

Liquid fertilisers and corrosion

Background

Corrosion is a common issue experienced by manufacturers and users of solid and liquid fertilisers around the world.

Key Results

The corrosiveness of liquid fertilisers is determined by a number of factors:

Suitable materials

Liquid fertilisers can corrode steel, brass, copper, zinc, some grade of aluminium and concrete. All fittings attached to storage, handling and application equipment for liquid fertilisers containing these metals should therefore be replaced if exposed to other than very dilute solutions for short periods. Dilute solutions may be more corrosive if exposed for more than a day or so. Polythene, PVC, stainless steel and sintered alumina are suitable replacement materials.

pH

Decreasing the pH of a liquid fertiliser by one unit will increase the corrosive nature of a product 10 fold. In order to minimise corrosion all CSBP liquid fertilisers are pH-buffered in the near-neutral range between 6 and 9.5. Some liquid fertilisers used around the world have pH levels as low as 0.7, making them extremely corrosive.

Time of exposure

The longer susceptible materials are exposed to a corrosive substance the higher the corrosion potential. At the end of each spraying day application equipment should be thoroughly rinsed to remove liquid fertiliser.

Exposure to the atmosphere

The corrosion process requires water and oxygen. To limit corrosion it is recommended all susceptible materials are protected with materials that excludes water and oxygen.

Presence of trace elements

Certain metals are corrosive in their own right. If using mixes containing trace elements (especially copper) then it is wise to utilise all steps to reduce corrosion.

The following products can assist in reducing or eliminating corrosion on your machinery.



Susceptible materials on a boom sprayer protected from corrosion using Denso Tape.

- Protective tape
Denso Tape
Manufactured by Denso Australia Pty Ltd
Head office telephone: 1 300 658 590
- Protective spray
Sterling VA42 fungicidal pigmented varnish, red oxide
Manufactured by Sterling Technologies (UK)
Distributed by O'Brien AIM
Perth office telephone: 1 300 646 274
- Please note: only the manufacturers or distributors of these products must recommend their use and supply Material Safety Data Sheets.