**Artificial Fertilisers**

These are manufactured chemicals or sometimes mined and processed minerals. They are not usually approved for use in organic systems but they do not have any potential risks like pesticides to humans.

Straight fertilisers are those that purely supply one element, like sulphate of ammonia or urea

**Straight Artificial Fertilisers:**

|  |  |  |  |
| --- | --- | --- | --- |
| NPK Levels in Straight Artificial Fertilisers | | | |
|  | **N Nitrogen %** | **P Phosphorus %** | **K Potassium (Potash) %** |
| **Sulphate of Ammonia** | 20 |  |  |
| **Prilled Urea** | 46 |  |  |
| **Nitro Chalk** | 27 |  |  |
| **Nitrate of Soda** | 16 |  |  |
| **Sulphate of Potash** |  |  | 50 |
| **Superphosphate** |  | 18.5 |  |
| **Rock Phosphate** |  | 26 |  |
| **Triple Superphosphate** |  | 45 |  |
| **Basic Slag** |  | 10 |  |

**Compound Artificial Fertilisers**

Compound artificial fertilisers are produced by combining straight fertilisers in various proportions to form balances suitable for general growing or for specific crop requirements.

|  |  |  |  |
| --- | --- | --- | --- |
| NPK Levels in Compound Artificial Fertilisers | | | |
|  | **N Nitrogen %** | **P Phosphorus %** | **K Potassium (Potash) %** |
| **Growmore** | 7 | 7 | 7 |
| **Vitax Q4** | 5.3 | 7.5 | 10 |
| **J I Base** | 5.2 | 7.7 | 10 |
| **Chempack BTD** | 6 | 8 | 10 |
| **Hydro Complex** | 12 | 11 | 18 |
| **Generic potato fertiliser** | 7 | 5 | 12 |

**Many more compound fertilisers are available, often balanced to provide the NPK ratios favoured by specific crops such as tomato foods and incorporating various trace elements.**

**Trace Elements & Micro-Nutrients**

Just as people need vitamins and minerals in their diet for long term health, plants require other elements in their diet to thrive. Many of the compound fertilisers add these trace elements just as vitamins are added to some of our foods. These other elements are covered in [Additional Elements of Plant Nutrition](http://www.allotment-garden.org/compost-fertiliser/elements-plant-nutrition.php) and in [Trace Elements or Micro-Nutrients of Plant Nutrition](http://www.allotment-garden.org/compost-fertiliser/trace-elements-plant-nutrition.php)

Having covered the range and types of fertilisers available let's take a look at some specific plant requirements and how we can meet them The main element for growth is nitrogen. Nitrogen is vital to the production of the leaves, which in turn power the plant's growth and the more leafy growth a plant produces the more nitrogen it will require.

Because nitrogen has the shortest life in the soil, being easily washed out by heavy rain for example, it is the one element to concentrate on and with crops that are in the ground for a long time worth applying in stages rather than one go.

**Nitrogen Requirements of Various Crops**

|  |  |  |
| --- | --- | --- |
| **Very High Nitrogen Requirement** | **High Nitrogen** | **Medium Nitrogen** |
| * Brussels Sprouts * Cabbages * Rhubarb | * Beetroot * Celery * Leeks * Spinach | * Broccoli * Calabrese * Cauliflower * Lettuce |

|  |  |
| --- | --- |
| **Low Nitrogen** | **Very Low Nitrogen** |
| * Asparagus * Runner Beans * Parsnip * Swede * Onion | * Carrots * Radish * Peas * Broad Beans |

Remember that legumes produce much of their own nitrogen due to a symbiotic relationship with bacteria that fix nitrogen from the air for the plant, which is why peas and broad beans generally need little to no nitrogen supplement and runner beans with all their foliage need just low levels to supplement their own produced nitrogen.