

B9 TECH PRODUCTS

An Introduction to **ZERODRIFT™**

*From a report on ZERODRIFT™ by
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One of the primary factors that influence spray drift from the aerial and ground applications of pesticides is the initial droplet size produced by the nozzle system. Polymer spray drift control agents have been developed with the intention of increasing the droplet size produced at atomization. Generally the *main aim of spray drift control agents is to modify the droplet spectra, by increasing the VMD (Volume Median Diameter) reducing the span and or, elevating the D (v, 0.1) called the 10% value (within the spray plume 10% of the volume consists of droplets smaller than the value indicated).* Since droplet size is generally regarded as a key prediction of spray drift, elevating droplet size can reduce the drift potential of sprays.

The initial droplet size produced by a nozzle is a major factor in determining drift potential for most types of spray applications. In general terms, *the smaller the droplet size, the greater the potential for spray drift.* Droplet size is commonly described as the volume median diameter (VMD).

Generally, the higher the D (v, 0.1) the less spray has the potential to drift.

ZERODRIFT™ Ground Applications

“Flat fan nozzle in a 20 km/hr airstream, the addition of **ZERODRIFT™** increased the D (v, 0.1) thus reducing the number of fine droplets. There was no significant difference in the span.” (span is the width of distribution) eg. D(v,0.1) with no **ZERODRIFT™** = 110.05 – With **ZERODRIFT™** 2000:1 concentration D(v,0.1) = 224.29

Therefore, in this case the addition of ZERODRIFT™ actually doubled the D (v, 0.1). It also doubled the VMD.

These results are in line with and in some cases actually superior to those for aerial usage shown below.

ZERODRIFT™ Aerial Applications

Results were obtained via the **United States Spray Drift Task Force Model** AgDRIFT. Much of the applied spray can drift away from the targeted area. This allows significant amounts to be deposited on the ground for as much as a kilometre. (in the test – 15 km/hr wind speed) ***The model showed the drift to be in excess of 14%*** of the applied rate (at 50 L/ha – in excess of 7 litres would be drift). The introduction of **Zerodrift™** reduced this to 3% or less. ***This equates to a reduction of spray drift of up to 80%!***

Various concentrations of **Zerodrift™** were tested. However, increasing the concentration above 2000:1 did not give any significant advantage. Concentrations from 1000:1 to 3000:1 have successfully been used in the field. Because of the variations in additions to commercial spray liquids it is best to begin at lower concentrations and increase if needed.

Complete copies of the report are available upon request.