

"Fertigation Systems" – Fertiliser Injection through the irrigation system

Fertigation is now the accepted method of applying most of the crops nutrition, with many growers using liquid soluble fertiliser rather than spreading granular fertiliser and waiting for the rain or sprinklers to wash the fertiliser into the root zone.

Fertigation can be done each time you irrigate, or by batch method.

Greenhouse Growers use constant fertigation (proportional) using irrigation controllers that control the quantity of fertiliser according to the flow rate of each irrigated zone.

Greenhouse Growers understand that the plants require nutrition, not just water. Since many Greenhouse growers use loose potting mix to improve air porosity, they know that some irrigated water passes through the pot washing away fertiliser. To overcome this they use proportional fertigation.

Proportional Fertigation Controllers enable the grower to fine tune the water quality in terms of pH, EC and nutrients for each stage of plant growth. Although proportional fertigation appears to be very technical it offers several benefits, such as:

- Central Distribution of the Fertiliser - Less labour, no machinery movement and time loss
- Multiple Tank Storage – Easier mixing of the batch of fertiliser. Farmers who use this technology will never go back old traditional fertiliser irregular application as they confirm that sometimes the plants would "go without" for a week or so, as it was cumbersome and time consuming.
- Monitoring and Logging of the fertiliser consumed using the controller
- Control – The farm owner or manager can mix the correct formulation, then allow unskilled employees to switch on or off the fertigation system, the irrigation controller managing the proportion of fertiliser per field.
- Saves Fertiliser – Since the fertiliser is injected as and when the plants need it there is no loss. For example using traditional techniques, the rain or a heavy irrigation could wash the fertiliser away from the root zone.
- Saves Fertiliser – Plants need a balanced soil chemical make-up. Once the balance is upset many nutrients are "locked up" unavailable to the plant.
- Improved Plant Growth – The plants need only develop roots within the fertigated area in a regular uniform zone, not in an unreliable too high / too low cyclical fertilised root zone.
- Environmental Impact – Using controlled fertigation reduces the chance of over fertilising, and subsequent fertiliser loss to river systems



Simple Fertiliser injection through an Injection Tank by “Dilution” No extra pump required, simply throttle back the pressure and open the inlet and outlet valves to the tank. The tank will inject the batch of fertiliser out of the tank.



2,000 litre fertiliser grade fibreglass tank for storage and mixing of organic fertilisers
Constant Fertigation in small quantities by Hydraulic Dosing



Constant Proportional Fertigation using a variable speed drive motor, flow rate water meters and a PLC control at very low injection rates from 1ppm to 8 ppm.



Proportional Fertigation using an Irrigation Controller with Grundfos Stainless Steel Multistage Pumps for higher injection rates. The fertiliser is injected by batch over a period of time, not constantly, from 150 litre / hour to 900 litre / hour.



Professional set up using a mechanical mixer. This is the cheapest most efficient way of mixing. Using a pump to turn over the fertiliser mix would require a 5kW motor, while the mixer only uses 0.75kW to agitate.