

**Confection Sunflower Trial
2008 Trial Results**

Randall D. Violett
Powell Research and Extension Center
University of Wyoming
747 Road 9
Powell, Wyoming 82435

Introduction

After the successful completion of a preliminary variety trial in 2007 another trial was conducted in 2008. The 2007 data from three varieties indicated a great deal of potential for confection sunflower production in the Big Horn Basin of Wyoming. The 2008 trial consisted of six varieties supplied by four different seed companies.

Materials and Methods

This study was located at the Powell R&E Center at an elevation of 4365 feet above sea level. Typically, this location has about 142 days above 28 degrees F during the spring to fall growing season. The soil type at the study site is a Garland clay loam (fine, mixed, mesic Typic Haplargid). The site was fertilized with 120 lbs/A of N, 50 lbs/A of P and 25 lbs/A of sulfur. The previous crop was oats and a soil test showed 39lbs/A of residual N left over in the top 8” and 70lbs/A residual N in the 8-36 inch soil depth. A pre-plant herbicide approach was taken using 2 pts/A of Sonalan tank mixed with 1 pt/A of Prowl H₂O that was soil incorporated with the fertilizer using a Brillion roller harrow on April 3, 2008. Planting was accomplished using a John Deere Maximerge 7200 planter equipped with corn plates in 22 inch rows on June 2, 2008. The resulting stand had an average spacing of 15 inches between plants within the row for a population of 19,000 plants per acre. Irrigation was accomplished using gravity flow gated pipe on 22” furrows and the amount of water applied is determined by the length of time for each set (12 hours =1”of water).

Table 1. Irrigation schedule and precipitation during 2008 growing season

Month	Irrigation		Precipitation	Total
	Date	Amount (inch)	inch	inch
May (pre-plant)	5/03/08	4	2.56	6.56
June	6/16/08	2	0.18	2.18
July	7/17/08	1	0.35	2.35
	7/28/08	1		
August	8/08/08	1	0.18	4.18
	8/18/08	2		
	8/28/08	1		
September	--	--	1.32	1.32
Total	--	12	4.59	16.59

Total water received by the 2008 crop was approximately 16.59". The experimental site for the variety trial was arranged in strips with each variety represented by three rows replicated five times. Ten feet of the center row of each strip was hand-harvested and placed into paper bags on October 23, 2008. The dried seed heads were thrashed using an Almaco thrashing machine on December 8, 2008 and plot weight was taken after the seed had been cleaned by being passed over a blower. Seed was then processed over a 20/64 round hole screen using a Seed Master machine produced by Hannaford to determine percentage of large seed. A sample of the large seed was tested using a Dickey-john Corporation GAC 2100b analyzer at the Wyoming Seed Laboratory to arrive at a test weight and average moisture content.

Results and Conclusions

With a cool wet start to the growing season, establishment of the stand was slow but appeared to be uniform. After enough heat units were received the crop grew well and all the varieties flowered within two days of each other. There was no insect or disease damage observed through out the growing season. Bird damage did not occur until after the samples were harvested so there was no yield losses do to bird damage.

Table 2. Sunflower variety performance

Variety	Yield lbs/A	% >20/64	Test wt*
Mycogen 8C482	2222.8	70.2	22.6
Dahlgren	2605.4	70.3	22.2
Panther	1954.3	66.0	22.9
SS38A	2095.6	70.5	24.3
Goliath RT	2048.5	74.4	22.6
Jaguar	2397.6	87.9	21.7

* The test weight was calculated at an average moisture of 5.59 percent.

The 2008 averaged yield was 1,498 lbs/A less than the 2007 average yield (3,178 lbs/A). This difference between years could be mostly due to the cooler growing conditions in the spring of 2008. The two year average of the varieties grown in both years was 2,896 lbs/A which makes confection sunflower production an economical crop for the Big Horn Basin of Wyoming.