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## Functions of nutritional elements in rice

Element	Function
<b>Nitrogen</b>	<ul style="list-style-type: none"> <li>▪ Gives green appearance to plant parts</li> <li>▪ Promotes rapid growth or increased height and tiller number</li> <li>▪ Increases size of leaves and grains, number of spikelets, and protein content in the grains</li> </ul>
<b>Phosphorus</b>	<ul style="list-style-type: none"> <li>▪ Stimulates root development</li> <li>▪ Promotes earlier flowering and ripening, particularly under cool climate</li> <li>▪ Encourages more active tillering</li> <li>▪ Promotes good grain development and gives higher food values</li> </ul>
<b>Potassium</b>	<ul style="list-style-type: none"> <li>▪ Favors tillering and increases the size and weight of the grains</li> <li>▪ Increases response to phosphorus</li> <li>▪ Plays an important role in physiological processes in the plant including opening and closing of stomata and tolerance to unfavorable climatic conditions</li> <li>▪ Renders resistance to diseases such as blast and brown spot</li> </ul>
<b>Zinc</b>	<ul style="list-style-type: none"> <li>▪ Probable connection with formation of auxin, one of the best-known plant growth regulators</li> <li>▪ Important in seedling development</li> </ul>
<b>Sulfur</b>	<ul style="list-style-type: none"> <li>▪ Involved in the formation of vitamins and synthesis of some hormones</li> <li>▪ Important in the functioning of many plant enzymes, enzyme activators and oxidation-reduction reactions</li> </ul>
<b>Iron</b>	<ul style="list-style-type: none"> <li>▪ Involved in photosynthesis</li> </ul>
<b>Copper</b>	<ul style="list-style-type: none"> <li>▪ Required for lignin synthesis (cellular defense) and constituent of enzymes</li> <li>▪ Key role in photosynthesis, respiration, fertilization, and pollen formation</li> </ul>

Source: Field Operations Manual. Philippine Rice Research Institute. 2007.