



# Chart: Soil Systems Vs. Soil-less Systems

	Soil Systems	Soil-less Systems
<b>Nutrient Uptake</b>	The soil must have a perfect balance for the plants to receive a well-balanced diet. Aerobic decomposition breaks down organic matter into the basic nutrients. Water dissolves the salts and allows uptake by the roots.	Rather than making the plants' roots forage for nutrients, soil-less systems send the desired amount of food directly to the root during irrigation. This allows the plants to receive a higher volume of nutrients than with soil and allows for rapid adjustments to the nutrient regime.
<b>Measuring pH and Nutrients</b>	It's difficult to measure the pH and nutrient content of soil. The basic elements dissolve into the water only when you water your plants.	All nutrients are delivered through the water. The pH and nutritional content of the water are easily measured and maintained.
<b>Cleanliness</b>	Living soil is never sterile. If precautions aren't taken, soil can introduce pathogens into the environment.	Soil-less media are inert and sterile, making it a very hygienic environment.
<b>Oxygen</b>	Provides around 50% of the required oxygen to the root system in optimal conditions.	Provides 80 to 99% of the oxygen required by the root system, with aeroponics being close to ideal.
<b>Monitoring</b>	Requires less monitoring because the soil itself buffers conditions. Can be left alone for longer periods of time.	Requires more frequent monitoring. Almost zero buffering against changes in pH, nutrient uptake, and availability. Especially problematic without backup power supplies.
<b>Cost</b>	Because you don't need to pay for expensive water delivery systems and non-renewable liquid nutrients, the cost is lower.	Requires a more expensive setup and moderate technical skills. Aeroponic systems cost slightly more than hydroponic systems.
<b>Flower Yield</b>	Often lower than other methods, but ultimately strain dependent.	Capable of slightly faster growth than soil systems.