

TITLE: Sunflower Variety Trial

PROJECT: Miscellaneous Crops MS 758

YEAR: 1980

PERSONNEL: Leader - Vern R. Stewart
Technician - Todd K. Keener
Cooperator - Dahlgren and Company

LOCATION: Northwestern Agricultural Research Center

OBJECTIVE: To determine the adaptability of sunflower varieties in western Montana.

MATERIALS AND METHODS:

Prior to seedbed preparation trifluralin was applied at .75 lb/a and incorporated three to six inches by two cross harrowings. A Brillion cultapacker was used for final seedbed preparations. Sunflowers were seeded with a tractor mounted "research" cone seeder. Three varieties were seeded at 4.2 lbs/a in rows spaced 24 inches apart. Seeding rate was computed by seed weight to obtain a seeding rate of approximately 18,000 seeds per acre. Soils were warm and moisture was excellent at seeding time creating fair conditions for germination. The planting date was June 7 which was very late for sunflowers. Sixteen feet of row (32 sq. ft.) was harvested by hand and the heads thrashed in a Voegel thrasher.

RESULTS AND DISCUSSION:

The growing season from time of planting until first frost was 108 days which is equal to the 31 year average for this location. The mean summer temperature for June, July and August was 59.6°F. These temperatures did not supply the heat units necessary for good sunflower growth.

Sunflower growth appeared normal throughout the season yet seed heads varied greatly in size. Up to 30% of the flowers did not form seed and very few seeds filled out to normal capacity within the seed hulls.

There were no significant yield differences found between the three varieties. Physiologically all varieties performed similarly in the field. The yields varied from 923.3 lbs/a for DO 844 to 1205.3 lbs/a for DO 704. Very slight yield loss from birds was experienced prior to harvest, but after samples were taken approximately 35-50% of the remaining crop was lost due to bird activity. Sunflowers as a crop in the Flathead Valley need further investigation.

Table 1. Yield trials on three sunflower varieties in Northwest Montana.
Northwestern Agricultural Research Center, Kalispell, MT in 1980.
Field No. R-13.

Date seeded: June 6, 1980
Size of plot: 32 ft²

Date harvested: October 14, 1980

Variety	No. of Heads per 32 ft ²	Yield	
		Pulk Heads/Plot	Seed Yield/Acre
DO 844	23.0	878g	923.3 lbs
DO 164	22.7	1046g	1196.4 lbs
DO 704	21.7	1116g	1205.3 lbs

Treflan applied preplant incorporated June 7, 1980.