

## October ---You are my Sunshine...

A noticeable upstate example of our Fall blooming wildflowers is the sunflower. Several species can be found along roads of many South Carolina counties.

There are many sunflower "look-alikes" in family Asteraceae, which is why this family is sometimes referred to as the sunflower family. True sunflowers belong to the genus *Helianthus* from Greek "helios" for sun, and "anthos" for flower. The "common" sunflower named in the 18th century by Carlos Linnaeus is *Helianthus annuus*, "annual" sunflower. In South Carolina it can be found growing wild along with over twenty other species of this genus.

Sunflowers track the sun. In French, they are called "tournesol," and in Spanish "girasol," referring to this phenomenon known as "heliotropism." Heliotropism is caused by changes in water pressure in the plant's stem, and is reversible. It differs from "phototropism," a plant's growth in response to light which is not reversible.

Probably the most famous painting of a vase of sunflowers was created in the nineteenth century by Vincent Van Gogh. Another Artist, Stan Herd, created a huge "painting" of a vase of sunflowers by planting them and other species in a seventeen acre field!

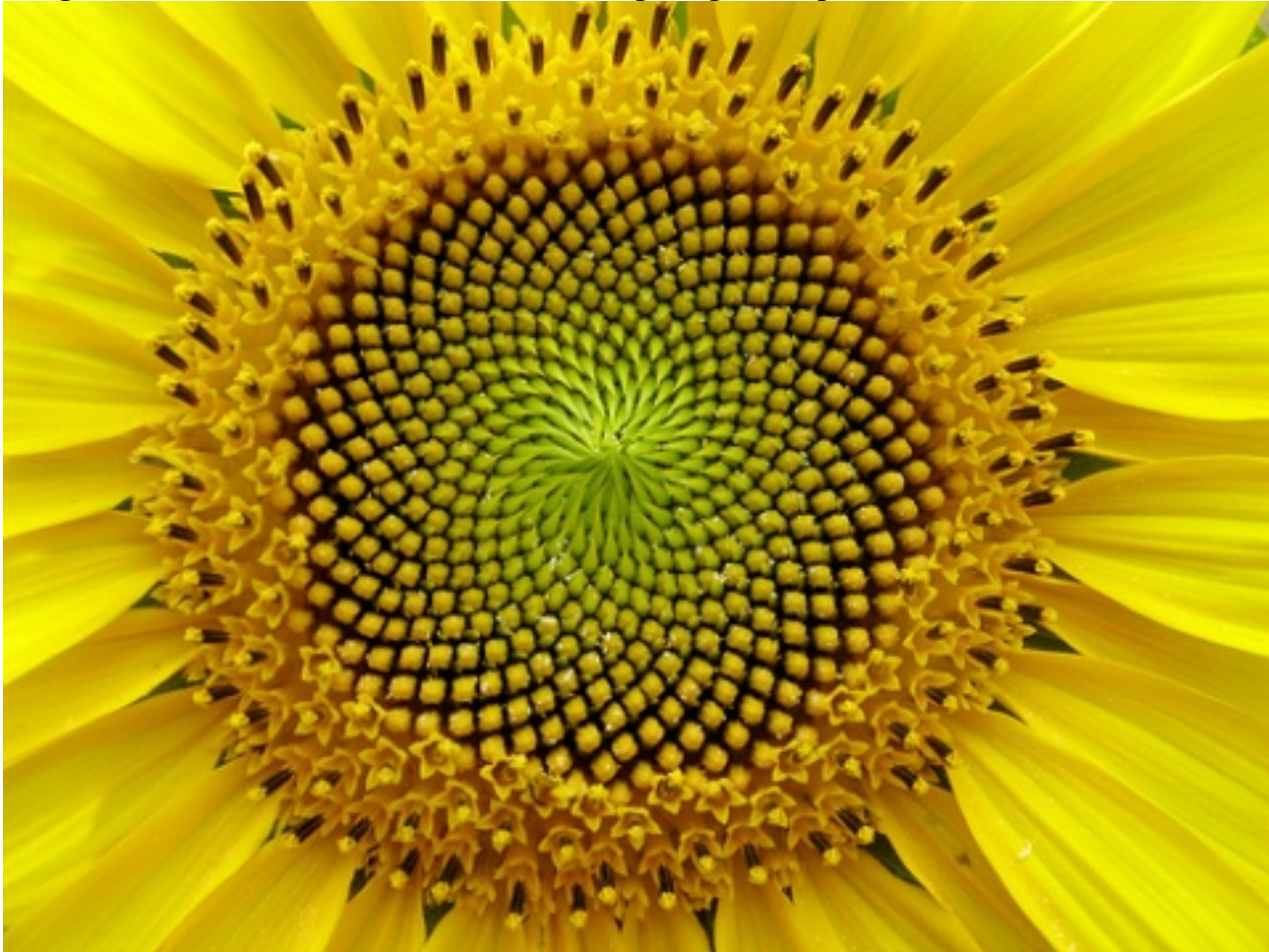


Sunflowers originated in North America and for centuries have been grown for seed. Native Americans domesticated them early on, and seeds had many uses including flour, oil, and snack food. Archaeological evidence has revealed that as early as 3000 B. C. sunflowers were cultivated in southwestern North America. Likewise in South America, sunflowers were cultivated and revered by Aztecs. Sunflowers were introduced to Europe by Spanish explorers in the 16th century, and initially they were cultivated as ornamentals. By the 18th century, England was producing sunflower oil, and by 1830 Russian farmers

were growing over two million acres. In the early 1900's Russian immigrants reintroduced sunflowers as an American crop, and in 1926 the Missouri sunflower, "Grower's Association," was established. Sunflowers are also grown in North Dakota, South Dakota, Kansas and Colorado as well as Canada. In 2011 our sunflower crop totaled nearly 2.04 billion pounds and was valued at nearly \$603.62 million, though this is a decline from 2010. ( Agricultural Marketing Research Center )

Another name for the sunflower family is Compositae, and members are collectively called "composites." This refers to the fact that their blossoms which appear to be single flowers are actually "composites" of many individual flowers. The outer flowers that appear to be petals are called "ray" flowers and the inner ones are called "disc" flowers. Disc flowers may be arranged in a fashion that illustrates what mathematicians call a golden spiral. Good sunflower specimens can be used to demonstrate the Fibonacci number series. Blossoms spiral this way to achieve optimal packing of their seeds!

**Image 2. The sunflower disc flowers illustrating the golden spiral and Fibroacci number series.**



**Image 3. Sunflowers Wild sunflowers along HWY. 184 near bridge at Chickasaw Creek. These are native Paleleaf Woodland Sunflowers, *Helianthus strumosus*.**



**Image 4. Woodland Sunflower close showing cluster of disc flowers surrounded by ray flowers.**



**Image 5. Disc flowers of Woodland Sunflowers providing nectar for a pair of bees!**

