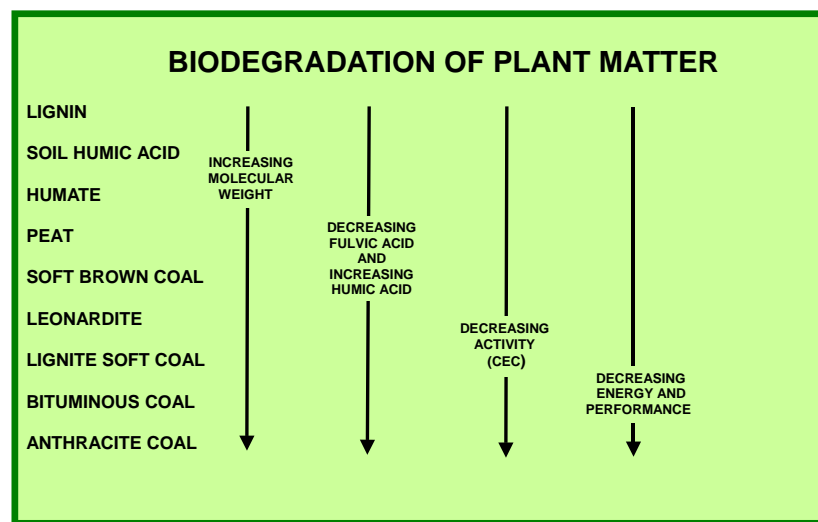
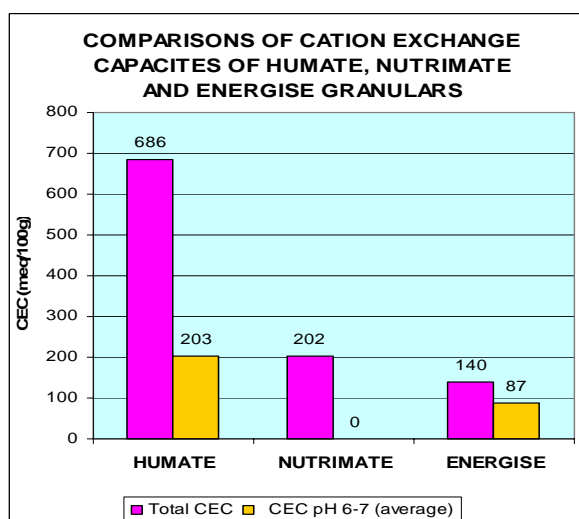
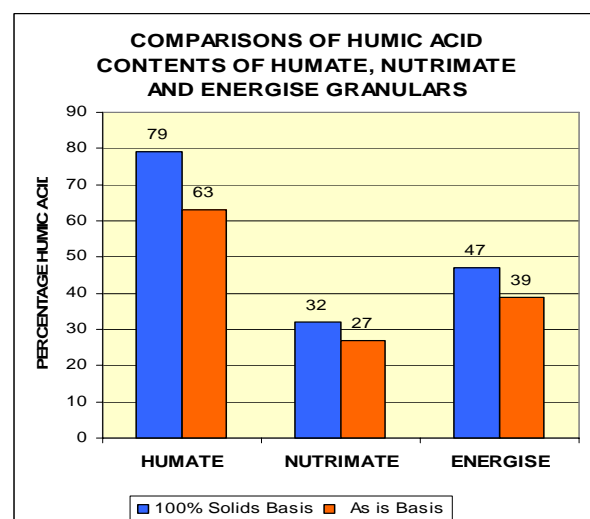


HUMATE PRODUCTS - INTRODUCTION

Humate International of Florida are selling a range of humic acid products and wetting agents into the turfcare and horticultural grower markets. These humic substances free complex nutrients from the soil and make them readily available to plants. They increase the absorption of these nutrients through the membranes of the roots and leaves of plants. They break up the soil to form small aggregates that naturally aerate the soil, eliminate layering and improve percolation rates. They stimulate microbial activity to create a more active, "living" soil. The results are healthier plants or grass with a deeper, more massive root system and increased resistance to stress. Plants require less fertiliser and watering, grow faster to a marketable size and produce higher yields of crops



The quality of our Humate material is exceptional and comparisons have been independently made with other humic acid sources. These relate specifically to their humic acid contents and cation exchange properties.



In addition, our Humate contains a relatively high proportion of fulvic acid within the total humic substances compared to other humic acid products – of the order of 10 times as much. The relatively small molecule that is fulvic acid is the important work-horse in the take up of nutrients into plants.

HUMATE PRODUCTS

Humate Ag (Granular)

The granular Humate Ag is, in effect, the basic starting point from which all the other Humate products are derived. It is available in 6 separate granule sizes termed Ag6, Ag616, Ag640, Ag1635, Ag35 and Ag50. The Ag6, sized from 3.4mm down to powder, is used mainly in composts, turf dressings and other growing media. The Ag616, Ag640 and Ag1635 are all screened at the top and bottom ends of the size range and are predominantly used on sportsturf. The coarsest grade, Ag616, sized between 3.4mm and 1.2 mm is used mainly as a dressing on fairways and sportsfields. The Ag1635 grade, sized between 1mm and 0.5mm, is mainly used as a dressing on greens. The granular Humates slowly break down over time, releasing the humic substances into the soils or composts. This form of Humate encourages the development of the more active living soils.

As a turf dressing, it is recommended that about 225kg of Humate Ag is directly spread two times per year, spring and autumn, over one hectare of turf. Another way of treating turf is to incorporate the granular Humate into conventional top dressings. The granular Humates are available to the trade in 25kg bags. Humic acids content in the granular product is about 50-55%.

Humate Ls (Liquid)

The liquid Humate is manufactured from the basic granular Humate Ls by chemical means. Whilst the granular and the liquid Humates can each be used alone, best results are obtained when both products are used together. For the liquid Humate this would be approximately monthly throughout the growing season. Because the benefits arising from using the liquid Humate occur relatively quickly, it is advised that wherever possible, the liquid Humate should be mixed with liquid feed if that is used.

Usage rates are very low. In general, on turf, 5 litres will give one hectare of treatment. For other horticultural applications, 5ml in 10 litres of water as a drench for plants in situ is an indication of the low rate of use. The liquid Humate Ls is available to the trade in 22 litre bottles or in large drums of approximately 200 litre volume. The humic acids content in the liquid product is about 15-17% as potassium salts.

Humate As (Soluble Powder)

This product is made by spray drying the liquid Humate Ls. It is used in the manufacture of other products where a stronger solution of liquid Humate is required. The soluble powder Humate As is available in 25kg bags and 240g of product made up with water to one litre of liquid, is the equivalent of Humate Ls. The humic acids content in the soluble powder is about 64-69% as potassium salts.

Humate Stress Reliever (Liquid)

Whilst the use of Humates gives plants more resistance to stress, Humate International produce a special Stress Reliever based on liquid Humate. Humate Stress Reliever is used on plants and turf that are suffering from severe stress. This would cover, for example, drought conditions, extremes of temperature, after herbicide burn, when transplanting and, in the case of turf, wear caused by heavy traffic.

The dosage rate is advised as 2 or 3 applications at fairly short intervals then revert back to a straight liquid Humate treatment. The product has an N:P:K content of 4:2:1. It also includes the micronutrients magnesium, manganese, iron, zinc and sulphur, seaweed extract and some soil micro-organisms.

Humate Rejuvenator

Derived from Raisin Stems, Urea, Alfalfa Meal, Rice Bran, Kelp Meal, and Calcium in the form of Carbonate. Also contains 40% non-plant food ingredient Humate Ag. Analysis: Total Nitrogen (N) 4.5%, Potash (K₂O) 2.5%, Calcium (Ca) 2.9%

Apply topically on golf greens (and tees) using either a drop or broadcast spreader. This fertilizer will not burn when applied at the specified rate. Use 6kg per 100 sq.metres every 4-5 months when temperatures are above 5°C and below 25°C. Apply Humate Rejuvenator every 8-10 weeks for supplemental nutrients if desired.