PRODUCT TECH NOTE

Dead Sure®/TeeJet DRS For reduction of driftable fines.

Dead Sure is both a spray drift risk reducing adjuvant for fallow herbicides and an adjuvant to improve the efficacy of the fallow herbicides when applied with the AITTJ60, TTJ60, TTI or AIXR low drift TeeJet nozzles. In this Tech Note we detail the effect of the Dead Sure/TeeJet Drift Reduction System (DRS) on production of driftable fines.

Reducing fine droplets from Drift Reducing Nozzles

Dead Sure reduces (but does not eliminate) fine droplet (<150µm) production through the low drift AITTJ60, TTI and AIXR nozzles. The Dead Sure/TeeJet DRS is an additional tool for, not a substitute of, good off-target-spray minimisation practices.

What situations to use the Dead Sure/TeeJet DRS in:

Use in fallow spraying situations from a ground based boom spraying rig when applying glyphosate and/or phenoxy herbicide tank mixtures.

Why use the Dead Sure/TeeJet DRS:

Use to reduce risk of off-target spraying and enhance the rate of weed kill and the final weed kill performance of the herbicides.

How to use the Dead Sure/TeeJet DRS for reduction of driftable fines:

Before the season:
From the TeeJet nozzle chart (see pages 3 and 4 of this Tech Note), select the correct size AIXR, AITTJ60 or TTI nozzle for your selected volume application rate and optimal tractor speed. Ensure your spray rig's specified operating pressure range covers the selected nozzle's recommended operating pressure that delivers at least coarse spray quality. Fill out your Dead Sure/TeeJet DRS nozzle order form online at www.cpsodeadsure.com to receive your complementary nozzles.

At spray time:
Half fill the spray tank with water and commence agitation. When your primary aim is to reduce risk of driftable fines, use Dead Sure at the rate of 500mL/100L of water. A lower rate (250ml/100L) can be used if aim is only to use as an adjuvant. Add the required amount of Dead Sure, recirculate for five minutes. At this point calibrate the boom sprayer's flow rate to adjust for effect of Dead Sure on tank mix viscosity (usually < 5% adjustment is needed).

Then add the recommended quantity of herbicide. Continue agitation while topping up the tank to the correct volume and during spraying. At this rate Dead Sure will reduce droplets of diameter less than 150µm by up to 70% and improve herbicide efficacy.

Dead Sure acts to reduce fine droplets formed by increasing the viscosity of the tank mix. This may reduce fan angle so you may need to adjust boom height to maintain double overlap at target height at minimum anticipated operating pressure. Normally no adjustment to height is necessary.

When spraying, ensure at least the following recommendations are followed.

- Consult GRDC fact sheet "Sprayright – to avoid drift-Best management practices" before spraying in sensitive areas.
- the labels of all sprayed chemicals are adhered to
- the spray rig is set up to deliver the coarsest, effective droplet size for the chemical being applied
- Spraying is done under desirable weather conditions only including appropriate temperatures and not under inversion conditions;
- Spraying is only done when there is a consistent crosswind but NOT when the wind direction is toward sensitive areas or when there is excessive wind speed;
- DO NOT operate with a boom height too high and ensure tractor speed during application is as low as practical

Wind Tunnel Tests with Coarse Nozzles

Reducing drift risk is not about increasing droplet VMD, it is about reducing the fraction of droplets that are below 150µm in diameter. Figures 1 - 3 show the results of wind-tunnel testing of the effect of Dead Sure on production of driftable fine droplets from the AITTJ60, TTI and AIXR TeeJet nozzles by glyphosate CT and 2,4-D mixtures.

Dead Sure® DRIFT MITIGATING ADJUVANT | TeeJet TECHNOLOGIES | CALTEX PRECISION SPRAY OILS

Figure 1: % Driftable Fines - AITTJ nozzle at 5 bar

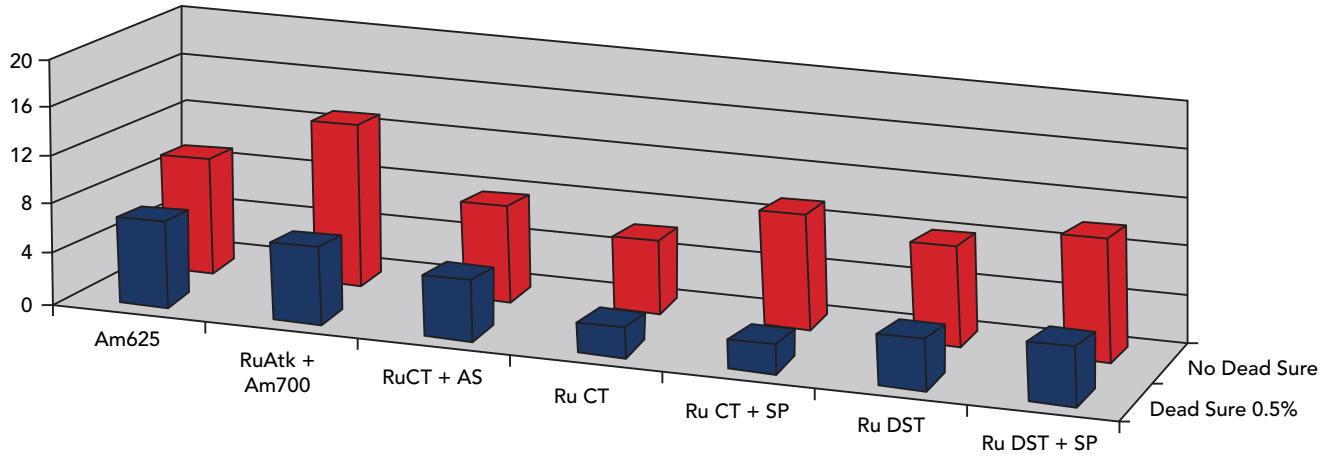


Figure 2: % Driftable Fines - AIXR nozzle at 5 bar

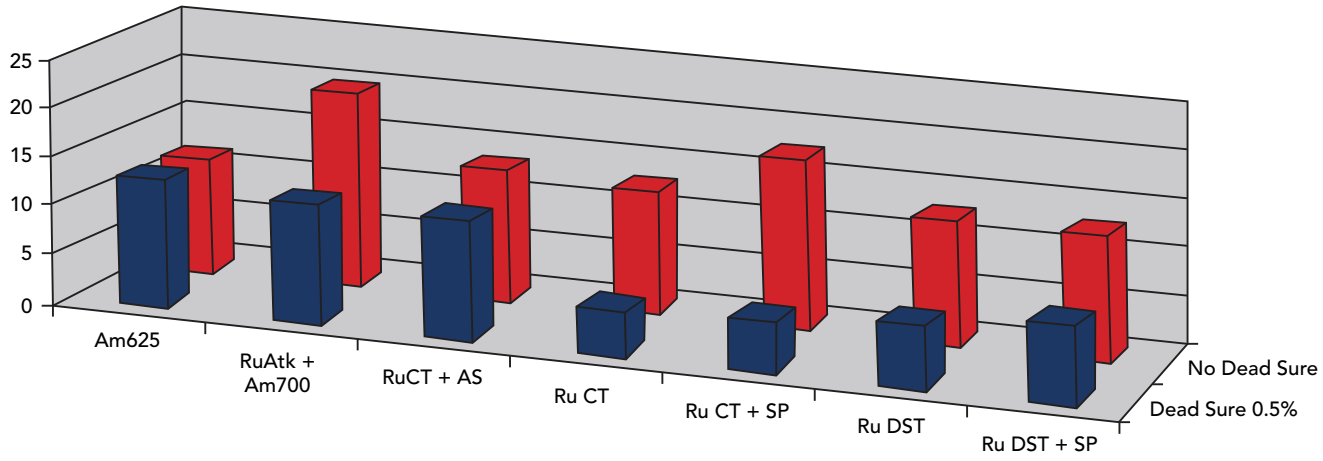
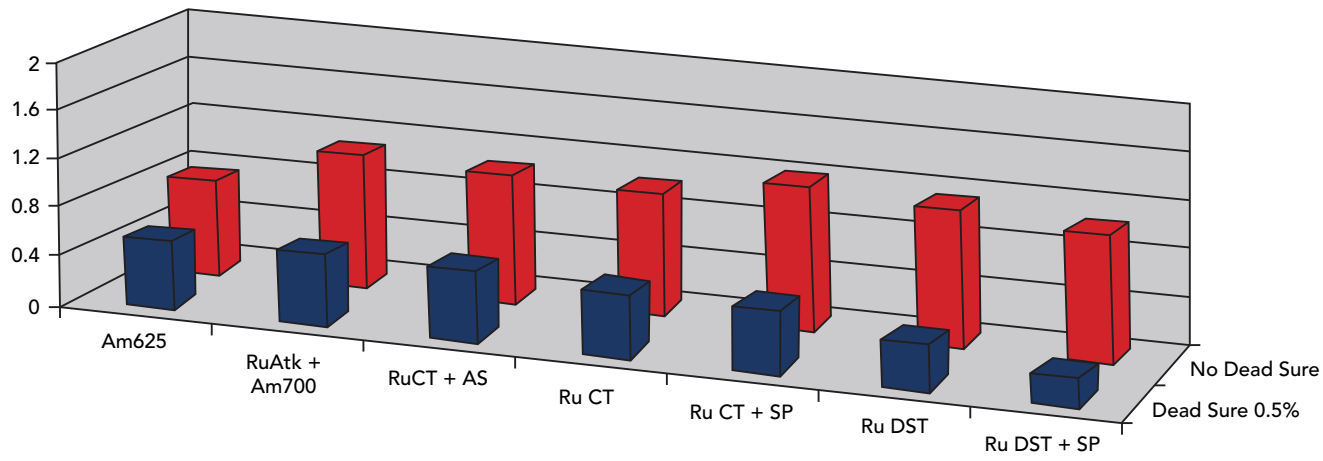


Figure 3: % Driftable Fines - TTI nozzle at 3 bar



Key for Figures 1-3:

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

Dead Sure® DRIFT MITIGATING ADJUVANT | TeeJet® TECHNOLOGIES

CALTEX PRECISION SPRAY OILS

TEEJET NOZZLE SELECTION GUIDE

 AIXR TeeJet	BAR									
	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
AIXR11002VP	XC	VC	VC	C	C	C	C	C	M	M
AIXR110025VP	XC	XC	VC	VC	C	C	C	C	C	C
AIXR11003VP	XC	XC	VC	VC	C	C	C	C	C	C

 Air Induction Turbo TwinJet	BAR								
	2	2.5	3	3.5	4	4.5	5	5.5	6
AITTJ60-11002VP	VC	VC	VC	C	C	C	C	C	C
AITTJ60-110025VP	VC	VC	VC	C	C	C	C	C	C
AITTJ60-11003VP	XC	XC	VC	VC	VC	C	C	C	C

 Turbo TeeJet Induction	BAR									
	2	2.5	3	3.5	4	4.5	5	5.5	6	7
TTI11002-VP	UC	UC	UC	UC	UC	UC	XC	XC	XC	XC
TTI110025-VP	UC	UC	UC	UC	UC	UC	XC	XC	XC	XC
TTI11003-VP	UC	UC	UC	UC	UC	UC	XC	XC	XC	XC

Dead Sure® DRIFT MITIGATING ADJUVANT | TeeJet® TECHNOLOGIES

CALTEX PRECISION SPRAY OILS

Nozzle Capacity	BAR	Nozzle L/Min	L/ha 50cm													
			6	8	10	12	14	16	18	20	22	24	26	28	30	32
02	1	0.46	92	69	55	46	39	35	31	28	25	23	21	20	18	17
	2	0.65	13	98	78	65	56	49	43	39	35	33	30	28	26	24
	3	0.79	158	119	95	79	68	59	53	47	43	40	36	34	32	30
	4	0.91	182	137	109	91	78	68	61	55	50	46	42	39	36	34
	5	1.02	204	153	122	102	87	77	68	61	56	51	47	44	41	38
	6	1.12	224	168	134	112	96	84	75	67	61	56	52	48	45	42
	7	1.21	242	182	145	121	104	91	81	73	66	61	56	52	48	45
	8	1.29	258	194	155	129	111	97	86	77	70	65	60	55	52	48

Nozzle Capacity	BAR	Nozzle L/Min	L/ha 50cm													
			6	8	10	12	14	16	18	20	22	24	26	28	30	32
025	1	0.57	114	86	68	57	49	43	38	34	31	29	26	24	23	21
	2	0.81	162	122	97	81	69	61	54	49	44	41	37	35	32	30
	3	0.99	198	149	119	99	85	74	66	59	54	50	46	42	40	37
	4	1.14	228	171	137	114	98	86	76	68	62	57	53	49	46	43
	5	1.28	256	192	154	128	110	96	85	77	70	64	59	55	51	48
	6	1.40	280	210	168	140	120	105	93	84	76	70	65	60	56	53
	7	1.51	302	227	181	151	129	113	101	91	82	76	70	65	60	57
	8	1.62	324	243	194	162	139	122	108	97	88	81	75	69	65	61

Nozzle Capacity	BAR	Nozzle L/Min	L/ha 50cm													
			6	8	10	12	14	16	18	20	22	24	26	28	30	32
03	1	0.68	136	102	82	68	58	51	45	41	37	34	31	29	27	26
	2	0.96	192	144	115	96	82	72	64	58	52	48	44	41	38	36
	3	1.18	236	177	142	118	101	89	79	71	64	59	54	51	47	44
	4	1.36	272	204	163	136	117	102	91	82	74	68	63	58	54	51
	5	1.52	304	228	182	152	130	114	101	91	83	76	70	65	61	57
	6	1.67	334	251	200	167	143	125	111	100	91	84	77	72	67	63
	7	1.8	360	270	216	180	154	135	120	108	98	90	83	77	72	68
	8	1.93	386	290	232	193	165	145	129	116	105	97	89	83	77	72