

## Online Extras

### Safe and Effective CO<sub>2</sub> Enrichment in the Garden

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Enriching an indoor garden or greenhouse with CO<sub>2</sub> can help plants achieve optimal photosynthesis resulting in record growth. The pros and cons of two most popular enrichment methods, combustion generators and CO<sub>2</sub> bottles and regulators, are detailed below to help you choose the method that will best suit your and your plant's needs.

	Combustion Generator	CO <sub>2</sub> Bottle and Regulator
Price	<ul style="list-style-type: none"> <li>Operating costs are relatively low once the CO<sub>2</sub> generator is purchased.</li> <li>More economical than CO<sub>2</sub> bottles.</li> </ul>	<ul style="list-style-type: none"> <li>Expensive source of CO<sub>2</sub></li> <li>The larger your garden, the higher the cost.</li> </ul>
Impacts on the garden's climate	<ul style="list-style-type: none"> <li>Produces heat and water vapor: one pound of propane generates about 1.5 pounds of water and 20,000 BTU of heat.</li> <li>CO<sub>2</sub> generators are not recommended for small growing volumes (less than 424 cubic feet).</li> <li>Requires good management of temperature and humidity to avoid damage to plants.</li> </ul>	<ul style="list-style-type: none"> <li>The garden's climate is not affected since no heat or water vapor is generated.</li> <li>Can be used in the presence of high temperature and humidity levels in the garden.</li> <li>Excellent choice for small growing volumes.</li> </ul>
Potential Toxicity	<ul style="list-style-type: none"> <li>Risk of toxicity in cases of incomplete combustion caused by a defective device or lack of oxygen.</li> <li>Poor quality fuels are to be avoided; some may cause sulfur dioxide pollution (e.g. kerosene).</li> </ul>	<ul style="list-style-type: none"> <li>Safe source of CO<sub>2</sub></li> <li>Risk free for crops, since no toxic gas is released.</li> </ul>
Others	<ul style="list-style-type: none"> <li>A generator with a heat exchanger can recover some of the heat generated by combustion to heat another room.</li> </ul>	<ul style="list-style-type: none"> <li>Regulators may freeze at large gas flow (more than 20 cubic feet per hour).</li> <li>Some models can withstand gas flow up to 50 cubic feet per hour without freezing.</li> </ul>