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The Monocot Garden

Each year the new incoming Master Gardeners are required to come up with a unique “Teaching garden plan”. The 2019 Master Gardener interns were assigned to create a “Monocot Garden”.

Location:

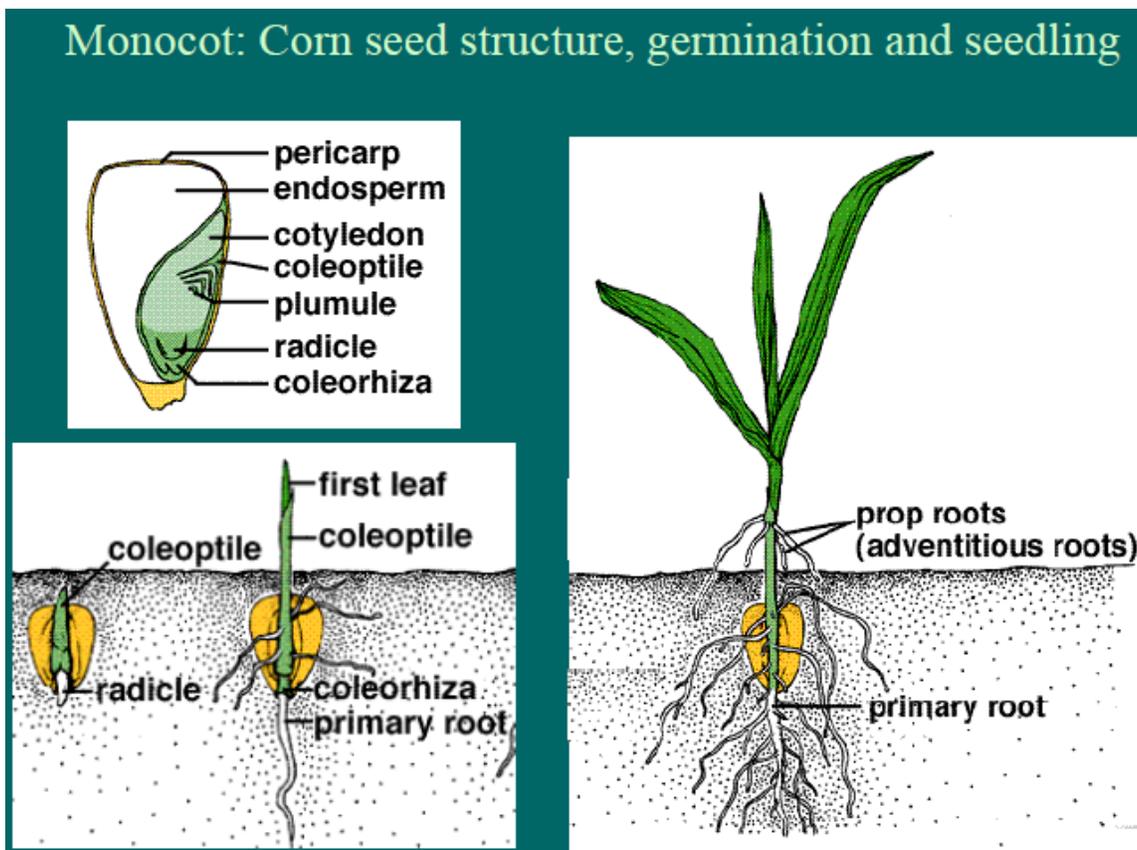
The plot is on both sides of the pedestrian path ramp adjacent to Holt drive parking lot.

Goal:

Create a buffer garden design uniting both sides of the pedestrian path ramp.

Process

The Master Gardener Interns were divided into three teams. Each team was to create a garden design using only Monocot plants. Upon completion each team gave a presentation of their design to their fellow Master Gardeners for consideration. The proposed ideas were later reviewed and a final design emerged using the best elements of each design.

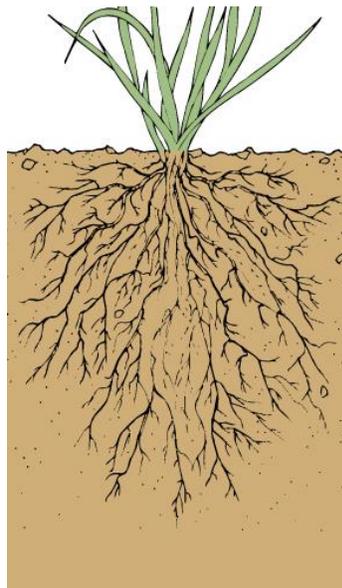
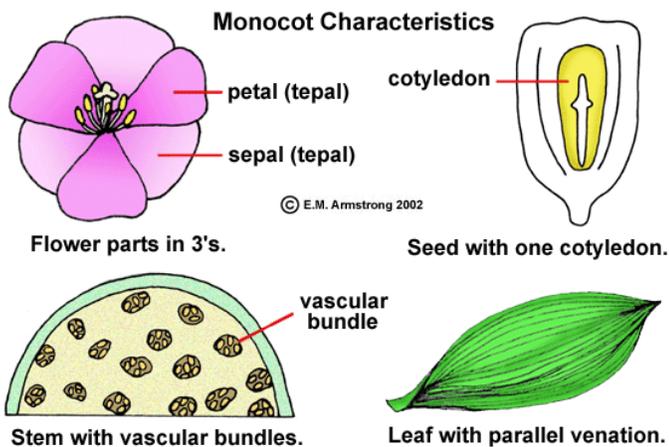


So what is a Monocot?

Monocots refers to a group of flowering plants that are defined by having seeds that contain a single (mono-) embryonic leaf know as a cotyledon.

Monocots have six distinct structural features:

1. **Flowers:** The flower parts of a monocot are arranged, structured, and for the most part are numbered in multiples of three—usually with one stigma, three stamens, three petals, and a calyx formed by the sepals in numbers less or equal to the number of petals.
2. **Leaf venation:** Venation refers to the pattern of veins in a leaf blade. The veins transport water and carbohydrates throughout the plant. Monocots veins are in a parallel-like pattern and scattered.
3. **Roots:** Although monocots start with a tap root, the tap root after germination is replaced by adventitious roots. Adventitious roots are fibrous and spread widely in the upper layer of the soil.
4. **Stems:** The stem's growing point is at the top of the stem thus disallowing the growth of any side stems, branches or bark. The stems for the most part die at the end of the growing season and therefore are called herbaceous. Some monocots such as palms and agaves can produce a substitute outer layer.
5. **Pollen grain:** The monocot's pollen grain has a single furrow or pore through the outer layer.
6. **Embryo:** The embryo is the part of the seed that contains all of the precursor tissues of the plant. Monocots have one (mono-) cotyledon in the seed and one leaf emerging from the cotyledon. The seed pod of a monocot is in parts of three. The cotyledon is the first part of the plant to emerge from the seed. Cotyledons are important in food absorption and are responsible for absorbing nutrients from the environment until the plant can photosynthesize its own nutrients.



Examples of Monocots:

- Grasses: examples are grasses, corn, wheat, sugar cane, and rice
- Palm trees
- Lilies
- Orchids
- Bananas

A majority of agricultural plants are Monocots!