

What's Beneficial . . . and What's Not?

In his book 1491, Charles Mann writes about dozens of agriculturally advanced civilizations that occupied the Americas before the arrival of Christopher Columbus in 1492. To modern-day agriculturalists, early dwellers of the Amazon basin are especially intriguing, along with the *terra petra* they created.

Terra petra, which means "dark earth" in Portuguese, is an ultra-rich soil which has been enhanced by vast amounts of charcoal, plant residues, fish bones and other organic matter, and which also contains beneficial microbes. Its fertility and its ability to retain moisture and nutrients even in difficult environments were the basis of a thriving civilization from about 360 B.C. to 1400 A.D. ¹

Unfortunately, much of the natural wisdom of *terra petra* was pushed underground for centuries. Especially after the late 1940s when synthetic fertilizers became readily available, the wave of enthusiasm for the synthetics washed away most scientists' appreciation of any fertilizer ingredients beyond the familiar "N-P-K and essential micros." Yet times are changing, and as the saying goes, "everything old is new again."

In the last decade, more and more commercially available fertilizers are being produced that contain humic acids, kelp products, biostimulants, and natural growth hormones, thus helping modern-day turf professionals to create their own *terra petra* of sorts. These new fertilizers have arrived as environmental issues such as nitrate and phosphate run-off, and Best Management Practice mandated by local and state agencies, have users searching for environmentally friendly alternatives.

It has taken the fertilizer industry, and the American Association of Plant Food Control Officials (AAPFCO) too long to finally allow these additional materials to be listed on labels. Just take a few minutes to read new labels and you will find many with a separate heading just after the "Guaranteed Analysis," entitled "Also Contains Non-Plant Food Ingredients" or "Beneficial Substances or Compounds." This increasingly commonplace practice allows the consumer to better know what he is buying and it allows companies to promote their products that contain beneficial substances.

BUT... consumer beware! Product literature and promotional materials may boast all they want about beneficial substances, but if the substances are not on the label there's no assurance those substances are in the product or that they are present in minimum guaranteed amounts. However, AAPFCO's rules state, "*If you claim it, you must guarantee it,*" so if beneficial substances are listed on a label you can be assured the substances are there. As is true with so many products, it always pays to compare product **labels** – and not just product **literature** -- to know what you are getting.

Consumers should also note with caution the use of certain "weasel words" on some fertilizer labels. Words such as "facilitators" or "elicitors" have no scientific meaning, and don't contain any guarantees. In fact, almost any ingredient could be called a "facilitator!"

Now that we know the rule, let's examine some of these "Non-Plant Food Ingredients" or "Beneficial Substances or Compounds" and look at some of their benefits.

All such items fall into two groups: organic and inorganic.

Organic substances contain carbon from living matter. Examples are manures and humic acid. Although humic acid is mined as an ore and extracted from different sources, it originally comes from decayed plant and animal matter, which makes it truly organic. Inorganics are mined minerals or synthetic (man-made) chemicals.

Many manufacturers are adding these organic and inorganic materials to enhance the effectiveness of their fertilizer products. Take for example Growth Products' new **Pro-Formance Ultra 18-3-6**. Its ingredients include kelp, yucca and soy protein, all aimed at increasing the foliar absorption of the N-P-K and micronutrients. Results are faster green up and the well-documented beneficial hormonal effects from both yucca and kelp, which are boosted by 18 L-amino acids in the soy protein and by the provision of an organic food source for valuable soil microbes. These ingredients are highly researched by leading universities and have documented benefits.

So how can consumers "weed out the imposters," so-to-say, from the truly advantageous ingredients? In following "News As It Happens" bulletins, we will focus on the materials listed in the chart below and on the

proven benefits derived from them.

For more information on Growth Product's Pro-Formance Ultra 18-3-6, see our website: www.growthproducts.com.

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ⁱ 1491: *New Revelations of the Americas before Columbus*, Charles Mann (2005). Vintage Books. Pages 344-349.



Organic Ingredients	Purpose
Potassium Humate	Bio-stimulant / Soil Amendment
Yucca (Schidigera)	Natural Wetting Agent / Steroid Saponin
Kelp (Ascophyllum Nodosum)	Bio-stimulant-c contains natural auxins and cytokinins
Fermented Plant Extracts	Rich in L-Amino Acids
Gibberellic Acid	A natural growth Hormone
In-organic / Synthetic Ingredients	Purpose
Potassium Silicate	Affect plant mineral nutrition / reduce incident of foliar diseases
Potassium Phosphite	Widely used as a foliar fungicide
Hydrogen Peroxide	Disinfectant
Ionic & Anionic Surfactants	Spreader / Stickers
IBA, NAA	Man-made synthetic Hormones