

# Supplementary Materials

**Table S1.** Means of volume median diameter, relative span factor, coverage area and droplet density at the upper third of corn plants.

Upper Third																
Droplet Class	Adjuvant Use	Deposition ( $\mu\text{g cm}^{-2}$ )			VMD ( $\mu\text{m}$ )			Relative span			Coverage (%)			Density (droplets $\text{cm}^{-2}$ )		
		Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )		
		80	150	Mean	80	150	Mean	80	150	Mean	80	150	Mean	80	150	Mean
Fine	Without adjuvant	0.25	0.24	0.24	161	137	149	0.48	0.64	0.56	6.80	11.67	9.23	147	349	248
	Nimbus	0.17	0.24	0.21	150	156	153	0.52	0.53	0.52	3.52	8.58	6.05	82	181	132
	Assist	0.20	0.18	0.19	151	156	154	0.58	0.74	0.66	6.40	10.17	8.29	146	220	183
	Mean	0.21	0.22	0.21	154	150	152**	0.52	0.64	0.58	5.57	10.14	7.86**	125	250	188**
Course	Without adjuvant	0.29	0.25	0.27	226	246	236	0.77	0.78	0.78	2.20	6.67	4.44	20	69	44
	Nimbus	0.19	0.34	0.27	256	220	238	0.50	0.66	0.58	2.37	8.20	5.29	19	97	58
	Assist	0.24	0.34	0.29	237	230	233	0.46	0.74	0.60	1.83	5.98	3.90	12	60	36
	Mean	0.24	0.31	0.27	240	232	236**	0.58	0.73	0.65	2.13	6.95	4.54**	17	75	46**
Application rate mean		0.23	0.26	0.24	197	191	194	0.55*	0.68*	0.62	3.85**	8.55**	6.20	71**	163**	117

VMD: volume median diameter. \*significant at 0.05 level of significance; \*\* significant at 0.01 level of significance and ns not significant in ANOVA.

**Table S2.** Means of volume median diameter, relative span factor, coverage area and droplet density at the middle third of corn plants.

Middle Third																
Droplet Class	Adjuvant Use	Deposition ( $\mu\text{g cm}^{-2}$ )			VMD ( $\mu\text{m}$ )			Relative span			Coverage (%)			Density (droplets $\text{cm}^{-2}$ )		
		Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )		
		80	150	Mean	80	150	Mean	80	150	Mean	80	150	Mean	80	150	Mean
Fine	Without adjuvant	0.22	0.23	0.22	187	147	167	0.50	0.70	0.60	2.71	7.93	5.32	43	195	119
	Nimbus	0.14	0.17	0.15	180	170	175	0.61	0.49	0.55	3.55	5.71	4.63	52	107	79
	Assist	0.17	0.18	0.18	178	183	181	0.53	0.52	0.52	3.71	5.84	4.78	63	87	75
	Mean	0.18	0.19	0.18	182	167	174**	0.55	0.57	0.56	3.32	6.49	4.91*	53*	130*	91
Course	Without adjuvant	0.16	0.22	0.19	261	292	277	0.67	0.86	0.76	1.47	5.66	3.56	14	41	27
	Nimbus	0.18	0.28	0.23	299	279	289	0.41	0.66	0.54	2.28	3.96	3.12	15	27	21
	Assist	0.17	0.20	0.18	314	282	298	0.72	0.68	0.70	1.52	5.56	3.54	7	36	22
	Mean	0.17	0.23	0.20	292	285	288**	0.60	0.73	0.67	1.76	5.06	3.41*	12*	35*	23
Application rate mean		0.17	0.21	0.19	237	226	231	0.57	0.65	0.61	2.54**	5.78**	4.16	32	82	57

VMD: volume median diameter. \*significant at 0.05 level of significance; \*\* significant at 0.01 level of significance and ns not significant in ANOVA.

**Table S3.** Means of volume median diameter, relative span factor, coverage area and droplet density at the lower third of corn plants.

Lower Third																
Droplet Class	Adjuvant Use	Deposition ( $\mu\text{g cm}^{-2}$ )			VMD ( $\mu\text{m}$ )			Relative span			Coverage (%)			Density (droplets $\text{cm}^{-2}$ )		
		Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )			Application Rate ( $\text{L ha}^{-1}$ )		
		80	150	Mean	80	150	Mean	80	150	Mean	80	150	Mean	80	150	Mean
Fine	Without adjuvant	0.14	0.11	0.12	173	161	167	0.56	0.64	0.60	1.93	6.72	4.32	32	144	88
	Nimbus	0.09	0.10	0.10	179	173	176	0.66	0.50	0.58	4.35	3.73	4.04	51	68	60
	Assist	0.08	0.16	0.12	209	188	198	0.55	0.57	0.56	2.42	4.84	3.63	24	75	49
	Mean	0.10	0.12	0.11*	187	174	180**	0.59	0.57	0.58	2.90	5.10	4.00*	36*	96*	66
Course	Without adjuvant	0.12	0.15	0.13	293	344	319	0.53	0.72	0.63	1.60	3.74	2.67	10	24	17
	Nimbus	0.14	0.22	0.18	330	240	285	0.71	0.98	0.85	1.65	3.78	2.72	11	38	24
	Assist	0.15	0.20	0.18	343	338	340	0.56	0.64	0.60	1.15	3.35	2.25	5	16	11
	Mean	0.13	0.19	0.16*	322	307	315**	0.60	0.78	0.69	1.47	3.62	2.55*	8*	26*	17
Application rate mean		0.12	0.16	0.14	255	240	248	0.59	0.67	0.63	2.18*	4.36*	3.27	22	61	41

VMD: volume median diameter. \*significant at 0.05 level of significance; \*\* significant at 0.01 level of significance and ns not significant in ANOVA.

**Table S4.** Means of runoff to the soil.

Droplet Class	Adjuvant Use	Runoff to the soil ( $\mu\text{g cm}^{-2}$ )		
		Application Rate		Mean
		80	150	
Fine	Without adjuvant	3.11	4.64	3.88
	Nimbus	2.63	3.00	2.82
	Assist	2.42	2.50	2.46
	Mean	2.72	3.38	3.05
Course	Without adjuvant	3.32	3.67	3.49
	Nimbus	3.12	6.17	4.64
	Assist	2.73	4.52	3.62
	Mean	3.05	4.79	3.92
Application rate mean		2.89*	4.08*	3.49

\*significant at 0.05 level of significance; \*\* significant at 0.01 level of significance and ns not significant in ANOVA.

**Table S5.** Correlation coefficients and statistical significance in correlations between variables.

	I	So	VMDu	VMDm	VMDi	RAu	RAi	Cu	Cm	Ci	Du	Dm	Di
I	1												
So	0.33*	1											
VMDu	0.31*	0.24	1										
VMDm	0.28*	0.18	0.78**	1									
VMDi	0.13	0.08	0.73**	0.84**	1								
RAu	0.08	0.18	0.03	0.18	0.16	1							
RAi	0.09	0.34*	-0.3*	-0.25	-0.26	0.28	1						
Cu	0.04	0.06	-0.3*	-0.34*	-0.43**	0	0.36*	1					
Cm	0.12	0.34*	-0.21	-0.19	-0.2	0.23	0.75**	0.54**	1				
Ci	-0.01	0.19	-0.51**	-0.49**	-0.52**	0.17	0.84**	0.47**	0.63**	1			
Du	-0.11	-0.08	-0.55**	-0.53**	-0.56	-0.01	0.35*	0.88**	0.46**	0.61**	1		
Dm	-0.12	0.18	-0.51**	-0.54**	-0.49	0.09	0.63**	0.5**	0.81**	0.78**	0.66**	1	
Di	0.24	-0.02	0.16	-0.07	-0.05	0.03	-0.09	-0.06	-0.1	-0.03	-0.07	-0.05	1

I: deposition in the lower third. So: solution runoff to the soil. VMD: volume median diameter; RA: relative span factor; C: coverage area; D: droplet density in the thirds u: upper; m: middle i: lower.