

Liquid Injection Application information and recommended supplier list.

This fact sheet covers information and procedures to help you gain the maximum efficiency when using Optima CalSap through a liquid injection system as well as a list of recommended suppliers of the various components that are needed to best handle a liquid product such as CalSap.

Liquid Injection Systems

There are a number of different liquid injection systems available but for the most accurate results when injecting liquids into the soil we recommend that you choose a positive displacement pump. Examples of this pump type are; piston diaphragm pump, piston pump or a squeeze pump. The size of pump required will depend on the rate and type of fertiliser to be applied.

Squeeze Pumps are suitable for applying a variety of liquid fertilisers ranging from aqueous solutions through to paste type thicker suspension fluids. Squeeze pumps eliminate the need for a



distribution head because the hoses are integral to the system. Other advantages of squeeze pumps include; they are built to resist corrosion, they are effective at low pressures, are compatible with flow meters and flow controllers. The size of the pump will depend on the rate and type of fertiliser to be applied. See your pump supplier for more information.

Orifice Plate System

Current models are generally good for aqueous solutions only. This will include CalSap on its own or UAN + CalSap mixes (with good filtration). There is an upgrade modification available to allow the use of suspended nutrients with fewer blockages. This system upgrade is available through Barando Hill Machinery, Katanning P: (08) 9821 4422 or The Spray Shop Contact: Simon Richards, P: 0408 834 920 or (08) 83 49 9244

Metering

Many of the pumps suited to liquid application can be improved by purchasing a metering system. Metering equipment can be as simple or precise as the situation requires. Optima Agriculture recommends that you consult your pump supplier for information on meters. Clients of ours recommend electro magnetic flow meters coupled with stainless steel, ball valve flow controllers.

Filtering

Generally filtering is not required for squeeze pump or gravity drop systems. Orifice Plate injection (pressure compensated) requires filters in line to guarantee clean fluid to injection outlets. Optima Agriculture recommends that you increase filter area size when using products such as CalSap. Larger surface area allows more hectares to be done without having to clean filter screens. Small in-line filters may film up during planting when CalSap is mixed with UAN or Trace Elements (in sulphate form).

Agitation

Delivery tank agitation is recommended to keep materials in complete suspension, this is mainly necessary when using suspended nutrients. Generally agitation is only required if a prolonged stoppage has occurred. Ask your local pump supplier for more information on agitation.

Supplier Listing

Liquid Injection Pumps & Systems

Eazy Squeeze Pump

Variable outlet, Heavy duty, full bearing rotor system.

Contact: Anthony Applegate

P: 96 731 010 M: 0428 731 010

John Blue Squeeze Pump

Variable outlet, lighter duty, non bearing rotor system

Barando Hill Machinery Katanning

P: (08) 9821 4422

Green Drop System

Gravity Drop (or Green Drop) systems allow multiple liquid distribution including suspended type products.

Ratten & Slater – Esperance p: (08) 9071 6702

McIntosh & Son Group p: (08) 9475 1600

Ag Implements – Merriden p: (08) 9041 4100

Orifice Plate System

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The Spray Shop

Contact: Simon Richards P: 0408 834 920 or (08) 83 49 9244

Tanks – storage and mixing

Molasses Tanks – SG 1.50

Minimum 22,500 litres

CalSap & TC16 Tanks – SG 1.30

Minimum 22,500 litres

Recommended optional extras

Level Devil – site gauge

75mm (3") Stainless Steel Butterfly Valve

NB: Optima Agriculture recommends you use a 3" stainless butterfly valve

Rapid Plastics

Contact: Warren Davies

P: (08) 9661 0610

F: (08) 9661 1515

Freedom Tanks

P: 1800 700 701

F: (08) 9493 1621

Liquid Tanks, Nurse Tanks and Agitators

Rota Mouldings

Contact: Troy

P: (08) 9250 1125

F: (08) 9274 3688

Mixing Tanks & Mixers

BD & KM Fowler

Contact: Brian Fowler

P: (08) 9673 2032

CalSap Transfer Pumps

2" Gear Pump – 13hp Petrol (fully set-up and ready to go)

Robert Cowan

P: 0427 751 953

1" Gear Pump – 5.5hp Petrol

1" Gear Pump – Electric

Hydro Dynamic Mining Services Pty Ltd

1/10 Energy Street, Malaga

P: (08) 9249 9666

Pumps, Filters & Metering Equipment

Aqua Pump & Irrigation

Cnr Orchard Ave & Morrison Rd

Midvale, W.A.

Bruce McKay

(p) 08 9574 6277 (m) 0428 983 400



For more information please contact
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