



# FERTILIZER BASICS

## *Which fertilizer should you use?*

## *And when should you use it?*

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The most important nutrients for plant growth are **nitrogen, phosphorus and potassium** often referred to as macronutrients or the “**NPK**” listed on the package. When you purchase a packaged fertilizer, the numbers listed on the bag like 5-10-5 or 16-6-8 indicate the total percentages of nitrogen, phosphorus and potassium respectively. These are known as the primary or **macro “nutrients”**. Minerals used in very small amounts, but very important to plants, are known as **micro nutrients**. These include boron, copper, zinc, magnesium and manganese.

**Nitrogen** has the quickest effect on plant growth. It's also usually lacking in our soils. Plants use a lot of it and it is easily leached from the root zone, particularly in our soil. Application of fertilizers with large amounts of nitrogen can result in excessive, lush growth, making the plants more susceptible to sunburn, wind damage or cold injury.

**Phosphorus** is vital for root development, fruit and flower production. Our native soils have only a small amount of absorbable phosphorus available to plants. Work high-phosphorus fertilizer lightly into the soil around your plants and water well. Most bone meal products provide a source of phosphorus that can be used by plants only if applied directly in the root zone at time of planting. **Dr. Q's® Bone Meal** is a processed form that moves through the soil and provides a readily available source of organic phosphorus for plants.

**Potassium** for fertilizer comes primarily from **Potash**. Potassium produces strong plant structure and increases resistance to stress and disease. Routine tests of soils in the Vegas valley typically indicate potassium levels of around 45 ppm. This is very low. Therefore this supplement is beneficial for adding to your fertilizing plan.

### VARIOUS FERTILIZERS AND THEIR USES:

#### Incomplete Fertilizers

When a particular fertilizer lacks one or more of the macro nutrients, it is classified as incomplete. This group of fertilizers are aimed to specifically do one thing for the plant (i.e. quickly green up a lawn) so lots of nitrogen is provided. Incomplete fertilizers should not be used as the only source of nutrients for any plants as they lack the other vital elements.

**Ammonium Phosphate (16-20-0)** is perhaps the most widely used chemical fertilizer in our area. Though used for other reasons, it is best used as a pre-plant soil amendment for new lawns, flower and vegetable beds. It should be combined with the soil as it lacks solubility when applied on the surface. **Apply spring or fall, not summer.**

**Sulfate of Ammonia (21-0-0)** is a popular nitrogen fertilizer for leafy vegetable crops, grapes, spring lawns and trees and shrubs. Better if not used in summer heat. Should be alternated with a complete fertilizer or used with a mineral supplement like Dr. Q's Plant Tonic®. **Apply spring or fall, not summer.**

**Calcium Nitrate (27-0-0)** is now used in place of “**Ammonium Nitrate (34-0-0)**”. This publicly safe alternative provides all the fast-acting nitrogen required by winter lawns to keep them lush and green. CAN-27 adds just 4% of plant available calcium to the product to make it stable. This good quality, yet low quantity of calcium is beneficial in the Southwest Desert. **Apply early winter only.**

#### Balanced fertilizers

This refers to a group of fertilizers that contain equal amounts of macro nutrients (NPK) like: **Dr. Q's Triple Play™ (7-7-7)**, with needed micro nutrients is especially effective since it conditions the soil while feeding plants and turf at the same time, and has signaling molecules to build soil and fight soil diseases. Or, **Super Iron Plant Food (9-9-9)** **Apply these spring, summer or fall.**

**Brands with NPK listing of 15-15-15 or 16-16-16**, which have equal percentages of nitrogen, phosphorus and potassium are suitable for large-scale or general fertilizing. Most do not contain the needed micronutrients and should be occasionally augmented with a supplement like Dr. Q's Plant Tonic. Most fertilizers (Royal Flush is an exception) with Nitrogen ratings over "10" should be **Applied only during spring or fall, not summer.**

#### **Complete fertilizers**

This refers to many fertilizers like **Dr. Q's® Royal Flush™ (16-4-8)**, cool season **Dr. Q's® Winter Gem™ (21-3-7)** or **Nitra King® (21-4-4)**, the **Gro-Power®** line and water-soluble products like **Super Bloom®** and **Miracid®**. These have the primary NPK nutrients and all or most of the micronutrients that lawns, flowers, vegetables, shrubs and trees need. The Dr. Q's organic-based fertilizers are especially effective due to their unique soil conditioning properties. They bring your soil to life and feed your plants at the same time! **Apply these spring and fall. Royal Flush™ (16-4-8)** because if its slow release can be applied in summer.

#### **Dual-purpose fertilizers**

Products like **Weed & Feed** that kill existing weeds while fertilizing the lawn at the same time. Temperature and watering restrictions often apply so be sure to read the label completely before broadcasting. These products work best when **applied during the early spring or fall** when weeds are actively growing and temperatures are below 80° F. Also products like **Systemic Rose & Flower Care** combine a fertilizer with a systemic insecticide.

#### **Organic fertilizers**

This includes a broad range of products like **Dr. Q's® Blood Meal**, and **Dr. Q's® Bone Meal**. Star Nursery carries several other brands of Organic fertilizers for our customers to select from. Formulas for your Gardenias to your Roses! Organic fertilizers are also a favorite choice of vegetable gardeners. Blood meal is a popular palm and cactus fertilizer. Bone meal is great for helping your plants produce more flowers or fruit. **Apply spring, summer or fall.**

#### **Specialty fertilizers**

These are packaged formulations designed to meet the needs of special groups of plants and fill specific planting functions. The **Dr. Q's® Fertilizer Line** showcases the most recent advances in specialty fertilizer development. The variety-specific nutrient formula is combined with a unique blend of soil conditioners. This results in better soil and healthier plants. That's something we all appreciate in tough desert climates and other parts of the country with poor soils! Some primary examples of this remarkable fertilizer line are **Gold Dust® Starter Fertilizer**, **Desert Plant & Cactus Food**, **Rose & Flower Food**, **Citrus Food**, **Vegetable & Tomato Food**. In addition to primary nutrients (NKP), these products contain micronutrients especially needed by their target plants. These **Organic Based Fertilizers** have special blend of natural and organic ingredients making them the optimum fertilizer for your plants and the ecosystem. **Dr. Q's Palm Tree Food** is specified for Palm Trees which require summer feeding only. Read the label for specific instructions regarding when and how to feed.

**Time or continuous-release fertilizers** are designed to be used infrequently and deliver nutrients evenly, over a long period of time. Lawn fertilizers include **Dr. Q's® Royal Flush™** with a homogeneous formulation (all nutrients are in every pellet) and a unique soil conditioning package especially suited for hot dry climates. Time-release fertilizer tablets like **Best-Tabs®** require no mixing with the soil and are good for new plantings.

#### **Mineral supplements**

These address specific problems caused by our tough, arid soils. **Dr. Q's® Soil sulfur** neutralizes alkaline soils and makes trace elements readily available to plants. **Chelated iron** corrects chlorosis by providing a specific iron formula for plant use. **KeRex®** is a superior powdered chelated iron product. Con-Grow is a blend of 7 minerals and 9 amino acids combined in a sulfur based liquid and helps to reduce pH and alkalinity making other minerals (like iron) more "plant available". Remember, it won't help if the chlorosis is caused by over watering! **Gypsum with sulfur** opens heavy clay soils and helps neutralize alkali but don't overuse it. Follow package directions. Dr. Q's Plant Tonic contains all the needed micro nutrients, and is an excellent compliment to your other fertilizers for complete plant health.

When applying fertilizer always remember to: 1) Water the plant. 2) Fertilize. 3) Water again deeply.

Contact a friendly Star Nursery sales associate if you have additional questions. He/she will help you select the product that's right for you!