NBS Sapphire Granules - The Benchmark in Performance and Value

Quality humates have been the foundation of Nutrition Farming philosophy and the reason NBS has remained with the same product. NBS markets this popular, sapphire granular, based on high quality Leonardite humate, and also produces a concentrated 12% liquid called NBS Liquid Humic.

To help farmers in other Countries improve the economics of applying quality humic acid to their crops, NBS also freely publishes the directions to a DIY 6% Liquid Humic that can be made as required on-farm. Here is the recipe:
Simply add 1 kg of NBS Sapphire Granules to 10 litres of clean water, mix thoroughly and allow to stand overnight. Next day, stir well again before decanting the liquid humate. Under intensively grown crops, the normal fertigation or soil drenching rates are 4 litres per acre (10 L/ha) every 2 weeks. Plantation crops use higher rates per acre but less frequent applications. You can make a large concentrated supply at once and keep this product in barrels for months.

The growing awareness of humates in agriculture has spawned many new entrants with a variety of products to sell but limited technical support and education on their products. It is important that each farmer understands the difference between the humate products on offer and calculates the cost-effectiveness and performance of the various options.

When considering value for money, there are 4 critical features of a humate product:

1. **The source of the raw humate used in manufacture**
2. **The concentration and type of humate salt**
3. **The solubility of the humate**
4. **The manufacturers advice on application rates**

The source of raw humate is the first consideration and plays a huge role in the final quality and performance. Leonardite is the best quality raw humate as it is found relatively close to the surface and has undergone extensive oxidation to produce the most active organic carbon structure. Lignite brown coal is often sold as humate but it has undergone less oxidation, usually at greater depth, and is inferior in performance to Leonardite humates. Unfortunately, some unscrupulous dealers have tricked farmers into buying finely-ground, black coal as a cheap humate alternative, only to find that it is next to useless.

The concentration and type of soluble humate in the product has a large bearing on performance and economics of use. Potassium humate in NBS Sapphire Granules is a minimum of 75% w/w and is the preferred cation salt for plant use. Some humates are extracted using sodium hydroxide to form the soluble sodium humates. While sodium humates are ideal for livestock feed and support good rumen health and feed conversion ratios, they are not advised for use on plants.

The solubility of your humate is the next issue to investigate. An important benefit of soluble humates is to magnify and extend the nutrients in expensive, high-analysis fertilisers and trigger the release of soil nutrients previously locked-up by soil chemistry. Without a high degree of solubility, the humates cannot dissolve quickly with the granular fertilisers to act rapidly as a nutrient chelator and buffering agent. If the nutrients are not chelated and buffered quickly (by the action of a highly-soluble humate product) they remain exposed to soil reaction, leaching and volatilisation – a loss of valuable fertiliser during the monsoon and a waste of money for an inferior humate.

NBS Sapphire Granules are 85-90% soluble, producing a dark viscous liquid that remains in solution. Upon mixing, there is a slight residue that forms on the bottom of the mixing tank. This residue represents the insoluble humin mineral components that can be used as a fertiliser after the liquid has been separated and used.

Humate solubility is a simple comparison that can be done with a bottle of farm water. Add a few grams to the water, shake and leave for 1-2 hours. When you return, check to see if the humate is still in solution. Many "soluble humates" sold these days are actually micronized powders of insoluble raw humates and will drop out of suspension within a few minutes of mixing.

What is the manufacturers advice on application rates? Concentrated humic acid can be extracted from both Leonardite and Lignite ores and made into liquids and granular formulations. Generally, extracts of Lignite humates are cheaper but application rates are 2-3 times that of Leonardite extracts voiding any benefit from price difference.

The process of producing quality, soluble humates is vastly different to the basic mining and crushing of insoluble raw humate ore to produce stable but relatively insoluble, humate powders. One popular humate import has soil application rates of 300-500 lb/acre/annum. This is clearly for the purpose of soil conditioning and will not perform as well for fertiliser management as a highly-soluble humate. Contrast this with NBS Sapphire Granules applied at 5% w/w with dry fertilisers or in the DIY liquid form at 10-12 litres per acre per month (1-1.2 kg of solubilised granules).

In summary, at some stage of life we have all learnt the hard way that you get exactly what you pay for. There are useful alternatives in the humate products offered to farmers but remember that each product is priced according to its quality and performance. Humates are available for various purposes but be aware that substituting a lower rate of a cheaper humate product and expecting the superior results of a highly-soluble product will not be possible.