.0	28.0	
mean	30.3	29.9	29.5		LSD(0.05) PD = 3.5 HD = NS PD x HD = NS

Dry Matter (%)

Planting Date	Harvest Date			mean	
	Aug 2	Aug 23	Aug 26		
May 3	0.41	0.36	0.43	0.40	
May 23	0.39	0.37	0.40	0.38	
June 10	0.31	0.35	0.43	0.36	
mean	0.37	0.36	0.42		LSD(0.05) PD = NS HD = .03 PDxHD = 0.07 (P=0.07)

Dry Matter Yield (tons / acre)

Planting Date	Harvest Date			mean	
	Aug 2	Aug 23	Aug 26		
May 3	3.43	3.61	4.19	3.74	
May 23	2.65	2.96	3.33	2.98	
June 10	2.00	2.59	3.17	2.58	
mean	2.69	3.05	3.56		LSD(0.05) PD = 0.82 HD = 0.36 PDxHD - NS

1/ Recorded when safflower was approximately 2" tall.

SAFFLOWER FORAGE PLANTING/HARVEST DATE TRIAL - 1996

Kalispell

PARTITIONS - WET WEIGHT

Planting Date	Heads (gms)				mean	
	Aug 2	Aug 23	Aug 26			
May 3	178.4	344.3	484.9	335.9		
May 23	106.7	200.5	433.3	246.8		
June 10	54.4	144.5	287.9	162.3		
mean	113.2	229.8	402.0		LSD(0.05)	PD = 134.7 HD = 44.52 PD x HD = NS

Planting Date	Leaves (gms)				mean	
	Aug 2	Aug 23	Aug 26			
May 3	109.9	158.4	123.6	130.6		
May 23	117.6	126.3	145.0	129.6		
June 10	146.0	146.4	164.9	152.4		
mean	124.5	143.7	144.5		LSD(0.05)	PD = NS HD = NS PD x HD = NS

Planting Date	Stems (gms)				mean	
	Aug 2	Aug 23	Aug 26			
May 3	168.3	221.2	200.5	196.7		
May 23	123.2	137.7	211.3	157.4		
June 10	143.9	157.8	221.7	174.5		
mean	145.1	172.2	211.2		LSD(0.05)	PD = NS HD = 27.3 PD x HD = NS