Fresh Cut Sunflower Production

Karen Panter

Introduction
Interest in local production of horticultural commodities is increasing in Wyoming. Ornamental crops should be part of the discussion along with edible crops. We grew fresh cut sunflowers in a Laramie Research and Extension Center (LREC) greenhouse and in two high tunnels in two different growing seasons, 2012 and 2016.

Objectives
Our overall goal was to add a niche specialty cut flower crop for Wyoming growers who use high tunnels or greenhouses for production. Other aims were to grow fresh cut sunflowers in the brown and gold, University of Wyoming colors (Figure 1) for the local market and to make available to Wyoming growers the methods used. We wanted to add a specialty crop that can be grown in Wyoming for sale at local venues such as retail florists and farmers’ markets. We want to expand and encourage specialty crop production Wyoming.

Materials and Methods
2012: Seeds of three cultivars of Helianthus annuus were sown on May 2 and transplanted either into 19 oz containers in the greenhouse or in the ground in two high tunnels. Cultivars used were ‘Dafna’, ‘ProCut Bicolor’, and ‘Sunbright Supreme’. All plants were spaced on six-inch centers, irrigated daily or as needed, and fertilized with one teaspoon (0.2 oz) of slow release 15-9-12 fertilizer per plant.

2016: Two cultivars, Dafna and ProCut Bicolor, were sown on May 26 and transplanted into #1 (95 oz) containers and into the ground in the high tunnels on June 8. Spacing, watering, and fertilization were the same as 2012.

Harvest and data collection for both years: Stems were cut when the outer ring of petals on each sunflower was fully open. Stem lengths and days from sowing to harvest were recorded.

Results and Discussion
In 2012, days to harvest varied by cultivar. It took longer for Dafna to reach maturity in the high tunnels (94 days) than in the greenhouse (89 days); the same held true for Sunbright Supreme, which took 95 days in the high tunnels and 90 in the greenhouse. ProCut Bicolor took about the same number of days to reach cutting stage: 77 days in the high tunnels and 80 in the greenhouse.

In 2016, Dafna took 78 days in the tunnels while ProCut Bicolor took ~70 days. The overall average of days to harvest of the two cultivars in the greenhouse was 63 (Figure 2).

Longer time to harvest in the high tunnels as opposed to the greenhouse is probably due to lower night temperatures outdoors. This has a tendency to increase cropping time. Warmer, more consistent temperatures in the greenhouse contributed to shorter times to harvest.

In 2012, stem lengths varied by cultivar, but not by where they were grown. Sunbright Supreme showed an average stem length of 54.7 inches, Dafna 45.7, and ProCut Bicolor 41.7. In 2016, the opposite occurred—differences in stem lengths depending on where they were grown, but no
differences between the two cultivars. Stem lengths in 2016 averaged 50.5 inches when grown in the greenhouse, but anywhere from 35.2 (east side of the north–south-oriented tunnel) to 29.3 (west side of the north–south tunnel) (Figure 3).

We did not see differences in stem lengths between cultivars in 2016. Differences in stem lengths because of locations were likely due to higher light levels during early morning hours on the east side. Westerly winds hitting the west side plants tended to shorten them.

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Contact Information
Karen Panter at kpanter@uwyo.edu or 307-766-5117.

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Figure 2. 2016 days to harvest of fresh cut sunflowers in the greenhouse (far right) versus high tunnels.

Figure 3. 2016 average stem lengths (in centimeters) of two cultivars of fresh cut sunflowers when grown in a greenhouse and high tunnels. Note: 1 cm=0.39 inches (the longest stem length, grown in the greenhouse, is 128.3 cm, or 50.5 in.)

1Department of Plant Sciences.