

# Case Study

## THE CHALLENGE

### ENSURING THE PERFECT SHAPED CHRISTMAS TREE

## THE PROBLEM

A commercial grower of Christmas trees approached the Professional Sprayers People for a solution to applying plant growth regulator (PGR) products to the trees' leaders (the main vertical stems at the top of the trunks).

The different varieties of tree meant different PGRs were needed and different doses were needed according to the varieties and the various growth stages / ages of the trees. Dispensing PGRs using a handheld or backpack sprayer led to the trees being undersprayed or oversprayed as it was difficult to calibrate the sprayers to dispense a small enough quantity of product, in this case 5ml.

The grower was thus finding that results were unreliable - some trees were not the size and shape they should be and therefore could not attract a premium price. The process was also time consuming and had to be carefully monitored.

The grower had already used PSP's granule applicator for feeding trees and was keen to explore other accessories which might improve results and reduce wastage and costs.



## BACKGROUND

Growing the perfect shaped Christmas tree requires a careful regimen of feeding and control.

If the leader is not controlled, the tree grows too tall too quickly and there is not enough time for the lateral growth to reach the correct density required for high-quality Christmas trees.

Growers prune leaders manually down to around 30–35 cm after growth tips appear in order to improve density. However, pruning removes terminal buds which disrupts the natural way the central stem and lateral branches grow. This can lead to the lateral branches becoming more dominant and bending upwards.

So if the growers can apply growth control on the leader only, the tree will get "fatter" but not taller and natural processes are not disrupted.



## THE SOLUTION

PSP recommended the Dosimeter Valve. This product is designed to deliver precise doses of between 2-25ml of liquid agrochemicals or biocontrols such as fertiliser, pesticides or herbicides and PGRs.

The Dosimeter Valve can be fitted to any brand of backpack or compression sprayer. It is calibratable, using a very simple mechanism on the top of the unit, to deliver a precise dose of between 2 and 25ml per trigger press.

Once the fluid is delivered the sprayer automatically stops spraying until the trigger valve is released and re-pressed. This means an accurate dose can be delivered each time. Once calibrated correctly, the Dosimeter Valves allows for precise and rapid dosing, saving time and effort but also reducing chemical waste.

The valve can be bought with a Guarany backpack as a complete kit or can be purchased as an add-on for use with Guarany knapsack sprayers as well as with other brands of sprayer.

There are also a range of lance extensions that can be used with the Dosimeter Valve to facilitate easy spraying at the base of trees, shrubs and plants.



## RESULTS

The grower was able to quickly and easily apply precise small doses of PGRs to the leaders safe in the knowledge that each variety of tree was getting exactly what it needed and exactly where it needed it. Because the Dosimeter Valve was able to be adapted to any backpack sprayer, no extra cost was involved except for this inexpensive accessory. The grower said: 'This is just such a simple bit of kit! Yet, it is revolutionary for us and enables us to dispense the small quantity of PGR we need per tree so we know we are getting it exactly right each time'.



## BENEFITS OF THE DOSIMETER VALVE

- Gives completely consistent dosing
- Can be calibrated to deliver between 2ml and 25ml of fluid per stroke
- Reduces chemical waste
- Protects surrounding environment from contamination
- The same fluid is delivered regardless of backpack pressure
- Improved safety for the operator as the spray is directed only at the target.