



## Boost Yield by Adding CO<sub>2</sub> to Your Hydroponic Garden

By Katherine Keleher

Carbon dioxide (CO<sub>2</sub>) is required by crops to execute the photosynthesis process. Throughout photosynthesis, CO<sub>2</sub> is mixed with water, nutrients, and light from the sun (or hydroponic garden light) to produce important sugars that provide the plant's light.

Why should you add CO<sub>2</sub> to your hydroponic garden?

Low carbon dioxide (CO<sub>2</sub>) measures will limit your plant's capacity to create energy through photosynthesis. Crops can process a great deal more CO<sub>2</sub> than is normally found in the surroundings. One of the best ways to boost growth is to enhance the quantity of CO<sub>2</sub> available to your crops with a CO<sub>2</sub> system in your hydroponic garden.

How to increase your hydroponic garden's carbon dioxide levels

Choosing a CO<sub>2</sub> injector is the least pricy way to add CO<sub>2</sub> to your hydroponic system's climate. These commonly consist of a release, regulator, and a gauge to determine the amount of CO<sub>2</sub> being inserted into the air. Some of the more involved carbon dioxide injectors also include a timer to run the scheduling of the CO<sub>2</sub> discharge. CO<sub>2</sub> refills are usually distributed independently and can be found at medical or eatery supply shops.

If you want to use your hydroponic garden for a lengthy time or for a number of crops, it may be cheaper to invest in a long-term CO<sub>2</sub> production solution. Carbon dioxide generators manufacture carbon dioxide through the heating of propane, natural gas, or any other carbon-based fuel base. They are appreciably more costly than the basic CO<sub>2</sub> injector system, but you will eliminate the expense and effort of obtaining CO<sub>2</sub> refills. Over a lengthy enough period of time, the investment in CO<sub>2</sub> production ends up to be more economical than purchasing an injector and many refills.

For large-scale nurserymen (or those with extra funds to tinker around with), a CO<sub>2</sub> gauge with regulator can mechanically maintain your hydroponic setup's carbon dioxide levels at a selected point. These arrangements can be very pricy, 100s to thousands of dollars, but are a fine extra if you can find the money for it. There is normally an automatic CO<sub>2</sub> dial connected to a regulator that is then associated to a CO<sub>2</sub> producer to guarantee that the system continually is set at the user's fixed CO<sub>2</sub> amount. Some dials are marketed separately and are compatible with many varieties of regulators, allowing greater versatility when planning your system.

Whichever system is best for you, it is important to always consider your carbon dioxide system when initially designing your hydroponic garden. Many gardeners will overlook this one part of their system and reduce their crop's production before a single seed is even sprouted. Remember, a lack of any key facet required for photosynthesis will limit the plant's development to the point of that deficit. If any one needed aspect is omitted, the full growing process will be impacted.

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