

Sunflower Cultivars for Field Grown Cuts: a Cultivar Evaluation.

Tim Shashok and Rich McAvoy
Department of Plant Science

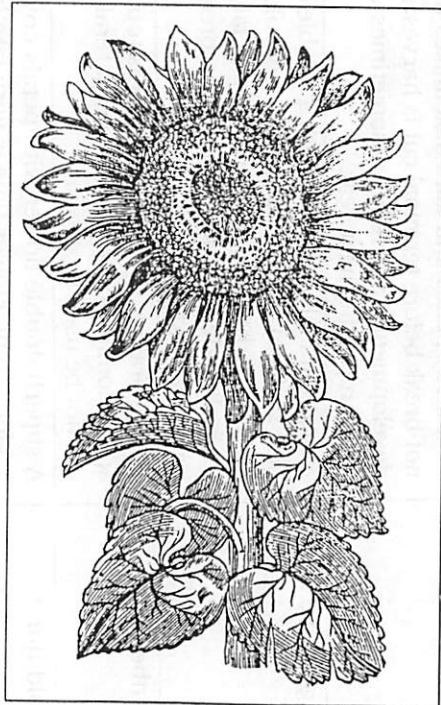
At Shashok's Orchard we grow a real mix of horticultural crops for retail sale, including everything from apples and peaches, to vegetables, pumpkins, gourds, Christmas trees, and fresh and dried cut flowers. On an acre basis, the field grown cut flowers have been the most profitable of all the crops. Every year I like to try a few new cultivars of each of the species I grow in order to improve upon the product mix offered. Zinnia and sunflower are the backbone of our fresh cut business, and the new forms and colors of sunflowers that are now available have really added excitement to this crop. This past season Rich McAvoy and I spent sometime evaluating a number of sunflower cultivars (*Helianthus annuus*) for their cut flower potential.

We start our plants in the greenhouse about the beginning of May and then transplant through black plastic on an 18" x 18" spacing after the threat of frost has past – about three weeks after sowing. This technique allow us to cut early and long. We usually can start cutting around July 4 with some of the earliest cultivars and up to frost with cultivars that yield as many as three cuts.

We evaluated cultivars for acceptability as cut flowers based on a number of criteria, including earliness and duration of cut, number of cuts produced, flower conformation, flower color, flower size, average stem length on cuts, stem strength, flower head orientation, and post-harvest performance. An ideal cultivar would be one that produces a 5- to 6-inch flower head on an 18" stem. The stem should be strong enough to support the cut without bending. Head orientation should be vertical or slightly upright, but not nodding. Flowers should come in reasonably early, and the laterals should start to break before the terminal flower is cut. This usually results in long laterals that bloom closely behind the first cut. Some plants are able to produce a third cut from breaks that develop off of the laterals and this is most desirable. The petals from the ray flowers should overlap and double flowering types – those with ray-type petals covering

the disk – are especially hot sellers. Gaps between the ray petals are considered a negative feature. There is a wide range of acceptable flower colors and a good mix is most desirable. The mix I like includes some with the traditional bright yellow or orange petal fringe of ray flowers around the dark disk, some with pale yellow ray petals, cultivars with the dark red to purple ray petals, cultivars with petals that have a reddish color toward the base and an orange color near the tip, and anything with doubles. Finally, flowers should have a vase life of at least seven days.

For a grower, the bottom line on cultivar evaluation is whether a cultivar is good enough to keep in the mix next season or not. The observations in the table below are primarily qualitative in nature – we didn't measure cut stem length or record the number of cuts sold. However, we feel that by observing the plant growth characteristics during the season, harvesting cuts, and watching consumers react to the various flower forms in a retail setting we can get a fair idea of what works and what doesn't.



Sunflower cultivars evaluations. Plants were assessed for cut flower production and flower quality over a summer growing season.

Cultivar name	Comments
Double Sun Gold	Tall, averaging about 6'. Terminal cut is short and must be removed to force laterals. Lateral length and strength is good, but upper laterals are dominant. Usefulness of this cultivar may be improved by an early pinch of the terminal bud. Flower quality good and we will grow it again next year.
Moon Bright	Yellow ray petals and dark disk makes the flower highly desirable. Flowering is late and laterals do not break before terminal cut is harvested. Plants are strongly apical dominant and lateral development was irregular (sometimes with only 1 to 2 quality breaks developing). Cultivar worth repeating next year.
Tigers Eye Mix	A mix that includes some with a double row of overlapping ray petals on the fringe (but not on the disk surface), and some very showy color combinations along with a few undesirable colors. Flowers early. Good terminal cut and laterals develop before the terminal is harvested. Breaks from all nodes, and a third cut from breaks off of the lateral branches is possible. This cultivar will be grown next year.
Sunbeam	A large orange, simple flower that is too big for cutting. Flowering is late and the plant has strong apical dominance, producing few lateral breaks and none before the terminal is cut. This cultivar will not be used next year.
Gold Burst	A superb double flower with petals covering the entire disk surface just like Teddy bear, but on a 5-foot stem. Flower time is very late but laterals break before the terminal is cut and a second cut off every node can be expected. Head orientation is slightly upright. One of the very best cultivars in the trial. A definite for next year.
Italian White	A different species (<i>Helianthus decapetalus</i>) than the typical sunflower (<i>H. annuus</i>). Plants branch freely and flowering is early and prolific. The small flowers have a pale yellow fringe of ray petals with a dark disk. However, the flowers are undesirable because the ray petals do not overlap and the stems are weak, resulting in a nodding flower head. This cultivar will not be used again.

Sunflower cultivars evaluations. Plants were assessed for cut flower production and flower quality over a summer growing season.

Cultivar name	Comments
Daisetsucan	Small but acceptable yellow flowers with dark centers. Some gaps between ray petals. Laterals develop freely all the way to the base even before the terminal is cut. Plants have a unique fuzzy leaf. Flowering is very prolific. A good cultivar that will be used again.
Teddy Bear	All double flowers with ray-like petals covering the entire disk surface on super compact knee high plants. Plants are surprisingly productive for their size. Cut stems are short but acceptable and the plants branch freely, resulting in second cuts off all of the lateral breaks. Once cut the laterals will also branch but are too short for a viable third cut. Teddy Bear flowers are highly desirable but the cultivar will be replaced by Gold Burst in our mix because Gold Burst produces similar flowers on a more acceptable plant.
Autumn Beauty	A tall plant with mixed colors and flower conformations – not all of which are desirable. Plants break well and two cuts can be expected. Flowering is early and flower size is ideal. Overall a solid cultivar that will be used again.
Velvet Queen	A tall grower with very dark reddish-orange blooms. Color is unique and very desirable in a bouquet mix. Terminal flowers are on the large size but second cuts are a good size. A cultivar that we will grow again next year.
Superior Gold	Large 8 to 10" flower head with no lateral breaks. Flowers are too large and gaps between the ray petals are undesirable. Not good for cut flower use and will not be used again.
Valentine	Pale, lemon yellow flowers with dark centers that bloom early. Flowers average 4 to 5" in diameter. Plants short, with first cut ready when stalk is about three feet tall. Laterals develop freely to the base of the plant. Expect about 15 flowers from terminal and lateral cuts. We will keep this cultivar in the mix for next year.

Sunflower cultivars evaluations. Plants were assessed for cut flower production and flower quality over a summer growing season.

Cultivar name	Comments
Large Flower Mix	Extremely tall plants up to 10' with a mix of color forms. Large plants did not lodge, even after a heavy wind that toppled some nearby fruit trees. Lateral branches developed freely all the way to the base. Prolific with plants averaging over 15 blooms and some yielding as many as 30. A good cultivar that will be used again in the future.
Velvet Tapestry	A mix of flower colors on a tall plant. Some color combinations such as those with the sunset-type ray petals (dark reddish at the base that transition to orange or yellow tips) are very desirable. Plants tall to about 7'. Most plants are well branched and prolific but a few in the mix branched poorly. Overall a good cultivar that will be used again.
Evening Sun	Tall 7' plants with mixed colors that bloom later than Velvet Tapestry. Some dark color combinations that are good but not exceptional. Branches good with some third cuts possible. We will grow this one again next year.
Orange Sun	A late blooming cultivar with a thick stem. Has highly desirable double flowers similar to Gold Burst but with a deeper orange color and more distinct ray petals. A very good branching habit and a good cultivar for the future.
Big Smile	An extremely dwarf (18") plant with a single large flower head. No re-cuts possible. Not suitable for cut flower use.