

Metering technology for liquid insecticide and herbicide application



Phil Ross

Development Officer – Weed and Pest Management

Professional Extension and Communication Unit

Metering systems have been used in other cropping systems for many years to precisely apply insecticides and herbicides. This technology is now beginning to be used by sugarcane growers.

Conventionally, liquid insecticides such as Confidor® Guard, and liquid herbicides such as Roundup Ultra® Max, Agritone® 750, Amicide® Advance 700, Stomp® Xtra or Flame® are mixed as a solution in the water tank on the tractor or applicator.

The mixed solution is then pumped from the main tank through to the spray nozzles or delivery tubes.

About metering systems

A metering system, on the other hand, draws chemical concentrate directly from a concentrate container and mixes it with the water in a mixing chamber. The mixed solution then flows to the distribution outlets. This means that the main water tank on the tractor

or applicator contains only water. In sugarcane, relatively inexpensive metering systems are now being used to apply liquid insecticides, such as Confidor® Guard, for canegrub control.

The Dosatron® system

Dosatron® metering systems use the existing water flow from the pump to operate an internal metering system. The unit injects the required percentage of concentrate into the water in an internal mixing chamber. The mixed solution is then forced out of the unit through to the delivery nozzles.

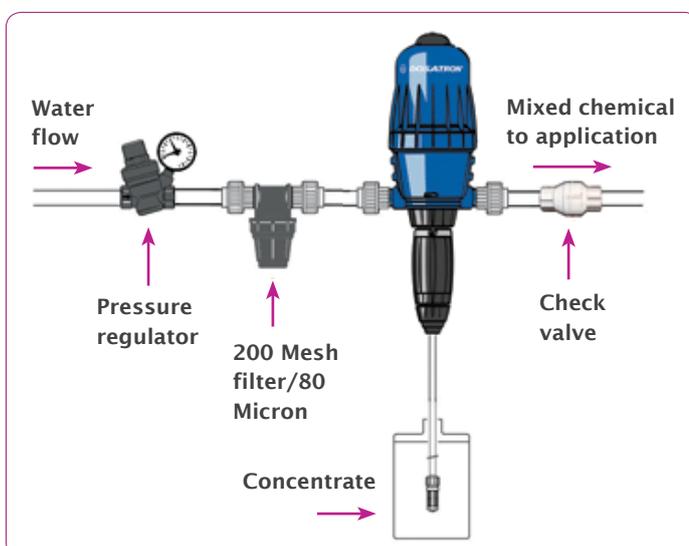
The Dosatron® unit is installed directly into the water supply line, after the pump. The dose of the concentrate remains directly proportional to the

volume of water entering the unit, regardless of variations in flow and pressure occurring in the main line.

Another benefit of this system is that the concentration of the insecticide can be easily adjusted. This is very useful if the concentration needs to be adjusted for different canegrub pressures across the farm.

It is important to buy the correct model of Dosatron® for your purposes. You will need to know your flow rate, pressure and desired concentration so that you can match your requirements to the most appropriate model.

Below: A diagram of a Dosatron® unit.



Additional resources

- The Dosatron website www.dosatronsales.com.au has some excellent graphics which show the internal workings of these units, as well as full specifications of various models.
- Hodge Industries is a dealer for Dosatron® metering systems and can fit units as OEM to newly fabricated planters and applicators. They can be contacted on 07 4955 0500 or visit www.hodge.com.au
- The SRA website www.sugarresearch.com.au provides detailed information about canegrub management.

Sweet success

Mackay cane grower, **Graeme Blackburn**, has installed a Dosatron® metering system on his dual-row, double-disc billet planter.

It injects Confidor® Guard from the original concentrate container into the water delivery line.

In addition to maintaining a consistent concentration rate, there is no wastage and no carry-over of tank mix at the end of the job.

Contact with the concentrate is also minimised as the original concentrate container is used. The mixed solution is delivered into the planting slot between double discs.

Father-and-son team, **David and Damian McKeering** of Central Coast Spreading, are cane growers and also lime and fertiliser contractors, also from Mackay.

They have been using a Dosatron® metering system on their fertiliser/insecticide applicator for a few years. Their applicator is set up to sidedress, with the insecticide being delivered into the fertiliser slot alongside the stool.

As a contractor, Dave likes the system because growers supply their own container of insecticide and take back what is unused. It also increases safety in the field as there is no manual mixing of concentrate.



Above: Dosatron® Model D25RE2 fitted to Graeme Blackburn's billet planter.



Above: Close-up of the simple adjustment to set the required mix concentration.



Above: Central Coast Spreading's fertiliser/Confidor applicator, fitted with a Dosatron® Model D25RE2.



Above: Close-up showing how the Dosatron® draws insecticide concentrate straight from original container.

