

Dead Sure®/TTI Drift Reduction System (DRS).

TTIs are a hybrid nozzle which give good stubble penetration and are good for pre-emergent applications. They provide very good to excellent drift control.

TTI nozzles deliver XC spray qualities at most spray pressures meaning they produce very few fine droplets. However, the Dead Sure/TTI DRS manages to reduce the droplet fines from a range of glyphosate tank mixes even further. Despite the large droplet size, the Dead Sure/TTI DRS enhances both grass and broadleaf weed control with glyphosate alone or glyphosate plus 2,4-D in the same mixture.

Drift risk of fallow herbicide mixtures depends on % Driftable Fines

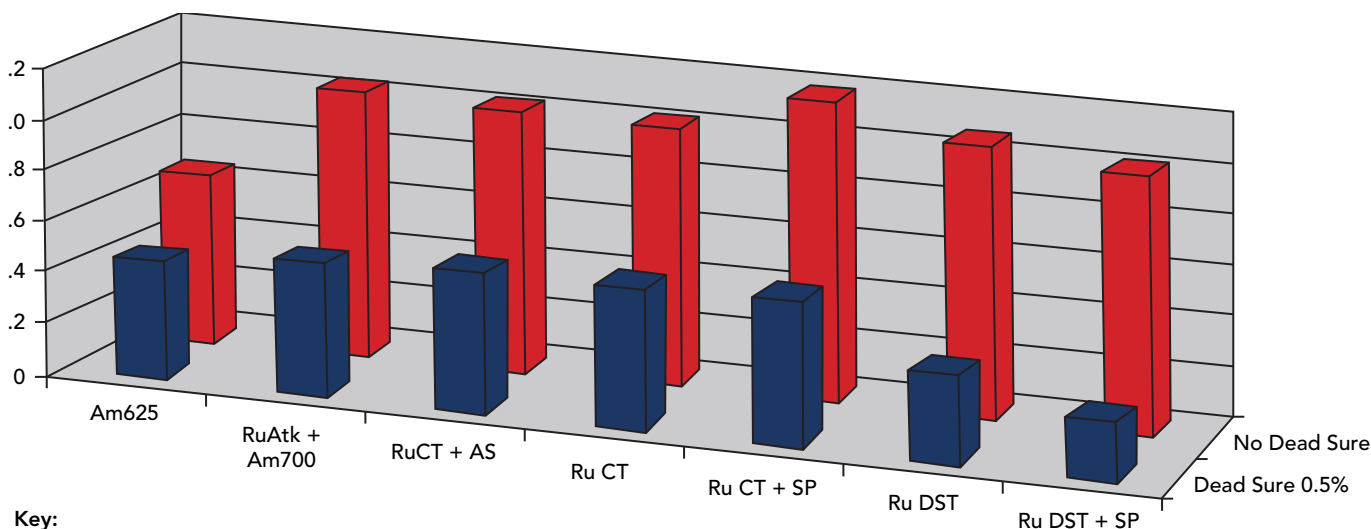
Reducing the driftable fine droplets formed is a key aspect of controlling chemical spray drift. The physical weight of droplets greater than 150µm diameter means they will not stray far from their original trajectory.



TTI Nozzle from TeeJet Technologies

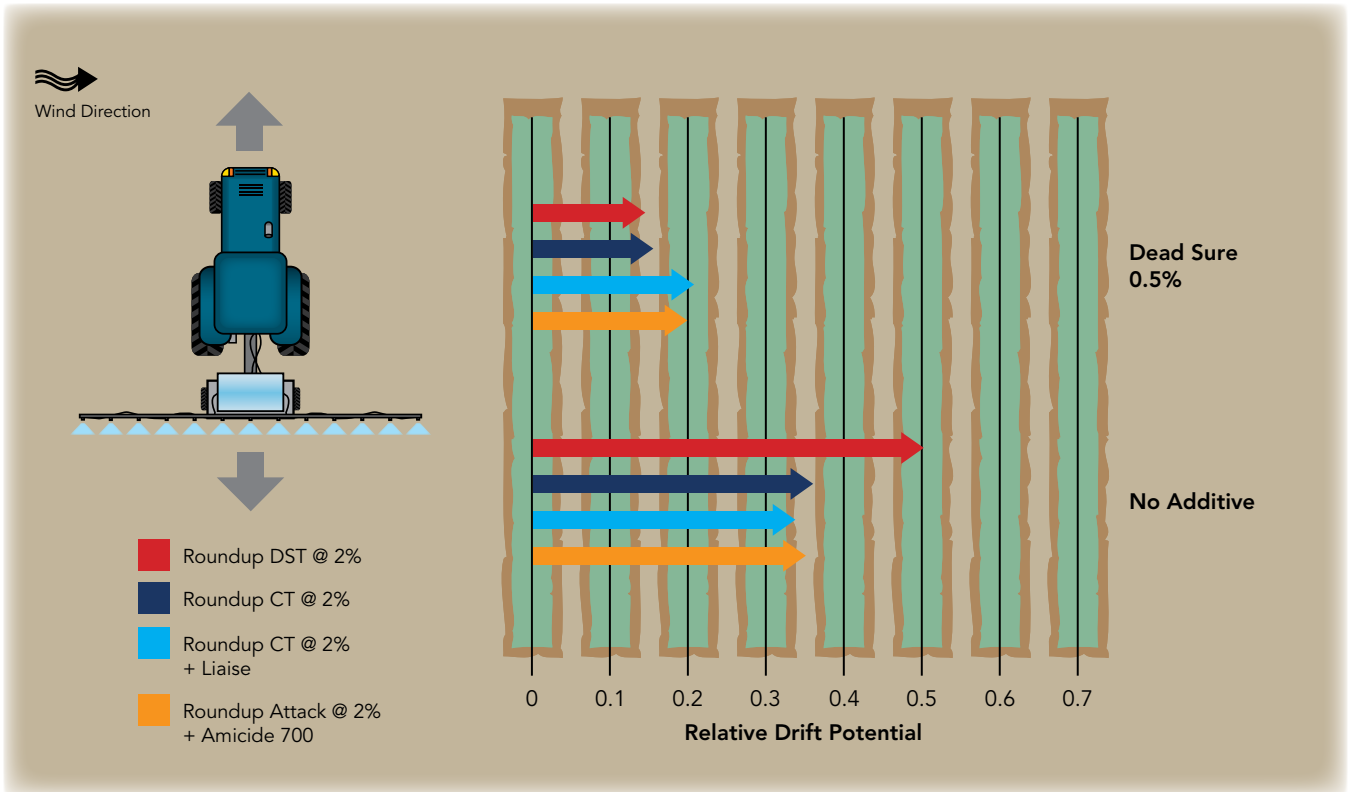
Figure 1: % Driftable Fines - TTI nozzle at 3 bar

The Dead Sure/TTI DRS produces less than 0.5% of driftable fines with a range of fallow herbicide mixtures.



Key:

- Am625 = Amicide 625
- Am700 = Amicide 700 at 815mL/ha
- RuAtk = Roundup Attack at 1300mL/ha
- RuCT = Roundup CT at 1L/ha
- AS = Liaise ammonium sulphate at 2% v/v
- SP = Surpass 300 at 2400mL/ha
- Ru DST = Dual Salt Roundup at 2L/ha
- Dead Sure at 0.5% v/v
- Water volume = 50L/ha



Drift Potential

The drift potential of sprays is very strongly correlated with the proportion of fine droplets in a spray. The USA's Spray Drift Task Force atomization data for thousands of droplet size measurements and a large number of field drift studies forming the heart of the AgDRIFT™ model have been analyzed¹ to produce the following equation:

$$\text{Drift Potential} = 0.00126534 + 0.000074433 \text{ Dv}0.1 - 0.00000337 \text{ Dv}0.5 - 0.0000186 \text{ Dv}0.9 + 0.3397122 \text{ F141} \dots \dots \dots [\text{equation 1}]$$

¹ Teske, M.E., Bird, S.L., Esterly, D.M., Curbishley, T.B., Ray, S.L. and Perry, S.G. (2001) AgDRIFT: An Update of the Aerial Spray Model AGDISP. Environmental Toxicology and Chemistry Vol. 21, pp. 659-71.

When the relevant spray quality data are substituted into this equation, a relative drift potential value is generated.

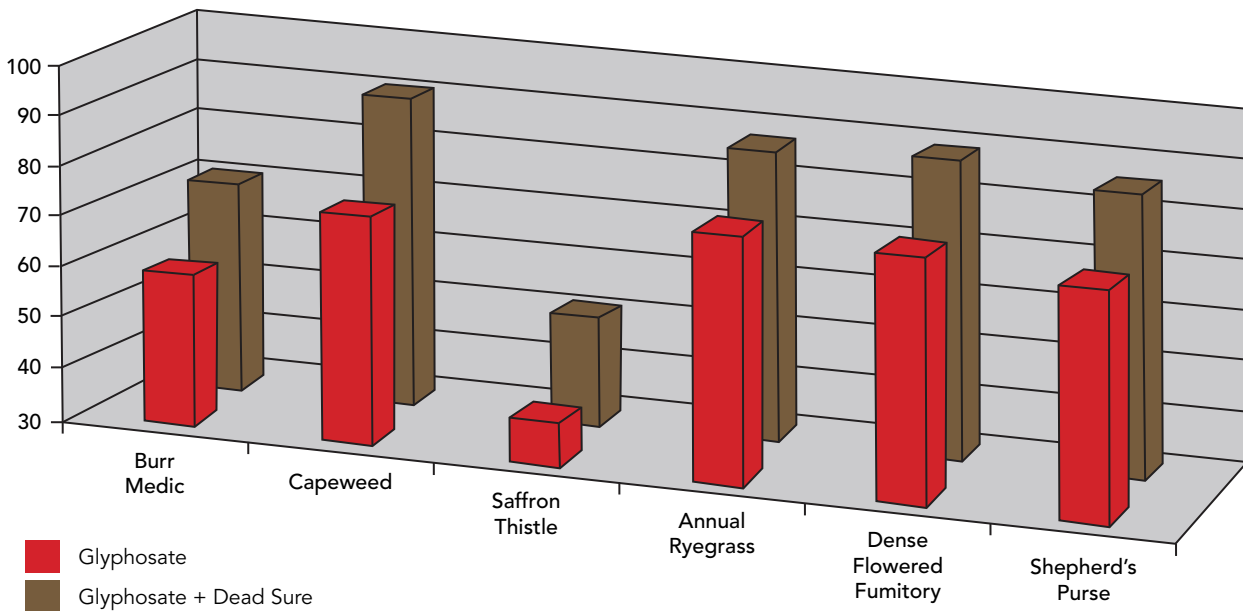
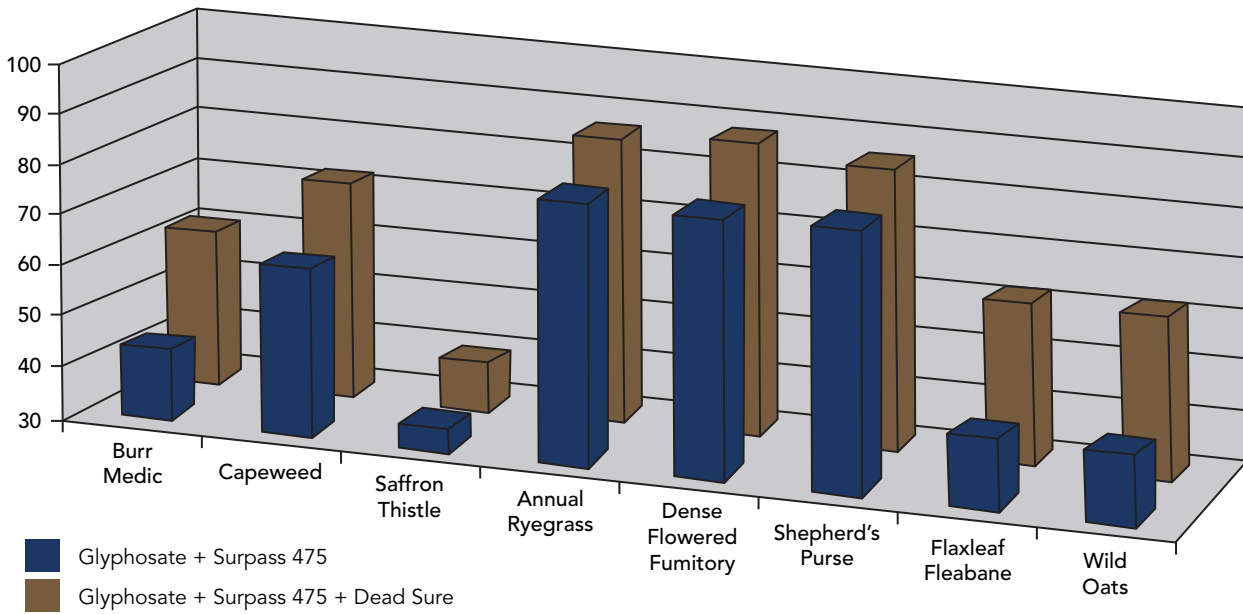
Results (See figure above)

- The Dead Sure/TTI DRS reduces the drift potential by about half with most mixtures compared to just using the TTI nozzle as the only DRT.

Enhanced Weed Control

The Dead Sure/TTI DRS:

- Despite producing almost no fine droplets, the Dead Sure/TTI DRS gave excellent efficacy enhancement of the herbicides tested across a range of weed types.
- Only 0.25% v/v Dead Sure is needed with the TTI nozzle for optimum herbicide enhancement.



Key:

Glyphosate = Glyphosate CT applied at 800mL/ha
 Surpass 475 used at 415mL/ha
 Dead Sure DRT used at 0.25% v/v
 Water volume = 50L/ha
 Assessments 29DAT in Namoi

