

Whole Cycle Tuesday

Takeaway

Reducing water loss is not just about using less water, it's about creating soils that hold and manage water better from the start.

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*"Nature does not hurry,
yet everything is
accomplished."*

— Lao Tzu

Healthy Soils and Evapotranspiration

Every landscape loses water to the atmosphere every day. Some water evaporates directly from the soil surface, while some is released through plants as they grow and breathe. Together, these two processes are called evapotranspiration.

Evapotranspiration plays a major role in agriculture, landscaping, stormwater management, and drought resilience.

During hot, dry, and windy conditions, water can leave the soil quickly, placing stress on plants and increasing irrigation demands. The condition of the soil itself has a major impact on how rapidly this happens.

Healthy soils act like natural water managers. Soils rich in organic matter and biological activity are better able to absorb, store, and slowly release moisture to plants. This helps reduce unnecessary water loss and improves overall moisture efficiency in the landscape.

Think of healthy soil as a well-insulated reservoir. When soil contains adequate organic matter, compost, and strong soil structure, water moves deeper into the ground instead of remaining exposed at the surface where it can rapidly evaporate. The soil also develops pore spaces that hold moisture longer and make it available to plant roots over time.

Plants growing in healthy soil are often better equipped to regulate transpiration as well. Strong root systems can access moisture deeper below the surface, allowing plants to remain healthier during dry periods. Stressed plants growing in compacted or poor soils often lose water less efficiently and become more vulnerable to heat stress.

Soil cover also plays an important role. Mulch, vegetation, and crop residue help shade the soil surface, lowering temperatures and slowing evaporation. Bare soil exposed to direct sunlight can lose significant amounts of moisture very quickly, especially during summer months.

Compost and organic amendments are valuable tools for reducing excessive losses. By improving soil structure and increasing organic matter content, compost helps soils retain water longer after rainfall or irrigation events. This can reduce watering frequency, improve drought resilience, and support healthier plant growth.

Healthy soils improve infiltration during storms, allowing more water to enter the ground. The more moisture that enters and stays within the soil profile, the more efficiently the landscape can support plants during dry weather.

