



FERTILISER MANUAL



**STARKE
AYRES®**

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INNOVATIVE GARDENING SOLUTIONS

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GARDEN FERTILISERS

1. INTRODUCTION

A fertilizer can be defined as :-

Any organic or inorganic substance, containing one or more plant nutrients in sufficient quantities and which is intended, or offered to be used for improving or maintaining the growth of plants, or the fertility of the soil.

An inorganic fertilizer is :-

A chemically composed substance, which contains one or more of the plant nutrients Nitrogen (N), Phosphorus (P) or Potassium (K); and that it shall not contain any substance or substances that can be considered harmful to man, animal, plant or the environment; and that all other macro-elements that it may contain in registerable quantities, shall be registered.

An organic fertilizer is :-

A fertilizer made of substances, of animal or plant origin, or a mixture of such substances and which is free of any compounds that could be harmful to man, animal, plant or the environment.

An organic fertilizer mixture is :-

A mixture of registered organic fertilizers and registered inorganic fertilizers and which contains at least 200g/kg and a maximum of 500g/kg organic fertilizers, but excluding urea.

The term "enrich" can be described as :-

The edition of registered inorganic fertilizers to registered organic fertilizers in order to enhance the plant nutrient content of the organic fertilizer (total N.P.K. content minimum 100g/kg) (organic content must be 500g/kg).

Compost can be described as :-

A stable homogenous, completely decomposed material of animal or plant origin and to which no plant nutrient has been added (free of).

All plants require certain nutrients, which can be grouped into **three categories** according to importance, for normal **growth** and **production**.

Fertilizers are formulated to contain nutrients in varying strengths and combinations, to replace those lost to leaching and by plant uptake.

MAJOR PLANT NUTRIENTS – LARGE AMOUNTS REQUIRED

Macro element	Plant requirement
Nitrogen (N)	Promotes healthy leaves and shoots. Moves quickly into the soil The leaf maker.
Phosphorus (P)	Promotes strong healthy root growth and fruit development (maturation). Moves slowly through the soil, especially in areas, which do not have a high rainfall The root maker.
Potassium (K)	For general plant health, disease resistance and healthy fruit production. Important for root and tuber crops, tomatoes, flowering plants and fruits. Aids the absorption of nitrogen and phosphorus. Increases the plants resistance to disease The flower and fruit maker.

INTERMEDIATE PLANT NUTRIENTS – MODERATE AMOUNTS REQUIRED

Calcium (Ca)	For plant growth of fruit, flowers and vegetables, particularly in acid and potassium rich soils.
Magnesium (Mg)	Promotes satisfactory plant growth, particularly in roses and tomatoes. Important component of chlorophyll, thus vital for photosynthesis. Helps to control enzyme operations.
Sulphur (S)	Promotes satisfactory plant growth in all plants.

TRACE ELEMENTS – SMALL AMOUNTS REQUIRED

Iron (Fe)	Valuable in poor soils, signs are yellowing of leaves. Produces chlorophyll and thus green leaves. Essential for photosynthesis and thus all growth.
Manganese (Mn)	Required for Azaleas, Camelias and Hydrangeas in poor soils.
Molybdenum (Mo)	Needed for sexual reproduction and development of embryos. Production of proteins and vitamins (Vit C) Increasing yield of crop Chlorophyll production and thus greening of leaves. For correction of deficiencies in Brassicas (narrow leaves).
Boron (B)	For root growth of vegetables, particularly in sandy soils. Reproduction specially seed and fruit set. Disease resistance
Zinc (Zn)	Particularly for fruit and vegetables in sandy soils.
Copper (Cu)	Fruit and vegetables in sandy soils.

- ☒ Fertilizers sold in the Republic must comply with the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947. (Act No. 36 of 1947).
- ☒ Fertilizers, where applicable must also comply with the requirements of the Explosives Act, 1956. (Act No. 26 of 1956).
- ☒ Fertilizers can be presented as single elements of either Nitrogen (N) : Phosphorus (P) : Potassium (K) – **single element fertilizer**, or as a blended combination of two to three of the elements – **balanced fertilizer mixture**.

2. TYPES OF FERTILIZERS

Fertilizers are sold in numerous forms. Certain presentations are available as Home Garden Fertilizers, these can be roughly categorized as follows :--

2.1 Granulated

Refers to the structure of the fertilizer, i.e. hard granules of between 1 – 4 mm (average 2.5 – 3 mm) in size and includes single element/s and mixtures of both inorganic and organic types, although mainly inorganic.

2.2 Concentrates

Are generally water soluble, balanced inorganic mixtures, which can include trace elements.

2.3 Liquids

Single element, or balanced concentrated mixtures, that are normally diluted in water. Can be inorganic or organic, or a combination of both.

Other Powders, i.e. smaller than 1 mm in size.

- Growth stimulants, growth regulators, growth hormones and trace element (micro element) mixtures.
- Compost and other organic presentations such as peat and growing mediums.
- Soil conditioners or enhancers.
- The fertilizer type must appear on all packaging as full description, or in an abbreviated form, as follows :-

Korrel / Granule	G / R
Makro Korrel / Macro Granule	SK /SG
Mini Korrel / Mini Granule	MK / MG
Poeier / Powder	P
Kristal / Crystal	C
Suspensie / Suspension	SP
Oplossing / Solution	OPL / SOL
Lae Chloor / Chlorine low	Cl laag / Cl low

3. FERTILIZER FORM

The nutrient content of a registered fertilizer must be shown using a specific sequence of numbers, which corresponds to the macro elements N.P.K. This sequence of numbers (N.P.K.) is followed by a bracketed number, i.e. 2:3:2[22], which shows the total amount [or total percentage] of fertilizer [nutrients] in the product.

Using 2:3:2[22] as an example :-

- ☒ 22% of the total contents is fertilizer, the balance of [78%] is an inert carrier, necessary to allow controlled application.
- ☒ Fertilizer content of 22% is divided into **2 parts Nitrogen : 3 parts Phosphorus : 2 parts Potassium** (of the 22%).
- ☒ Percentage N.P.K. can be established thus :-
 - Total (Nitrogen + Phosphorus + Potassium) 2 + 3 + 2
 - = 7

- Nitrogen - $22 \div 7 \times 2 = 6.286 = 6.3\%$
 - Phosphorus - $22 \div 7 \times 3 = 9.429 = 9.4\%$
 - Potassium - $22 \div 7 \times 2 = 6.286 = 6.3\%$
- ☒ Calcium [Ca] : Magnesium [Mg] : Sulphur [S] percentage content are also indicated, when applicable.
 - ☒ Trace elements, when applicable, are also included and apply mainly to concentrates.

The action of fertilizers can vary according to their origin and formulation –

- ☒ Chemical or inorganic fertilizers are normally dissolved quickly and can be regarded as **quick acting**, particularly liquid formulations.
- ☒ Organic or natural fertilizers are slower to dissolve and are normally **slow acting**.
- ☒ Slow Release (Nitrogen) fertilizers are specially formulated to release the Nitrogen content over a longer period than conventional single element [N] or mixtures of N.P.K.

4. APPLICATION OF FERTILIZERS

All registered formulations of garden fertilizers must detail specific rates of application (application rates), which in the case of **granulated** and **powder** formulations is normally in the soil and in respect of **concentrates** and **liquids**, can be as a foliar spray (on the plant) or as a soil drench (roots), or as a combination of both.

Recommended rates of application must be followed to avoid damage by over application, or poor results due to under application.

Granulated and powder fertilizers must be watered well after application. Raking, or digging into the soil speeds up the transfer of nutrients to the roots. Do not apply right to the plant stem, or onto the leaves, fruit and flowers.

Liquid fertilizers should be applied to damp soil and to the foliage in the **cooler times** of the day.

Bagged fertilizers should be stored in a dry place, particularly if open.

5. IDENTIFICATION OF NUTRIENT DEFICIENCIES

NUTRIENT	PLANT SYMPTOMS	OCCURRENCE	TREATMENT
NITROGEN [N]	Stunted and slow growth. Weak stems, small pale green or yellow leaves, with early defoliation. Plants small and lack vigour. Danger in growing season.	Sandy and light soils – excessive leaching in rainy areas. Grass, leafy vegetables, root-bound plants are particularly affected.	Apply base N.P.K. dressing before sowing or planting or any of the balanced mixtures as detailed in the Nutrient Guide (Organic : Inorganic). Top/side dress in spring/summer with single elements, i.e. L.A.N., Ammonium Sulphate, Urea.
PHOSPHORUS [P]	Roots and stems are stunted and thin. Small leaves develop a purple tinge. Slow plant growth, with delayed maturity. Low fruit yield.	Acid sandy soils. Temporary deficiencies on cold, wet soils. Affects young plants, root vegetables, fruit and seed crops most.	Apply Phosphorus (P), i.e. Super Phosphate/ Bonemeal or any of the balanced mixtures as detailed in the Nutrient Guide [Organic : Inorganic] to soil before sowing/planting.
POTASSIUM [K]	Edges of leaves turn yellow and then brown, chlorotic areas may occur. Low fruit yield. Poor fruit and flower colour. Low disease resistance.	Sandy and light soils – excessive leaching. Root and tuber crops, tomatoes, flowering and fruit plants can be severely affected.	Apply base dressing of balanced mixtures at planting as detailed in the Nutrient Guide or single element – Potassium Sulphate. Top dress as directed.
CALCIUM [Ca]	Similar to nitrogen shortage. Stem elongation restricted by death of growing point. Root tips die and root growth restricted. Small tasteless fruit.	Acid soils, following leaching rain, on soils with high potassium levels, or on very dry soils. Particularly affects tomatoes (blossom-end rot), celery (blackheart) and carrot (cavity spot).	Apply Calcium (Ca), in mixtures, i.e. Bonemeal, 3:2:1[22], 3:1:5[22] S.R.N. or Dolomitic Lime as per instructions.
MAGNESIUM [Mg]	Yellow or brown patches between the veins of older leaves, prolonged deficiency may result in leaf fall and affect younger leaves. Thin upward curving leaves.	Particularly on roses, brassicas, tomatoes, apples and citrus in sandy, potash-rich soils.	Magnesium Sulphate or Dolomitic Lime as per directions or Nutrient Guide.

NUTRIENT	PLANT SYMPTOMS	OCCURRENCE	TREATMENT
SULPHUR [S]	Similar to Nitrogen shortage – stunted growth with pale green leaves and thin, brittle stems.	All plants.	Apply general fertilizer mixtures that include Sulphur [S], i.e. 3:2:1[22], 3:1:5[22] S.R.N., or Sulphates such as Ferrous, Magnesium, Manganese, Potassium and Ammonium or Nutrient Powder.
IRON [Fe]	Young leaves turn yellow to ivory colour. Veins, margins and tips may remain green.	Most plants, particularly tomatoes and acid loving plants.	Apply Fe as per Nutrient Guide , as part of a general fertilizer application, or specifically, i.e. Trelmix.
MANGANESE [Mn]	Yellow mottled areas on youngest leaves, with an overall pale appearance. Foliage of beet becomes densely red. Shorter and finer roots.	Poorly drained alkaline soils, (pH above 6.7). Affects acid loving plants.	Apply Mn as per Nutrient Guide , as part of a general fertilizer application, or specifically, i.e. Trelmix.
MOLYBDENUM [Mo]	Pale, distorted, very narrow leaves with reduced flowering and fruiting. “Whiptail” of cauliflower, small, open loose curds.	In acid soils and in soils with a high free Fe contents. Brassicas and legumes are particularly affected.	Apply Mo as per Nutrient Guide , as part of a general fertilizer application, or specifically, i.e. Trelmix.
BORON [B]	Growing points die, hard shortened stems, distorted leaves (wrinkled) and stunted roots.	Soils low in Boron, or on crops with high requirement, i.e. brassicas, carrots, radish and spinach. Soils with a pH above 6.8. High rainfall areas, dry weather and high light intensity.	Apply B as per Nutrient Guide , as part of a general fertilizer application, or specifically, i.e. Trelmix.
ZINC [Zn]	Stunted growth, occasional yellowing, small curled leaves, with dead areas. Short stems and small flowers. Dieback.	Particularly sandy soils, soils with low organic matter, high soil P and N, in low temperatures and high rainfall areas. Mainly on fruit (citrus) and vegetables.	Apply Zn as per Nutrient Guide , as part of a general fertilizer application, or specifically, i.e. Trelmix.
COPPER [Cu]	Yellowing (bleaching) and brown spots on leaves, which may become elongated. Dieback of new growth. Small, poorly formed flowers and fruit with thick oily skins (citrus) with gum spots.	Only observable when very severe on flowers, fruit and vegetables. Can be due to high soil N, P and/or Zn and high peat content.	Apply Cu as per Nutrient Guide , as part of a general fertilizer application, or specifically, i.e. Trelmix.

ACID LOVING PLANT FOOD

Fertilizer Group 2

Registration No. B2289 – ACT 36 of 1947



Starke Ayres Acid Loving Plant Mix is a balanced blend of acidifying agents, and trace elements, which, when used as directed will adjust the pH level of the soil to a range of between 5.0 and 6.0, prevent and cure Iron Chlorosis (yellowing) and restore natural leaf colour of Hydrangeas.

ANALYSIS

Aluminium Sulphate	-	40.0% by mass
Ferrous Sulphate	-	40.0% by mass
Sulphur [S]	-	20.0% by mass [31.0 total content]

USES AND BENEFITS

Acid Loving mix is used in addition to normal fertilizer programmes. It :-

- is easy to apply;
- is easily absorbed by the plant;
- enhances the blue colour of the Hydrangea blooms;
- promotes photosynthesis and respiration in the plant;
- assists the plant to resist diseases and remain healthy throughout the growing season;
- and
- replaces Iron deficiency often found in acid soils.

Acid Loving Mix is used in addition to normal fertilizer programmes.

METHOD OF APPLICATION

Acid Loving Mix is applied directly to soil at budding stage.

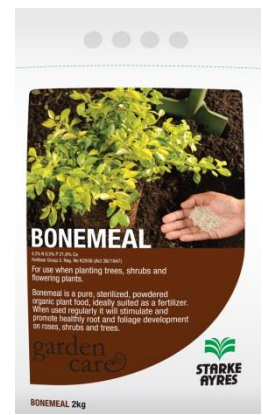
- Sprinkle 40g (two tablespoonfuls) round the plant.
 - Rake lightly into the soil.
 - Repeat after five weeks.
-

BONEMEAL

Fertilizer Group 2

Registration No. K2936 – ACT 36 OF 1947

2kg, 5kg



BONEMEAL is a pure, sterilized, powdered organic plant food, ideally suited as a fertilizer. When used regularly it will stimulate and promote healthy root and foliage development on roses, shrubs and trees.

ANALYSIS

Nitrogen	-	4.5%
Phosphorous	-	9.5%
Potassium	-	21.6%

USES AND BENEFITS

BONEMEAL is slow acting, providing the plant with a steady balanced supply of essential nutrients during the active growing season. It :-

- is particularly suitable for new shrubs and trees;
- is free of harmful organisms; and
- is easily applied.

METHOD OF APPLICATION

Roses and Shrubs:

- Dig plant hole approximately 0.5m x 0.5m and 0.5m deep.
- Mix 600g Bonemeal (three cups full) with half of the excavated soil. Replace mixed soil.
- Position plant.
- Use the remainder of the soil as side and top-fill.
- Water well.

Established Plants:

- Apply 100g (½ cup full) evenly around each plant.
 - Rake into soil lightly.
 - Water well.
 - Repeat every six months.
-

FLOWERING ORCHIDS

Fertilizer Group 1

Registration No. K7986 – ACT 36 of 1947



FLOWERING ORCHIDS are specially formulated, concentrated fertilizers, blended to suit mineral requirements of the Orchid plant during its different stages of growth.

ANALYSIS

Nitrogen [N]	-	7%
Phosphorous [P]	-	9,3%
Potassium [K]	-	24,8%

Plus : Iron, Manganese, Boron, Zinc, Copper and Molybdenum

USES AND BENEFITS

FLOWERING ORCHIDS contain a balanced proportion of nutrients often lacking in the traditional media in which orchids grow, and are water soluble and readily absorbed by the plant. It is:

- the ideal plant nutrient, whilst vegetative growth slows; and
- will assist in spike formation.

METHOD OF APPLICATION

FLOWERING ORCHIDS may be applied during normal watering to Cybidiums, Cattleyas and other types of orchids.

- Dissolve ½ to 1 teaspoon of orchid nutrient mixture in 5 litres of water, stirring well. Any sediment should be ignored.
 - Apply every seven to fourteen days.
 - Flush thoroughly with plain water at least once a month to leach out any accumulated nutrients.
-

GROWING ORCHIDS

Fertilizer Group 1

Registration No. K7985 – ACT 36 of 1947



GROWING ORCHIDS are specially formulated, concentrated fertilizers, blended to suit mineral requirements of the Orchid plant during the growth stage.

ANALYSIS

Nitrogen [N]	-	31%
Phosphorous [P]	-	4.9%
Potassium [K]	-	9.1%

Plus : Iron, Manganese, Boron, Zinc, Copper and Molybdenum

USES AND BENEFITS

GROWING ORCHIDS contain a balanced proportion of nutrients often lacking in the traditional media in which orchids grow, and are water soluble and readily absorbed by the plant.

- will provide the extra nutrients required at root tip appearance and during the active period of growth after winter;
- will stimulate the plant and boost vegetative growth for the new season; and
- will encourage bulb building.

METHOD OF APPLICATION

GROWING ORCHIDS may be applied during normal watering to Cybidiums, Cattleyas and other types of orchids.

- Dissolve ½ to 1 teaspoon of **GROWING ORCHIDS** in 5 litres of water, stirring well. Any sediment should be ignored.
 - Apply every seven to fourteen days.
 - Flush thoroughly with plain water at least once a month to leach out any accumulated nutrients.
-

HYDRANGEA FOOD

Fertilizer Group 1

Registration No. K7977 – ACT 36 of 1947



HYDRANGEA FOOD is a concentrated and balanced fertilizer, which, when used regularly will promote healthy root, plant and flower development in Hydrangeas, Azaleas, Camelias and Gardenias.

ANALYSIS

Nitrogen [N]	-	15.0%
Phosphorous [P]	-	4.3%
Potassium [K]	-	27.4%

USES AND BENEFITS

HYDRANGEA FOOD contains all the major nutrients required by the plant during the growing season and is particularly effective in sandy soils. It:--

- Is easy to apply, as a foliar feed or directly to the roots as a soil drench;
- is water-soluble and is readily absorbed by the plant; and
- can be applied simultaneously with most insecticidal sprays.

METHOD OF APPLICATION

Use the enclosed measuring spoon for accurate and economical mixing.

Foliar Spray

- Dissolve 20g (2 measuring spoons) in 5 litres of water.
- Spray over foliage until leaves are wet.
- Repeat every two to three weeks.

Soil Drench

- Dissolve 20g (2 measuring spoons) in 5 litres of water.
 - Apply directly to the soil.
 - Repeat every two to three weeks.
-

IRON CHELATE

Fertilizer Group 2

Registration No. B3810 – ACT 36 of 1947



IRON CHELATE is a concentrated water-soluble trace element powder, which, when used as directed will prevent and cure Iron Chlorosis (yellowing) and restore natural leaf colour on a wide range of trees, shrubs, vines, ornamental and pot plants.

ANALYSIS

Iron [Fe] - 13.0%

USES AND BENEFITS

IRON CHELATE is easy to apply as a foliar spray or directly to the roots as a drench. It :--

- is readily absorbed by the plant;
- promotes photosynthesis and respiration in the plant;
- assists the plant to resist diseases and remain healthy throughout the growing season;
- replaced iron deficiency often found in acidic soils, and is particularly suitable for Hydrangeas, Camelias, Gardenias, Azaleas and Rhododendrons; and
- can be applied simultaneously with most insecticidal sprays, except those containing copper.

METHOD OF APPLICATION

Foliar Spray

- Dissolve 5g (1 level teaspoon) in 5 litres of water – utilization of a wetting agent is advantageous.
- Spray over foliage until leaves are wet.
- Repeat every week until symptoms cease.

Soil Drench

- Dissolve 5g (1 level teaspoon) in 1 litre of water. Pot plants 1g in 10 litres of water.
 - Apply to soil at base of plant.
 - Irrigate well after applying.
 - Repeat every four weeks.
-

KELPAK

Fertilizer Group 2

Registration No. L5756 – ACT 36 OF 1947



KELPAK is a plant growth regulator which will improve root, shoot and flower development of all indoor and outdoor plants.

ANALYSIS

Ecklonia maxima	-	34.26%
Water	-	65.58%
Hydrogen peroxide	-	0.07%
Acetic acid	-	0.09%
Green dye	-	<0.01%

USES AND BENEFITS

KELPAK is used as a supplement to normal fertilizer programmes on a wide range of garden and field crops. It :--

- assists plants through times of stress caused by heat, drought, hail, pests and diseases;
- improves uptake and utilization of NPK fertilizers;
- is easily absorbed or assimilated by the plant;
- stimulates good root development and quicker strike into the new soil when planting out seedlings and shrubs;
- increases the numbers of flowers and the shoot and root masses of vegetables, flowering and ornamental plants;
- reduces seedling mortality;
- is easy to apply; and
- can be applied simultaneously with most insecticidal sprays.

METHOD OF APPLICATION

Foliar Spray

- Dilute 10ml of **KELPAK** in 1 litre of water. Spray over foliage of entire plant until all the leaves are wet.
- Repeat 2 to 3 weekly intervals.
- Repeat 3 to 5 times during the growing season.

Soil Drench

- Dilute 25ml of **KELPAK** in 1 litre of water. Apply 200ml around the base of the plant at/or just after transplanting.
-

NATRAGRO

Fertilizer Group 2

Registration No. B4338 – ACT 36 OF 1947



NATRAGRO is derived from natural fresh seaweed, Natragro garden pellets combine the benefits of powerful root stimulation providing plants with essential micro and macro nutrients. Used regularly it will promote healthy roots and improve foliage and flowering.

ANALYSIS

Nitrogen	-	0.54%
Phosphorous	-	0.27%
Potassium	-	1.48%
Iron	-	0.31%
Calcium	-	9.7%
Magnesium	-	0.38%

USES AND BENEFITS

NATRAGRO promotes healthy roots and improves foliage and flowering.

METHOD OF APPLICATION

New Garden Beds

- Apply 40g/m². Fork lightly into soil prior to planting.
- Water well after planting.
- Repeat at monthly intervals.

Existing Garden Beds

- Apply 40g/m² over soil prior to planting.
 - Water well after application.
 - Repeat at monthly intervals.
-

NUTRIFEED

Fertilizer Group 1

Registration No. K2025 – ACT 36 of 1947



NUTRIFEED is a specially formulated, concentrated and balanced fertilizer, which, when used regularly, will promote healthy root, plant and flower development for a wide range of vegetables and ornamentals grown in hydroponics/soilless culture, as well as soil or other media.

ANALYSIS

Nitrogen [N]	-	6.5%
Phosphorous [P]	-	2.7%
Potassium [K]	-	13.0%
Calcium [Ca]	-	7.0%
Magnesium [Mg]	-	2.2%
Sulphur [S]	-	7.5%

Plus : Iron, Manganese, Boron, Zinc, Copper and Molybdenum

USES AND BENEFITS

NUTRIFEED contains all the essential macro- and micro-elements for healthy plant growth and is adapted to widely varying soil conditions. It :-

- is versatile and easy to apply in all hydroponic techniques;
- is water soluble and is readily absorbed by the plant;
- will boost seedling growth; and
- will reduce seedling mortality.

METHODS OF APPLICATION

NUTRIFEED may be applied as a foliar feed, to the soil as a drench, or as a dry feed.

Hydroponics

- Dissolve in water at a rate of 1:500 (1kg/500l or approximately 10g per 5 litres).
- Stir well.
- Preferably leave overnight. Ignore slight sediment.
- Use half strength for recently germinated seedlings.

Plants in Soil – General Solution

- Dissolve in water at a rate of 1:1000 (1kg/1000l or 5 to 10g per 1 litre).
- Apply evenly over the soil once a week.

Dry Feed/Sprinkle-on Method

- Soak soil well before treatment.
 - Sprinkle powder lightly around each plant and apply water.
-

NUTRISOL

Fertilizer Group 2

Registration No. K8591 – ACT 36 OF 1947



NUTRISOL is a liquid formulation of macro nutrients for healthy plant growth of all indoor and outdoor plants.

ANALYSIS

Nitrogen	-	11%
Phosphorous	-	7,3%
Potassium	-	3,7%

USES AND BENEFITS

NUTRISOL is easy to apply, as a foliar feed or directly to the roots as a soil drench. It :--

- is water-soluble and readily absorbed by the plant; and
- can be applied simultaneously with most insecticidal sprays, excluding Lime Sulphur and Bordeaux Mixture.

METHOD OF APPLICATION

Foliar Spray

- Dilute 10ml of **NUTRISOL** in 5 litres of water.
- Spray over foliage well.
- Repeat every two weeks.

Soil Drench

- Dilute 20ml of **NUTRISOL** in 5 litre of water.
 - Repeat every two weeks.
-

NUTRISTIX

Fertilizer Group 1

Registration No. K6091 – ACT 36 OF 1947

NUTRISTIX is a plant-food-stick with highly nutritive elements to nourish plants.

ANALYSIS

Inorganic NPK Fertiliser	-	12:3:7 (21)
Nitrogen	-	120g/kg
Phosphorous	-	26g/kg
Potassium	-	72g/kg

USES AND BENEFITS

- ...

METHOD OF APPLICATION

- The plant-food-sticks should be inserted completely into the soil between the plant and the edge of the pot.
- The sticks dissolve and provide plants with the necessary nutrients.

Plant-food-sticks with highly nutritive elements nourish your plants for 100 days. Over fertilising is impossible. Water the plants as usual.

WARNINGS

Keep out of reach of children and animals.

ORGANIC 3.1.5

Fertilizer Group 1

Registration No. K4447 – ACT 36 OF 1947

5kg, 10kg



ORGANIC 3.1.5 is a natural blend of enriched organic fertiliser which promotes healthy root and plant growth and stimulates prolific fruit and flower development and provides essential nutrients to new and established plants.

ANALYSIS

Nitrogen	-	50g/kg
Phosphorous	-	17g/kg
Potassium	-	83g/kg

USES AND BENEFITS

ORGANIC 3.1.5 promotes healthy root and plant growth.

METHOD OF APPLICATION

Roses and Flowering Shrubs

- Apply 150g evenly around each bush or shrub in early spring.
- Rake in lightly.
- Water well.
- Repeat every six weeks.

Flower and Vegetable Beds

- Apply 150g per square meter to well prepared beds.
- Rake in lightly.
- Water well.
- Repeat every six weeks thereafter.

Fruit Trees

- Apply 500g per year of the age of the tree to a maximum of 4kg in the drip area of the tree.
 - Apply 1/3 in autumn and 2/3 in spring.
 - Water well after each application.
-

PALM PEAT



PALM PEAT is a uniform, consistent, high quality horticultural growing medium, which ensures good germination of seed, and vigorous root, plant and flower development. Starke Ayres Palm Peat is manufactured entirely from coconut fibre, a renewable resource and compares most favourably with the best imported and locally produced growing medium

USES AND BENEFITS

Starke Ayres Palm Peat has excellent water and air retention characteristics, it is free of weeds, pests and insect organisms and has a balanced pH of between 5.8 and 6.4.

Starke Ayres Palm Peat is ideal for the: --

- Production of vegetables and flower seedlings in trays and punnets;
- Rooting of a wide range of cuttings;
- Growing on of seedlings and cuttings;
- Potting and re-potting of indoor and patio plants; and
- Mulching of flowers, plants, shrubs and trees.

Starke Ayres Palm Peat is compressed into a dry 1 l brick for ease of storage and transport. It resumes its natural, fluffed-out consistency and volume of 8 litres, when water is added.

METHOD OF APPLICATION

- Place Starke Ayres Palm Peat brick in a large (10 litre) bucket or other suitable container.
- Pour 5 litres of hot or warm water on to the brick and leave to soak-up and expand for 15 minutes. A balanced, water-soluble nutrient mixture, such as Starke Ayres Nutrifeed may be added to the water at 5 g per 5 litre (prior to pouring on), this will ensure that nutrients are locked into the mix and made available to the plants.

FEATURES AND BENEFITS

- | | |
|-----------------------------|---|
| COMPACT PRODUCT | - Easy and effective display.
- Improved storage capacity. |
| EXCELLENT PACKAGING | - Eye catching; generates sales.
- Easy usage and application. |
| DRY AND INERT | - No smell. |
| PRESENTATION | - Long shelf-life. |
| HIGH WATER HOLDING CAPACITY | - Reduced watering frequency, less water usage. |
| HIGH POROSITY | - Rapid water uptake and drainage. |

- | | |
|-----------------------------|--|
| FIBROUS (LIGNITIC) | - Root plug holds together well. Long period before breaking down.
- Excellent mulch. |
| HIGH AERATION | - Vigorous root growth. |
| PH RANGE 5.4 TO 6.8 | - Optimum for general plant growth. Suitable as a pot plant mix |
| NO ADDED CHEMICALS
CLEAN | - Added safety, good for cuttings.
- Pleasant to use. |
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PLANT FOOD

3:1:6[46]

Fertilizer Group 1

Registration No. K7974 – ACT 36/1947



PLANT FOOD 3:1:6[46] is a specially formulated, concentrated and balanced general fertilizer suitable for pot plants, roses, ornamental shrubs, vegetables and fruit trees.

ANALYSIS

Nitrogen [N]	-	14.6%
Phosphorous [P]	-	4.5%
Potassium [K]	-	27.4%
Magnesium [Mg]	-	2.9%

Plus : Iron, Manganese, Boron, Zinc, Copper and Molybdenum

USES AND BENEFITS

PLANT FOOD 3:1:6[46] WATER-SOLUBLE WITH TRACE ELEMENTS contains all the major nutrients essential for healthy root, plant and flower development, and :--

- is extremely versatile and easy to apply, as a foliar feed or directly to the roots as a soil drench; and
- is completely water soluble and is readily absorbed by the plant.

METHOD OF APPLICATION

Use the enclosed measuring cup for accurate and economical mixing.

Foliar Spray

- Dissolve 20g (2 measuring cups) in 5 litres of water.
- Spray with a fine spray until leaves are wet.
- Repeat every two weeks.

Soil Drench

- Dissolve 5g (½ measuring cup) in 5 litres of water.
 - Apply directly to the soil.
 - Repeat every one to two weeks.
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ROSE FOOD

Fertilizer Group 1

Registration No. K7976 – ACT 36/1947



ROSE FOOD is a specially formulated, concentrated and balanced fertilizer for roses, which, when used regularly will promote healthy root, plant and flower development and help build up resistance to foliar diseases.

ANALYSIS

Nitrogen [N]	-	12%
Phosphorous [P]	-	8.3%
Potassium [K]	-	14.7%

Plus : Iron, Manganese, Boron, Zinc, Copper and Molybdenum

USES AND BENEFITS

ROSE FOOD contains all the essential plant nutrients for all rose types, and :--

- Is easy to apply, as a foliar feed or directly to the roots as a soil drench;
- is water-soluble and is readily absorbed by the plant;
- can be applied in combination with Kompel Kelpak growth stimulant, inducing more efficient use of plant nutrients in the plant; and
- can be used throughout the year, excepting the dormant period (June/July) when feeding is not required.

METHOD OF APPLICATION

Use the enclosed measuring cup for accurate and economical mixing.

Foliar Spray

- Dissolve 20g (2 measuring cups) in 5 litres of water.
- Spray over foliar until leaves are wet.
- Repeat every four weeks.

Soil Drench

- Dissolve 5g (½ measuring cup) in 5 litres of water.
- Apply directly to the soil.
- Repeat every two weeks.

PRECAUTION

ROSE FOOD should not be applied in a mix with pesticides.

SEA SECRET

Fertilizer Group 2
Registration No. B4319 – ACT 36 OF 1947



SEA SECRET is an organic fish emulsion extract which provides a complete blend of natural soluble plant nutrients and essential trace elements for new and established plants.

ANALYSIS

Nitrogen [N]	5.0%
Phosphorus [P]	0.9%
Potassium [K]	2.2%
Sulphur [S]	1.3%
Magnesium [Mg]	1.2%

Plus: Calcium, Iron, Zinc, Copper and Magnesium

USES AND BENEFITS

SEASECRET contains all the major nutrients essential for healthy plant growth and development, of all plants such as orchids, pot plants, roses, ornamental shrubs, vegetables and fruit trees. It is particularly suitable for :--

- roses and tomatoes in sandy, peaty or potash rich soils;
- fruit, vegetable and flowers in acid or potash rich soils;
- Rhododendrons, Azaleas, Camelias, fruit and vegetables in chalky and sandy soils; and
- both epiphytic and ground orchid types.

SEASECRET:

- is easy to apply, as a foliar feed or directly to the roots as a soil drench;
- has a reduced offensive odour as a result of its improved formulation;
- is water-soluble and is readily absorbed by the plant;
- will not burn or damage plants, even if over-applied; and
- can be applied simultaneously with most insecticidal sprays.

METHOD OF APPLICATION

Foliar Spray

- Dilute 5ml of **SEA SECRET** in 1 litre of water.
- Spray or water foliage well.
- Repeat every two weeks.

Soil Drench

- Dilute 25ml of **SEA SECRET** in 5 litre of water.
 - Repeat every two weeks.
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SERADIX HORMONE POWDERS

Registration No. L258/L353/L355 – ACT 36 OF 1947

SERADIX HORMONE POWDERS are specially formulated to stimulate rapid and prolific rooting of cuttings, of a wide range of flowering trees and shrubs, succulents, creepers, vines, annuals and perennials.

ANALYSIS

Active Ingredients

	<u>Mixture 1</u>	<u>Mixture 2</u>	<u>Mixture 3</u>
4 [Indol – 3 yl] Butyric Acid – [IBA]	1 g/kg	3 g/kg	8 g/kg

USES AND BENEFITS

SERADIX HORMONE POWDERS are ready-for-use, quick acting and are easily applied.
SERADIX HORMONE POWDERS are readily absorbed by the cutting, ensuring a high success rate.

MIXTURE NO 1 (PINK POWDER) : FOR SOFTWOOD CUTTINGS
Arctostaphylos, Aubretia, Azalea Begonia, Buddleia Calceolaria, Celastrus, Centaurea, Carnation, Chrysanthemum, Clethra, Coleus, Cyperus Dahlia, Delphinium, Deutzia, Dianthus, Diervilla Forsythia, Fuschia Gaillardia, Geranium, Gordonia, Grape, Gypsophila Halesia, Heliotrope, Honeysuckle, Hydrangea Ivy Jasminium Lavender, Lonicera Magnolia, Mulberry Nepeta Oleander Passiflora, Philadelphus, Potentilla, Prunus Rose St Johns Wort, Saxifraga, Senecio (Cineraria), Spiraea, Stevia, Styrax Tricuspidaria Verbena, Veronica

**MIXTURE NO 2 (WHITE POWDER) :
FOR MEDIUM CUTTINGS**

Abelia, Acalypha, Akebia, Ampelosis
Berberis
Callicarpa, Ceanothus, Chaenomelas (Cydonia),
Clematis, Cuphea, Currant
Dogwood (Cornus) Pyrus
Enonymus
Gardenia, Goosberry
Hamamelis Mollis, Helanthemum
Jacaranda
Leucothoe, Lonicera
Magnolia
Nerium
Opuntia (Cactus) Pyrus
Sansevieria, Spiraea, Streptosolen
Viburnum

**MIXTURE NO 3 (GREY POWDER) :
FOR HARDWOOD CUTTINGS**

Abies, Aloe, Andromeda, Aralia, Azalea Mollis, Alaeagnus
Berberis, Bougainvillea, Box, Broom
Camellia, Catalpa, Cestrum, Chamaecyparis, Cotoneaster,
Crassula, Crataegus (Thorn), Croton, Cryptomeria
Daphne
Erica, Escallonia
Fig
Genista
Hibiscus, Holly
Juniperus
Lilac (Syringa)
Magnolia, Maple
Osmanthus
Picea, Privet, Pyracantha
Rhododendron, Hybrids, Rhus
Thuja
Wisteria
Yew

METHOD OF APPLICATION

- Dip cutting in powder to a depth of 10-15 mm, stir well. Hardwood cuttings can be moistened in water before hand.
 - Shake off excess powder.
 - Plant directly into suitable growing medium.
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INNOVATIVE GARDENING SOLUTIONS

