

Turgor pressure is the water pressure within the plant. When a plant lacks water, turgor pressure drops, causing the plant to wilt. A good example is an inflatable toy which collapses when the air is released.

Tugor or turgidity is the pressure within the plant cells that acts on the cell wall. This is determined by the amount of water in the vacuole. The amount of water in the vacuole depends on the osmotic pressure through a semi permeable membrane. The semi permeable membrane controls the flow of fluids.

If there is salt build up in the soil, the osmotic pressure in the plant reverses, and the water in the plant goes back to the soil. This would cause the plant to wilt and eventually die.

This is also one reason why we do not water the bonsai before wiring it. Because if there is a lot of water in the cells, the plant will be more turgid and will be a lot difficult to bend.

Turgor pressure is also the mechanism that supplies water to the top of the tree. When water evaporates from the canopies of tall trees, turgor pressure drops creating a vacuum within the plant. This vacuum sucks the water from the lower parts of the tree to the top.

When your bonsai wilts, it needs water. So water immediately. When fertilizing or feeding your bonsai, it is best done when turgor pressure is low so that more nutrients will be sucked up by the bonsai. So feed your plants when the sun is high up.