

# A HOLISTIC APPROACH TO SOIL IMPROVEMENT AND PLANT NUTRITION FOR PRODUCTION OF CASH CROPS

- All BFS MIDLANDS' programmes are based on products with a lower salt index %, according to the salt % scale. We try and limit the use of Urea, UAN, and KCL which are chemical products with very high salt content, and often cause soils deterioration, compaction and increased soil alkalinity. Potassium Sulphate, Ammonium Sulphate, Phosphoric Acid, Liquid Ammonium Polyphosphate, and Calcium Ammonium Nitrate are typical examples of products used, with lower salt content, in our liquid blends.
- We provide the plant with required nutrients, at each of the growth stages of the plant, and therefore minimizing the leaching of nutrients, as we place the nutrient source, directly in the root system, to allow for immediate uptake. We always combine the chemical nutrients with Fulvic Acid, due to the very high Cation Exchange Capacity (CEC) of Fulvic Acid, which has a CEC of 1400 molecular combinations per second.
- All products are supplied in liquid format and applied at a rate of 100 to 400 L per ha.
- The application of liquid products is therefore quite easy, when it comes to pump stations serving different Irrigation Areas. The size of storage tanks and the size of the irrigation area determines the required flow meter settings.
- The combination of the Chemical Products with a very strong BIO – ORGANIC Soil Booster containing Micro-Organisms, Fulvic-, and Humic Acids, with a cfu/ml of (4,3 x 10 to the power of 9) improves the soils' biomass and allows for much better nutrient uptake. The Bio-mass decomposes the available organic material, which improves the Carbon Levels in the soil, increases Nutrient Binding from the atmosphere (N & P), and provides food for existing Micro-Organisms in the soil. See separate Brochures for Bio Org Soil+, and Humic and Fulvic Acids' benefits to soil, and our product specifications.

- A very important aspect in the current economic conditions, is that of Cost. If you compare our programme's costs vs. competitors' costs, you will find that we are charging the client much less, because we often use less fertiliser or chemical interventions, and rather focus on other methods, to improve the uptake of available soil nutrients, through the application of Organic Materials, and Biology. These locked-up nutrients are the cash in the farmers back pocket. Applying these products, allow for the most important link in plant nutrition, and that is the link between soil organisms and available nutrients, to be strengthened and maximised. Soil organisms play a vital role in the chelation of nutrients to be plant absorbable. We also focus on the application and uptake of Calcium and Carbon because all other nutrients combine with Calcium- and Carbon Molecules, before it could become available for plant uptake. Calcium can therefore be seen as the bloodstream of the plant, transporting all nutrients to the required growth-points. For every 1% of Carbon in the soil, the bio-mass can produce up to 30 Kg of Nitrogen per Ha, therefore saving the farmer input costs, due to the lower chemical application of Nitrogen.
- We will be visiting the farmer at least 2 – 3 times a month, and provide advice on changes to the programme, if required. Once leave samples are taken, usually 6 weeks after plant emergence, we will analyse and suggest changes to the programmes, if needed. Further leave samples are taken, as and when there's visible nutrient deficiencies.
- Our approach to sustainable farming is to assist our clients not only with the best products and services, but also to be involved in the entire application of nutrients to the plants, and to improve the soils' condition and ability to produce the required nutrients. We often assist our clients with water and sub-soil moisture management and application. Too often we find that the application of water is not done effectively, and we know that 90% of the farmers' success, rely on the application of water, at the right time and the right quantities.
- Another bad habit is for farmers to burn plant residue after harvesting. This causes the immediate destruction of all bio-mass in the topsoil, which, as explained above, deletes the most important link of the soils' ability to produce the required nutrients. We suggest very strongly that all plant residues must be worked back into the soil, so that organic material, and therefore Carbon content, can be maximised.
- We have been in the Liquid Fertiliser business for the last 9 Years and continue to strive for excellent Products and Services. All products are registered with the Department of Agriculture.

**Please feel free to contact us at any time, if you would like us to discuss our approach in more detail.**



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