

YEAR/PROJECT: 1995/755 Safflower Forage Trial - Dryland

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Safflower (*Carthamus tinctorius* cv. Centennial) was seeded on May 1, May 19, and June 9, and harvested for forage on Aug.1, Sept.1, and Sept.28. The study was designed as a split plot with planting dates(PD) as main plots and harvest dates(HD) as subplots.

Dry matter forage yield decreased significantly with each delay in PD - from 4.88 to 2.49 tons/acre. Harvesting on 8/1 significantly reduced yields compared to delaying HD until 9/1. A further delay until 9/28, however, did not result in more forage accumulation. Maturity at harvest ranged from vegetative for first HD of the last PD to hard seed for the last HD of the first PD.

Protein content of the harvested forage ranged from 9.9% to 20.5%. Mean protein for the 6/9 PD (15.2%) was significantly higher than for the earlier PDs. For all PDs, protein at the first HD was higher than at the later harvests, but there was no significant decrease in protein content when harvest was delayed from 9/1 to 9/28. Both NDF and ADF decreased as PD was delayed from 5/19 to 6/9, while mean fiber content of the second HD was lower than the first and third HDs. Mean relative feed value (RFV) for the third planting date was significantly higher than the first two planting dates. Mean RFV for the second harvest date was significantly higher than the first, which was higher than the third. The highest RFV, 156.2, was for the first harvest of the last planting date, which was also the lowest yielding treatment.

SAFFLOWER FORAGE TRIAL - 1995

KALISPELL - DRYLAND

Planting Date	Harvest Date	Growth Stage	Dry Matter %	Plant Height inches	Yield tons/acre	Protein %	ADF %	NDF %	RFV
5/1	8/1	full bud	29.3	44.0	4.08	11.7	41.4	53.7	98.4
5/1	9/1	milk	41.3	42.3	5.42	9.9	35.6	44.6	128.6
5/1	9/28	hard dough	57.5	44.0	5.15	10.8	41.0	52.4	101.4
5/19	8/1	early bud	23.0	37.3	2.77	14.6	41.3	50.3	105.4
5/19	9/1	midbloom	39.8	37.0	4.28	10.5	33.6	43.4	135.4
5/19	9/28	soft dough	56.3	38.5	4.05	11.3	40.3	50.4	107.0
6/9	8/1	vegetative	17.8	28.5	1.61	20.5	31.9	38.3	156.2
6/9	9/1	prebloom	34.5	31.0	2.89	12.7	34.6	44.4	130.3
6/9	9/28	late bloom	53.3	31.5	2.97	12.4	36.5	45.6	123.6
		mean =	39.2	37.1	3.69	12.7	37.3	47.0	120.7
LSD(0.05)	Planting Date	means	5.0	3.1	0.58	0.8	3.5	3.3	13.6
	Harvest Date	means	2.3	0.9	0.30	0.8	1.9	2.3	8.4
	Interaction		NS	3.2	NS	1.5	4.4	4.7	18.1

Previous crop: Kale green manure

Soil series: Creston Silt Loam

Tillage: conventional

Fertilizer: 40 lbs/a P2O5, 80 lbs/a N

Weed control: by hand

Crop year precipitation (Sep 94 - Aug 95): 22.64", avg. 19.71"

Seasonal precipitation (Apr 95-Aug 95): 12.70", avg. 9.86"

Growing degree days(base 50): 1646, avg. 1883

First fall frost: 9/21/95, 22 degrees F

Last spring frost: 5/27/95, 32 degrees F

Frost free period: 117 days, avg. 112