

## KEY PLANT FOODS AND THEIR NATURAL SOURCES

Nutrient	Function	Sources
CO <sub>2</sub> Carbon Dioxide	Diffuses into chloroplasts of leaves where it mixes with water, chemicals and sun energy to produce organic compounds sugars which are the building blocks for cellulose, proteins, vitamins, enzymes etc.	Air
N Nitrogen	<ul style="list-style-type: none"> <li>• Key element of amino acids, enzymes, chlorophyll &amp; genes</li> <li>• Genetic coding of chromosomes</li> <li>• Useful to plants in both ammonium and nitrate forms</li> <li>• Rizobium bacteria is a root associate of many legumes which 'fixes' atmospheric nitrogen in a form available to plants. These organisms fix 10 million Tonnes of Nitrogen per year in Australia alon.</li> </ul>	<ul style="list-style-type: none"> <li>• Compost</li> <li>• blood and bone</li> <li>• chicken manure</li> <li>• urine</li> <li>• Coffee</li> <li>• - Alfalfa</li> </ul>
P Phosphorus	<ul style="list-style-type: none"> <li>• Essential for photosynthesis and making of protein and new cells</li> <li>• Essential for growth and reproduction</li> <li>• Deficiency stunts growth</li> <li>• P is removed from soil through harvest especially of grain and seed crops</li> </ul>	<ul style="list-style-type: none"> <li>• rock phosphate(slow release)</li> <li>• blood and bone</li> <li>• animal manures</li> <li>• fish meal</li> </ul>
K Potassium (Potash/Kalium)	<ul style="list-style-type: none"> <li>• Controls water flow in stems and regulates stem growth</li> <li>• Aids chemical reaction/salts</li> <li>• Strengthens cell walls giving plants natural protection from disease and pest attack</li> <li>• K is removed through repeated harvest</li> <li>• Leached from sandy soil &amp; soils in high rainfall</li> <li>• Requires balance of magnesium</li> </ul>	<ul style="list-style-type: none"> <li>• Clay particles</li> <li>• Wood ash</li> <li>• Sea weed</li> <li>• Urine</li> <li>• Poultry manure</li> <li>• Plant residues</li> <li>• Compost</li> <li>• Granite dust</li> </ul>
Ca Calcium	<ul style="list-style-type: none"> <li>• Necessary for normal cell division, as cell salts and for genetic coding</li> <li>• Essential for Rhizobium bacteria to form nodules on roots</li> <li>• Deficient in acid soil and soils with excessive amounts of Mg, K and ammonium salts</li> </ul>	<ul style="list-style-type: none"> <li>• Clay particles</li> <li>• Bone meal</li> <li>• Limestone</li> <li>• Wood ash</li> <li>• Dolomite</li> <li>• Gypsum</li> <li>• Oyster shells (ground)</li> </ul>

<b>Nutrient</b>	<b>Function</b>	<b>Sources</b>
Mg Magnesium	<ul style="list-style-type: none"> <li>• Each chlorophyll molecule has Mg atom – gives plants their green colour</li> <li>• Essential for photosynthesis</li> <li>• Catalyst for use of Phosphorus</li> <li>• Deficiency occurs with excess potassium and in soil suffering extremes of wet/dry/cold</li> <li>• Leached in high rainfall areas</li> </ul>	<ul style="list-style-type: none"> <li>• Dolomite</li> <li>• Epsom salts</li> </ul>
S Sulphur	<ul style="list-style-type: none"> <li>• Gives plants their flavour and odour</li> <li>• Essential for production of amino acids &amp; protein</li> <li>• Easily leached</li> <li>• Removed through harvest of grain, hay and vegetable crops</li> </ul>	<ul style="list-style-type: none"> <li>• Available during decomposition of organic materials – mulch and manures</li> <li>• Gypsum</li> <li>• Sea spray drift</li> </ul>

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