

Horticulture Notes: April Showers bring May Flowers

Sandra

Your bulbs and perennials have been underground waiting for hours of darkness to shorten, ground temperatures to rise, and moisture to seep through the soil to awaken them. Here it comes!

Water comprises 95% of plant tissues! So winter snows and April rains guarantee a plant's survival. As water seeps into soil, roots suck it up into the stem and leaves, and [through transpiration] water exists through the pores or stomas of the leaves. This transpiration occurs so that a constant cycle of water with dissolved nutrients can be drawn into the plant; it also helps to moderate plant temperature, allowing the plant to sweat. Remember those dog days of August.

What about plants that don't get watered? Think about desert plants with minimal moisture. They have adapted to low rainfall by acquiring thick, hairy skins that prevent tissue water loss in arid environments. Their light colored skin reflects light to help reduce tissue temperature and to retain moisture. The hotter you get, you sweat. So do plants which results in moisture loss. Not a problem if the plant receives adequate moisture; death is it doesn't.

Drought tolerant plants, used in xeriscaping garden design where minimal moisture is a reality or a preference, have many characteristics that enable them to survive, too:

Thick fleshy skin as in cacti and succulents,
Pale foliage [silver blue to green] like rose campion and Lambs ear,

Hairy leaves like artemesias, convolvulus, and Lambs ear

Thick root masses like lavendula, phlox, and salvias,

Long tap roots like lupines, Baptista, and poppies,

Water storing roots like Hemerocallis and Kniphofia

Waxy leaves like ruta and eucalyptus, etc.

All these characteristic enable a plant to reduce its water loss, retain available moisture, and root out [pun intended] more distant sources of moisture. Without adequate water, most functions of a plant are compromised:

1. Turgor or firmness of plant tissue. Think of a drooping fuschia in the afternoon sun.
2. Water controls the opening and closing of the leaves' stomata [which resemble our own sweat glands and pores]. This open-close functioning regulates plant transpiration;
3. evaporation from opened stomata controls plant temperature just like when we sweat in the sun. Water is essential for root tip growth. This growth allows the plant's roots to spread underground, growing outwards to search for more water and nutrients. These nutrients or macro- and micro- elements in the soil, are dissolved in water for uptake into the plant. The more developed the root system, the more a plant can maintain its moisture needs and the better able it can accommodate low water stress. Think of a seedling versus a mature plant enduring August's sun and humidity. The youngster just doesn't have the coping [developed root system] skills. With moisture, minerals and carbohydrates move through plant tissues for use or storage. Remember those underground bulbs, corms, and rhizomes? They are storage centers for spring plant growth and bloom. If water is scant in the fall, that time in the bulb's life when it is making and storing carbohydrates like a marathon runner, the bulb may produce scant foliage and weak if any bloom come spring. And finally, water is necessary for photosynthesis. The leaves produce all the food. They need water with their meals just like we do. They need "vitamins" or ground minerals just like we do. When the leaves have these plus sunshine, they can feed themselves.