

## A SIMPLE GUIDE TO UNDERSTANDING FERTILIZERS

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Commercial fertilizer is identified by means of a numerical formula (as 5-10-5) which tells how much of each of the three principal plant nutrients it contains. The first number in this formula always refers to the percent of nitrogen (N) in the mixture, the middle number indicates the percent of phosphoric acid (P<sub>2</sub>O<sub>5</sub>), and the last number refers to the percent of potassium oxide (K<sub>2</sub>O). Some mixtures which are commercially available are:

5	-	10	-	5		0	-	0	-	50
0	-	20	-	20		3	-	12	-	12
20	-	0	-	0		4	-	12	-	8
0	-	20	-	0		6	-	8	-	4
0	-	44	-	0						

(Nitrogen)	(Phosphorus)	(Potassium)	(Nitrogen)	(Phosphorus)	(Potassium)
( % N )	( % P <sub>2</sub> O <sub>5</sub> )	( % K <sub>2</sub> O )	( % N )	( % P <sub>2</sub> O <sub>5</sub> )	( % K <sub>2</sub> O )

The conversion factors given below make it simple to convert the formula into pounds of plant food nutrients available in a given weight of fertilizer and, conversely, to compute the weight of fertilizer that must be applied to secure a desired quantity of nutrient. The factors and the way to use them are as follows:

**Factors -**

Factor to convert nitrogen	- None. Use the formula figure.
Factor to convert $P_2O_5$ to P (phosphorus)	- 0.45 (approximately)
Factor to convert $K_2O$ to K (potassium)	- 0.83
Factor to convert P to $P_2O_5$	- 2.29
Factor to convert K to $K_2O$	- 1.2

**Example:**

In 600 pounds of 6-8-4 fertilizer the following nutrients are available:

$600 \times 6\%$	= 36.0 pounds of nitrogen
$600 \times 8\% - 48 \text{ pounds of } P_2O_5 \times 0.45$	= 21.6 pounds of phosphorus
$600 \times 4\% - 24 \text{ pounds of } K_2O \times 0.83$	= 19.9 pounds of potassium