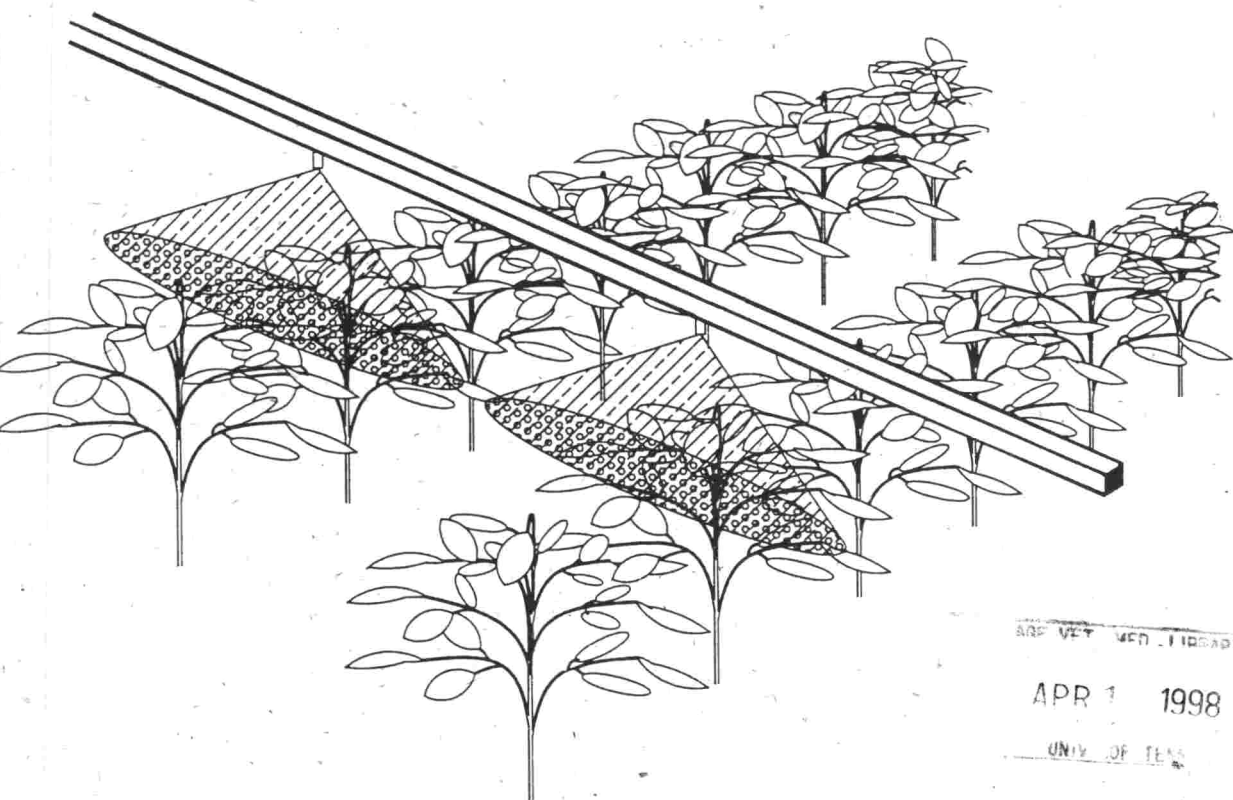


Tip Selection for Precision Application of Herbicides

A Look-Up Table of Drop Sizes to Assist in the Selection of Nozzles



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Alvin R. Womac • Jill C. Goodwin • William E. Hart

The University of Tennessee Agricultural Experiment Station
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THE AUTHORS

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X-77 is a registered trademark of Valent U.S.A. Corporation of Walnut Creek, California. Agridex is a registered trademark of Setre Chemical Company of Memphis, Tennessee. Use of these names and the selection of nozzles used in this study neither state nor imply an endorsement of a specific commercial product or firm.

On the cover, a drawing by John J. Conroy, a graduate research assistant in the Department of Agricultural and Biosystems Engineering, depicts a spray system in operation in a field of soybeans.

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Tip Selection for Precision Application of Herbicides: A Look-Up Table of Drop Sizes to Assist in the Selection of Nozzles

INTRODUCTION

Proper selection of spray nozzle tips is one of the first steps to reduce off-target drift during spray applications of pesticides and other treatments. Drift can occur during applications in windy conditions and temperature inversions, especially with improper sizing of drops. By selecting spray nozzle tips appropriate for the liquid being sprayed and pressure of the system, growers can minimize the production of small drops that lead to drift. Proper selection of nozzles allows a greater percentage of spray to reach its target while reducing the risk that drift can pose to nearby crops, particularly during applications of postemergence herbicides.

Interest in precision application of pesticides and other sprays has resulted in a proliferation of drift reduction tips available on the market, along with competing claims of performance. Many of the tip assessments reported by manufacturers are based on test sprays of water and simply report a volume median diameter of drop size, a percentage of droplets smaller than 100 μm (microns) or a broad spray class. *However, each nozzle tip actually produces a wide range of drop sizes at any given pressure. The drop spectrum varies with every combination of tip size, operating pressure, and spray liquid.*

The portion of the spray with drops less than 100 to 200 μm has the greatest potential of herbicide drift because the fine spray is easily blown off target by the slightest breeze and is prone to evaporate very quickly. The issue of evaporation is critical to drops in two ways: First, the water in the drops evaporates, which may result in very fine particles of herbicide formulation that do not settle to the target. Second, the solvents and active ingredients of some herbicides may directly evaporate from the drops, meaning that

while some spray may reach the target, its efficacy may be diminished. Evaporation of both types is more prevalent in smaller drops because the smaller the drop, the greater the surface area on that drop relative to its volume, which subjects the spray to excessive evaporation.

To minimize the production of small drops, growers need to be able to correlate tip performance with operating conditions and the liquid to be sprayed. Drop spectrum data have not been widely available for making side-by-side comparisons between tips from different manufacturers, especially as operated with different liquids. This study aims to fill that gap through data gathered in controlled conditions using a laser diffraction instrument.

OBJECTIVES

The objectives of this study were:

1. To identify the set of currently available drift reduction tips and other conventional tips (such as extended range) that are appropriate for ground application by high clearance sprayer or 3-point hitch sprayer
2. To identify the range of nozzle operating pressures unique to each tip design
3. To measure the in-flight size of spray drops produced by selected nozzle designs, nominal size ratings, operating pressures and test liquids of water, a water-surfactant mixture, and a water-crop oil concentrate mixture
4. To tabulate volume median diameter, volume percentage of spray in small drops, and other drop spectrum details

DROP SIZING

Drop size was measured with a laser diffraction instrument (Malvern 2605 L/c drop/particle size analyzer with 800-mm lens). Spray output discharging downwards was traversed several times (6 to 8) completely through the laser beam while the drop size detector was polled 10,000 sweeps per test run. Daily checks of instrument consistency were performed at the beginning and end of the day with a selected nozzle and operating condition.

A representative tip of the reported tests was chosen based on prescreening several tips of a given brand, size, and type. Drop size data for the representative tip are reported for a minimum of three (3) replicate drop size runs. The reported runs were selected based on a consistent, repeatable response by the instrument. Over 5000 measurement test runs were conducted for the study.

Nozzle Sources

CP Products

Pickett Equipment Co. Inc.
Memphis, TN
Phone: 1 (800) 238 - 9095
Fax: 1 (800) 622 - 7783

Greenleaf (TurboDrop)

P.O. Box 1777
Covington, LA 70434
Phone: (504) 892 - 2778
Fax: (504) 898-0336

Spraying Systems Co.

Teejet Southeast
10902 Crabapple Road, Suite 101
Roswell, GA 30075
Phone: (770) 552 - 9292
Fax: (770) 552 - 9293

Delavan

20 Delavan Dr.
Lexington, TN 38351
Phone: (901) 968 - 8152
Fax: (901) 968 - 5085

Lurmark

Precision Fitting & Valve Co. Inc.
5200 211th Street W
Farmington, MN 55024
Phone: (612) 463 - 7855
Fax: (612) 463 - 8088

TEST MATRIX

Specific combinations of tips, sizes, and pressures were tested with three test liquids. These combinations are outlined in **Table 1**.

LOOK-UP TABLE OF DROP SIZES

The look-up table is organized by test liquid:

- 1. Water
- 2. Water + 0.25% v/v X-77 surfactant
- 3. Water + 1.0% v/v Agridex crop oil concentrate

Data within each test liquid are arranged by nozzle manufacturer:

- | | |
|----------------|---------------------|
| 1. CP Products | 4. Lurmark |
| 2. Delavan | 5. Spraying Systems |
| 3. TurboDrop | |

Data within each manufacturer are arranged by nozzle tip design and pressure, as outlined in the following test matrix.

Table 1. Test matrix of specific combinations of test liquids, tips, sizes, and pressures.												
Liquids • WATER • WATER + 0.25% v/v X-77 (Surfactant) • WATER + 1.0% v/v Agridex (Crop Oil Concentrate)												
Nozzle Tips & Pressures												
Brand	Tip	Sizes (Nominal)					Pressures (psi)					
CP Products	CP	1	2	3			20	30	35	40		
Delavan	RF	1.5	2	3	4		20	30	40	50	60	
	RA	2	4				20	30	40	50		
Turbo Drop	110° air Ventura	Green 0.4	Yellow 0.5	Pink 0.6	Blue 0.6	Red 0.8	40	60	100			
Lurmark	LD 80°	0.15	0.2	0.3	0.4		15	30	40	60	100	
	LD 110°	0.15	0.2	0.3	0.4		15	30	40	60	100	
Spraying Systems	DG 80°	0.15	0.2	0.3	0.4		30	35	40	50	60	
	DG 110°	0.15	0.2	0.3	0.4		30	35	40	50	60	
	TFVS	2	2.5	3	4		10	15	20	30	40	
	TT 110°	0.15	0.2	0.3	0.4		15	30	40	50	60	90
	XR 80°	0.15	0.2	0.3	0.4		15	20	30	40	60	
	XR 110°	0.15	0.2	0.3	0.4		15	20	30	40	60	
	TXVS	4	6	8	10	12	40	50	60			
	TKSS	0.1	0.15	0.2	0.3		10	15	20	30	40	

DROP DATA DESCRIPTIONS

A wide range of drop sizes exists in any given spray discharge. Indicators of this range are expressed in terms of the spray “volume.” Descriptions of terms are as follow:

- Spray volume (%) < 44 μm - percentage of spray volume in drops 44 μm and smaller
- Spray volume (%) < 91 μm - percentage of spray volume in drops 91 μm and smaller
- Spray volume (%) < 191 μm - percentage of spray volume in drops 191 μm and smaller

The spray volume in drops smaller than about 200 μm is usually considered as “driftable” fines depending on weather conditions and location of release relative to the canopy.

- $D_{v0.1}$ (μm) - 10% of the spray volume in drops less than the indicated $D_{v0.1}$
- $D_{v0.5}$ (μm) - 50% of the spray volume in drops less than the indicated $D_{v0.5}$
 - also called Volume Median Diameter (VMD)
 - *not* mean (average) drop size
- $D_{v0.9}$ (μm) - 90% of the spray volume in drops less than the indicated $D_{v0.9}$
- Span - relative span that indicates the range or dispersion of drop sizes
 - $(D_{v0.9} - D_{v0.1}) / D_{v0.5}$

A micron (μm) is a unit of length measurement that indicates 1×10^{-6} meters. 25,400 μm equals 1 inch. A human hair is about 50 μm in diameter.

CP Products - WATER												
Nozzle	Spray	Flow Rate	Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}			
Type	Setting	Liquid	(ml/min)	(gal/min)	(psi)	<44 μ m	<91 μ m	<191 μ m	(μ m)	(μ m)	(μ m)	Span
CP	1	water	430	0.114	20	0.4	1.9	8.5	217.58	628.65	1221.74	1.60
			505	0.133	30	0.8	4.7	17.3	124.02	471.15	991.05	1.84
			550	0.145	35	1.1	6.7	22.3	106.30	398.50	796.41	1.73
			600	0.159	40	1.3	7.4	24.5	102.83	366.61	743.49	1.75
CP	2	water	950	0.251	20	0.8	4.6	18.9	125.04	418.10	912.20	1.88
			960	0.254	30	1.4	7.6	26.8	101.43	341.20	756.16	1.92
			1040	0.275	35	1.6	8.6	28.9	96.44	320.54	719.47	1.94
			1095	0.289	40	1.8	9.7	31.6	91.96	299.85	674.28	1.94
CP	3	water	1660	0.439	20	1.0	5.0	19.9	123.44	396.61	783.36	1.66
			2050	0.542	30	1.4	6.7	26.0	108.52	347.27	721.04	1.76
			2220	0.587	35	1.6	7.4	26.9	103.73	328.95	585.17	1.77
			2365	0.625	40	2.0	8.7	29.4	96.89	312.01	666.96	1.81

Delavan-WATER

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44μm	<91μm	<191μm				
RF	1.5	water	395	0.104	20	0.8	5.0	33.5	116.81	267.53	471.67	1.33
			470	0.124	30	1.4	7.4	43.5	101.78	215.10	398.35	1.38
			540	0.143	40	1.8	9.3	50.3	93.52	189.65	357.36	1.39
			595	0.157	50	2.3	11.2	53.7	87.48	180.64	364.19	1.53
			650	0.172	60	2.5	12.6	59.7	82.79	166.66	324.39	1.45
RF	2	water	500	0.132	20	0.5	3.4	26.8	132.33	339.23	581.85	1.33
			595	0.157	30	0.7	5.2	32.0	119.88	290.10	503.51	1.32
			685	0.181	40	1.2	6.7	38.2	106.63	248.14	463.02	1.44
			750	0.198	50	1.5	8.4	44.5	98.15	214.48	411.50	1.46
			820	0.217	60	1.7	9.1	47.4	94.38	200.42	389.99	1.47
RF	3	water	740	0.196	20	0.5	2.8	18.5	140.66	390.42	684.33	1.39
			890	0.235	30	0.7	4.3	25.3	125.56	334.27	592.79	1.40
			1030	0.272	40	1.1	5.9	31.5	112.3	290.5	551.3	1.5
			1165	0.308	50	1.5	7.2	35.9	103.65	262.48	515.56	1.57
			1255	0.332	60	1.5	7.9	38.2	100.16	249.33	496.77	1.59
RF	4	water	1015	0.268	20	0.3	2.0	12.8	162.91	474.94	742.82	1.22
			1224	0.323	30	0.6	3.4	19.4	137.45	391.48	665.90	1.35
			1405	0.371	40	0.8	4.6	24.2	126.66	349.36	602.39	1.36
			1560	0.412	50	1.0	5.6	27.5	118.04	325.56	576.47	1.41
			1710	0.452	60	1.1	6.3	30.0	112.81	309.23	554.56	1.43

Delavan-WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	<44 μ m	<91 μ m	<191 μ m	(μ m)	(μ m)	(μ m)	
RA	2	water	515	0.136	20	0.1	0.6	3.6	271.56	549.53	825.01	1.00
			650	0.172	30	0.2	0.9	6.5	248.67	467.69	822.08	1.23
			745	0.197	40	0.2	1.1	7.5	218.45	422.45	899.84	1.61
			810	0.214	50	0.3	1.6	9.9	191.01	393.85	912.77	1.83
RA	4	water	1160	0.306	20	0.4	1.2	6.8	234.15	486.47	879.77	1.33
			1380	0.365	30	0.4	1.4	8.6	207.24	444.91	898.51	1.55
			1570	0.415	40	0.4	1.8	9.9	191.67	421.49	933.79	1.76
			1755	0.464	50	0.4	2.1	11.8	176.30	400.63	946.44	1.92

TurboDrop (Greenleaf) - WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	<44 μ m	<91 μ m	<191 μ m	(μ m)	(μ m)	(μ m)	
	110° green	0.4 water	570	0.151	40	0.2	1.3	8.3	209.09	549.36	936.17	1.32
			690	0.182	60	0.4	2.5	14.8	153.48	436.29	724.03	1.31
			870	0.230	100	0.8	4.7	25.3	124.03	333.09	590.08	1.40
	110° yellow	0.5 water	705	0.186	40	0.2	0.5	5.2	246.33	622.19	1146.65	1.45
			865	0.229	60	0.3	1.5	10.2	188.34	519.78	884.98	1.34
			1105	0.292	100	0.7	3.8	20.8	135.15	380.00	684.05	1.44
	110° pink	0.6 water	930	0.246	40	0.2	0.7	5.6	240.18	609.63	1116.50	1.43
			1170	0.309	60	0.4	1.8	10.9	181.95	510.79	863.14	1.33
			1550	0.410	100	0.8	4.4	21.4	133.89	374.24	686.27	1.48
	110° blue	0.6 water	1080	0.285	40	0.3	1.3	8.4	207.89	540.27	909.03	1.30
			1310	0.346	60	0.5	2.6	14.8	155.17	435.12	779.84	1.44
			1690	0.446	100	1.1	5.6	25.7	119.84	327.47	630.45	1.56
	110° red	0.8 water	1460	0.386	40	0.3	1.4	8.9	203.35	553.31	997.78	1.44
			1780	0.470	60	0.6	2.6	14.5	153.59	469.79	815.40	1.41
			2175	0.575	100	1.2	5.7	24.0	118.46	372.51	746.53	1.69

Lurmark - WATER

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	<91 μm	<191 μm				
LD 80°	0.15	water	405	0.107	15	0.4	2.7	22.7	136.46	333.50	527.78	1.17
			550	0.145	30	1.1	6.6	40.4	105.40	231.69	415.92	1.34
			635	0.168	40	1.9	9.5	46.9	92.26	200.56	408.43	1.58
			780	0.206	60	3.0	13.9	57.5	81.06	169.86	359.66	1.64
			1100	0.291	100	4.9	20.5	69.6	67.32	142.87	299.17	1.62
LD 80°	0.2	water	485	0.128	15	0.4	2.4	19.9	141.90	367.29	583.98	1.20
			665	0.176	30	1.1	6.0	36.0	107.95	263.92	465.19	1.35
			770	0.203	40	1.7	8.4	43.2	96.79	223.39	426.54	1.48
			945	0.250	60	2.8	13.0	50.5	83.35	189.12	411.45	1.74
			1235	0.326	100	4.3	18.3	62.3	71.08	156.82	351.95	1.79
LD 80°	0.3	water	840	0.222	15	0.4	2.7	15.8	151.21	422.35	687.51	1.27
			1025	0.271	30	0.8	4.6	23.9	127.13	353.24	602.65	1.34
			1185	0.313	40	1.5	6.5	30.5	108.46	306.39	565.38	1.49
			1500	0.396	60	2.4	9.5	38.4	92.84	250.77	485.07	1.57
			1880	0.497	100	4.2	14.8	49.8	75.35	191.62	426.84	1.83
LD 80°	0.4	water	1020	0.269	15	0.5	2.1	12.0	134.5	497.1	754.9	1.18
			1375	0.363	30	1.0	4.8	23.4	126.6	361.1	625.8	1.38
			1535	0.406	40	1.4	6.2	27.3	114.3	331.6	595.3	1.45
			1880	0.497	60	2.5	9.2	34.4	94.7	273.5	536.3	1.61
			2440	0.645	100	4.2	14.2	46.8	75.3	204.9	469.3	1.92

Lurmark - WATER

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44μm	<91μm	<191μm				
LD 110°	0.15	water	365	0.096	15	0.4	2.5	21.1	141.18	348.46	550.07	1.18
			500	0.132	30	1.0	5.8	37.9	110.17	244.07	434.79	1.33
			575	0.152	40	1.5	8.0	45.8	99.02	206.71	381.79	1.37
			730	0.193	60	2.7	12.4	55.1	84.29	176.80	362.08	1.57
			935	0.247	100	4.1	17.9	66.8	71.05	151.14	304.35	1.54
LD 110°	0.2	water	425	0.112	15	0.5	3.1	23.6	135.00	335.08	559.41	1.27
			660	0.174	30	1.3	6.6	39.8	105.65	237.50	452.72	1.46
			770	0.203	40	1.7	8.6	45.7	96.21	208.51	395.70	1.43
			920	0.243	60	2.7	12.2	52.5	84.66	183.21	386.42	1.63
			1200	0.317	100	4.1	17.5	63.9	71.77	155.63	327.85	1.65
LD 110°	0.3	water	760	0.201	15	0.4	2.8	19.9	141.56	370.34	610.35	1.27
			1025	0.271	30	1.1	6.0	34.6	110.88	269.39	555.77	1.65
			1180	0.312	40	1.6	8.3	41.8	98.21	227.72	488.94	1.72
			1480	0.391	60	2.5	11.3	50.5	86.62	188.98	464.99	2.00
			1900	0.502	100	4.0	15.9	61.2	72.19	160.14	670.61	3.73
LD 110°	0.4	water	990	0.262	15	0.5	3.1	17.8	144.25	417.56	694.18	1.32
			1360	0.359	30	1.1	5.7	31.1	114.31	301.23	561.29	1.48
			1595	0.421	40	1.4	6.9	35.8	104.98	270.96	561.51	1.68
			1865	0.493	60	2.4	10.1	44.3	90.43	217.86	586.53	2.27
			2370	0.626	100	4.0	14.7	53.8	75.94	177.20	816.64	4.17

Spraying Systems Co. - WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	< 91 μm	<191μm				
DG 80°	0.15	water	495	0.1308	30	1.2	6.7	39.8	101.89	222.65	412.61	1.39
			545	0.1440	35	1.5	8.1	46.2	96.63	201.34	375.44	1.38
			585	0.1546	40	1.9	10.1	52.1	90.68	185.20	361.55	1.46
			620	0.1638	45	2.2	11.6	55.9	86.80	176.22	342.81	1.45
			660	0.1744	50	2.3	12.4	60.1	84.49	166.95	324.02	1.43
			730	0.1929	60	2.9	14.6	65.7	79.81	156.28	298.44	1.40
DG 80°	0.2	water	650	0.1717	30	0.5	4.2	25.5	130.35	350.02	557.66	1.22
			720	0.1900	35	0.8	5.1	29.5	119.45	319.99	519.27	1.25
			765	0.2021	40	1.2	6.0	31.9	108.48	291.99	501.76	1.35
			860	0.2272	50	1.5	7.2	36.9	101.87	260.23	454.46	1.36
			940	0.2483	60	1.7	8.6	41.2	96.17	234.55	438.41	1.46
DG 80 °	0.3	water	970	0.2563	30	0.6	4.2	26.0	125.6	332.8	573.2	1.35
			1065	0.2814	35	0.8	4.9	29.0	117.8	310.0	559.2	1.42
			1140	0.3012	40	1.0	5.8	32.3	112.3	290.0	546.7	1.50
			1260	0.3329	50	1.3	6.9	36.9	104.4	257.6	500.6	1.54
			1360	0.3593	60	1.5	7.9	40.6	99.8	234.5	540.3	1.88
DG 80 °	0.4	water	1395	0.3686	30	0.8	4.8	27.4	120.9	327.2	600.1	1.46
			1510	0.3989	35	0.9	5.4	30.2	116.1	308.5	594.3	1.55
			1610	0.4254	40	1.1	6.2	32.4	110.5	290.7	565.6	1.57
			1795	0.4742	50	1.3	7.1	38.0	104.6	248.0	560.5	1.84
			1920	0.5073	60	1.5	7.8	41.4	100.7	224.4	520.0	1.87

Spraying Systems Co. - WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	<91 μm	<191 μm				
DG 110 °	0.15	water	500	0.1321	30	1.3	7.3	47.3	101.66	201.21	385.27	1.41
			555	0.1466	35	1.9	9.1	48.9	93.49	194.17	395.16	1.56
			580	0.1532	40	2.0	9.9	52.1	91.14	184.50	382.04	1.58
			640	0.1691	50	2.6	13.1	57.3	82.98	170.80	350.20	1.57
			695	0.1836	60	2.8	13.8	59.8	81.42	165.96	333.25	1.52
DG 110 °	0.2	water	650	0.1717	30	0.7	5.2	31.9	120.62	296.33	512.78	1.32
			720	0.1902	35	1.0	6.2	36.5	110.67	264.68	470.86	1.36
			770	0.2034	40	1.2	6.9	39.8	105.02	241.01	463.75	1.49
			875	0.2312	50	1.4	8.3	43.8	98.52	217.84	411.59	1.44
			950	0.2510	60	1.8	9.5	46.2	93.13	205.54	387.83	1.43
DG 110 °	0.3	water	980	0.2589	30	1.2	6.3	32.6	111.00	295.60	534.74	1.43
			1075	0.2840	35	1.1	6.6	33.9	109.70	280.81	499.87	1.39
			1135	0.2999	40	1.0	6.6	35.5	108.72	270.32	479.73	1.37
			1235	0.3263	50	1.4	8.2	39.5	99.31	241.07	444.65	1.44
			1395	0.3686	60	1.7	8.9	42.1	95.47	224.64	414.29	1.42
DG 110 °	0.4	water	1365	0.3606	30	0.8	5.8	32.3	115.94	326.52	515.32	1.36
			1465	0.3871	35	1.0	6.5	34.0	111.30	278.62	493.88	1.37
			1580	0.4174	40	1.2	7.3	37.3	104.88	258.28	470.06	1.41
			1740	0.4597	50	1.5	8.4	39.7	98.40	239.43	458.75	1.50
			1900	0.5020	60	1.7	9.1	42.0	94.71	224.98	423.07	1.46

Spraying Systems Co. - WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	< 91 μm	<191 μm				
TFVS	2	water	920	0.243	10	0.2	0.8	6.1	237.5	658.9	1261.3	1.56
			1105	0.292	15	0.2	1.0	7.6	216.5	597.5	1195.5	1.64
			1260	0.333	20	0.3	1.3	9.6	195.1	552.0	1089.4	1.60
			1540	0.407	30	0.5	2.2	13.0	165.2	492.1	992.1	1.68
			1560	0.412	40	0.7	3.6	17.8	139.9	427.1	869.8	1.71
TFVS	2.5	water	1000	0.264	10	0.1	0.6	5.2	243.6	636.4	1181.5	1.52
			1220	0.322	15	0.2	0.9	7.2	220.8	577.8	1079.8	1.49
			1380	0.365	20	0.3	1.6	10.2	188.7	533.0	1063.5	1.64
			1635	0.432	30	0.5	2.5	14.4	158.3	463.6	866.4	1.53
			1910	0.505	40	0.7	3.6	18.4	140.0	405.5	773.6	1.56
TFVS	3	water	1215	0.321	10	0.2	0.8	5.2	250.6	672.9	1266.5	1.51
			1415	0.374	15	0.2	1.1	7.2	224.1	604.3	1169.9	1.57
			1630	0.431	20	0.3	1.4	8.7	206.8	568.8	1118.5	1.60
			1975	0.522	30	0.4	1.9	11.3	175.0	503.1	959.8	1.56
			2310	0.610	40	0.9	4.3	18.0	137.7	418.2	856.2	1.72
TFVS	4	water	1685	0.445	10	0.2	0.7	4.7	258.8	683.4	1270.8	1.48
			1920	0.507	15	0.2	1.0	6.2	235.7	623.7	1202.2	1.55
			2200	0.581	20	0.3	1.3	7.9	215.3	578.6	1121.4	1.57
			2690	0.711	30	0.5	2.4	12.0	172.6	510.5	1083.7	1.78
			3050	0.806	40	0.7	3.3	15.3	150.3	455.1	929.9	1.71

Spraying Systems Co. - WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	<91 μm	<191 μm				
TT 110 °	0.15	water	340	0.0898	15	0.6	4.4	22.1	134.11	352.77	571.09	1.24
			475	0.1255	30	1.0	5.6	30.5	113.06	268.65	447.53	1.25
			550	0.1453	40	1.3	7.1	35.8	102.82	234.89	384.00	1.20
			620	0.1638	50	1.6	8.8	41.4	95.29	213.46	363.14	1.25
			675	0.1783	60	1.9	10.9	47.2	88.05	197.20	341.21	1.28
			825	0.2180	90	2.4	14.6	60.3	75.33	169.72	304.39	1.35
TT 110 °	0.2	water	425	0.1123	15	0.7	3.9	18.5	143.34	392.50	626.13	1.23
			650	0.1717	30	0.9	5.2	26.6	122.40	310.83	537.78	1.34
			750	0.1982	40	1.1	6.6	32.2	110.79	271.11	463.80	1.30
			915	0.2417	60	2.1	10.0	42.2	90.95	215.12	396.70	1.42
			1105	0.2919	90	2.8	14.0	54.5	77.88	179.43	364.48	1.60
TT 110 °	0.3	water	690	0.1823	15	0.3	2.0	11.9	173.22	475.58	787.28	1.29
			915	0.2417	30	0.6	3.7	21.8	136.77	341.72	634.98	1.46
			1115	0.2946	40	0.9	5.0	28.5	120.87	290.79	579.28	1.58
			1375	0.3633	60	1.5	7.9	38.8	100.12	233.92	526.51	1.82
			1710	0.4518	90	2.5	11.8	48.7	84.72	194.62	451.35	1.89
TT 110 °	0.4	water	950	0.2510	15	0.3	1.8	11.0	181.08	487.75	802.73	1.28
			1315	0.3474	30	0.6	3.9	22.3	134.18	338.43	662.93	1.56
			1510	0.3989	40	0.9	4.7	26.7	120.79	297.99	632.21	1.72
			1845	0.4875	60	1.5	7.8	38.6	101.26	232.74	583.40	2.07
			2260	0.5971	90	2.4	11.3	50.1	85.82	190.67	472.45	2.03

Spraying Systems Co. - WATER

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	<91 μm	<191 μm				
XR 80 °	0.15	water	370	0.0978	15	1.5	8.0	43.0	96.49	212.64	392.30	1.39
			420	0.1110	20	2.1	10.9	50.3	88.79	189.86	361.43	1.44
			500	0.1321	30	3.6	16.9	62.6	76.12	160.84	308.93	1.45
			575	0.1519	40	4.0	20.7	69.1	70.37	144.84	288.63	1.51
			705	0.1863	60	5.7	26.3	74.6	59.78	130.80	261.03	1.54
XR 80 °	0.2	water	490	0.1295	15	1.4	6.8	36.2	101.80	239.28	444.26	1.43
			560	0.1480	20	1.9	9.2	42.5	93.26	214.43	392.25	1.40
			665	0.1757	30	2.6	13.7	55.1	82.07	177.31	342.04	1.47
			770	0.2034	40	3.7	18.0	62.4	72.91	159.15	318.54	1.54
			935	0.2470	60	5.4	22.8	71.4	62.04	141.09	283.27	1.57
XR 80 °	0.3	water	730	0.1929	15	1.1	5.4	32.0	113.99	292.98	485.43	1.27
			835	0.2206	20	1.8	7.3	37.9	101.86	253.75	459.44	1.41
			1000	0.2206	30	2.6	11.1	45.7	86.99	211.06	403.52	1.50
			1145	0.3025	40	3.6	15.1	49.5	76.77	192.49	428.07	1.83
			1390	0.3672	60	5.1	19.7	56.1	64.94	170.78	397.95	1.95
XR 80 °	0.4	water	1000	0.2642	15	0.9	5.0	27.4	122.83	327.01	537.03	1.27
			1150	0.3038	20	1.4	6.6	32.7	108.27	287.53	496.09	1.35
			1345	0.3554	30	2.4	9.8	39.7	91.89	243.16	497.12	1.67
			1550	0.4095	40	3.2	12.5	45.2	82.10	211.00	462.60	1.80
			1895	0.5007	60	4.4	16.3	52.4	68.20	181.73	433.28	2.01

Spraying Systems Co. - WATER

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	< 91 μm	<191 μm				
XR 110 °	0.15	water	380	0.1004	15	2.1	9.7	55.4	91.84	176.19	338.03	1.40
			440	0.1162	20	2.5	11.8	61.4	85.13	162.21	319.95	1.45
			510	0.1347	30	3.5	16.7	68.6	73.17	147.72	293.56	1.49
			575	0.1519	40	4.4	19.8	73.0	61.68	138.85	273.46	1.53
			720	0.1902	60	6.0	25.0	77.1	54.62	130.07	252.85	1.53
XR 110 °	0.2	water	495	0.1308	15	1.7	8.7	47.7	95.65	198.82	374.78	1.41
			570	0.1506	20	2.3	10.9	51.9	88.31	185.08	378.35	1.57
			675	0.1783	30	3.1	14.8	59.1	79.23	166.55	340.28	1.57
			770	0.2034	40	4.0	18.0	64.7	71.19	153.91	314.28	1.58
			950	0.2510	60	5.2	22.3	71.0	60.91	141.89	284.45	1.58
XR 110 °	0.3	water	745	0.1968	15	1.3	6.2	45.1	108.33	257.55	446.34	1.31
			850	0.2246	20	1.6	8.1	41.6	99.21	228.81	402.70	1.33
			1000	0.2642	30	2.5	11.1	47.4	86.89	200.69	371.11	1.42
			1155	0.3052	40	3.1	13.7	52.0	77.00	183.88	349.61	1.48
			1415	0.3738	60	4.4	18.1	57.4	67.05	170.16	349.92	1.66
XR 110 °	0.4	water	980	0.2589	15	0.9	5.6	31.5	116.96	292.16	474.59	1.22
			1120	0.2959	20	1.4	6.8	35.8	106.15	263.44	459.24	1.34
			1335	0.3527	30	2.0	9.3	41.5	93.98	229.24	427.54	1.46
			1520	0.4016	40	2.7	12.3	46.9	82.15	203.16	389.52	1.51
			1865	0.4927	60	3.8	15.4	51.5	70.68	185.66	370.09	1.61

Spraying Systems Co. - WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	< 91 μm	<191 μm				
TXVS	4	water	265	0.070	40	7.2	23.1	77.2	57.3	143.4	223.7	1.15
			285	0.075	50	7.5	24.0	77.9	56.4	141.7	221.1	1.16
			310	0.082	60	8.7	27.6	79.4	48.9	136.1	216.5	1.23
TXVS	6	water	390	0.103	40	6.2	18.6	72.7	70.8	154.8	235.5	1.06
			430	0.114	50	7.0	20.8	73.8	65.7	151.2	231.4	1.09
			470	0.124	60	7.7	23.8	75.7	58.6	145.6	225.6	1.15
TXVS	8	water	485	0.128	40	5.1	16.6	65.2	75.0	163.8	252.0	1.08
			540	0.143	50	5.9	18.8	66.1	69.7	160.6	261.9	1.20
			585	0.155	60	6.5	19.6	68.1	67.7	158.7	238.0	1.07
TXVS	10	water	635	0.168	40	4.6	15.3	61.5	77.6	169.9	256.5	1.05
			710	0.188	50	5.5	17.5	63.2	71.8	165.7	249.1	1.07
			775	0.205	60	6.1	18.5	64.9	68.9	163.6	245.4	1.08
TXVS	12	water	790	0.209	40	4.1	14.2	56.7	79.3	177.7	273.6	1.10
			890	0.235	50	5.0	15.8	58.9	74.9	172.8	264.7	1.10
			970	0.256	60	5.7	17.1	61.0	71.1	168.6	259.1	1.12

Spraying Systems Co. - WATER												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		<44 μ m	< 91 μ m	<191 μ m				
TKSS	0.1	water	390	0.103	10	0.5	3.3	18.9	134.7	389.1	785.3	1.67
			475	0.126	15	1.6	9.3	47.0	93.0	200.2	654.4	2.80
			525	0.139	20	2.1	12.7	58.0	83.9	169.0	551.3	2.77
			630	0.166	30	3.0	17.8	67.9	73.2	147.9	413.9	2.30
			740	0.196	40	4.2	22.0	73.1	64.7	137.5	331.5	1.94
TKSS	0.15	water	570	0.151	10	0.9	5.1	28.7	113.4	274.5	842.6	2.66
			700	0.185	15	1.8	9.6	44.2	92.1	209.4	697.9	2.89
			780	0.206	20	2.4	12.8	52.6	83.9	183.1	601.6	2.83
			950	0.251	30	3.5	17.5	59.9	74.0	163.2	477.0	2.47
			1000	0.264	40	4.0	19.8	62.7	68.8	156.0	424.5	2.28
TKSS	0.2	water	745	0.197	10	1.0	4.8	25.4	116.8	299.5	886.5	2.57
			900	0.238	15	1.6	8.1	37.5	97.2	236.3	708.6	2.59
			1015	0.268	20	1.9	9.6	40.7	92.0	224.2	662.0	2.54
			1200	0.317	30	2.3	11.6	43.9	85.9	212.7	590.8	2.37
			1420	0.375	40	2.5	12.9	45.7	81.7	206.7	532.7	2.18
TKSS	0.3	water	1170	0.309	10	1.1	5.0	23.8	117.0	337.9	870.1	2.23
			1395	0.369	15	1.6	6.8	30.4	105.0	292.6	761.7	2.25
			1600	0.423	20	1.9	8.0	33.2	99.5	275.4	695.8	2.17
			1895	0.501	30	2.1	9.4	35.9	93.5	262.0	575.3	1.84
			2185	0.577	40	2.0	9.9	37.2	91.2	249.9	558.7	1.87

CP Products - 0.25% v/v X-77												
Nozzle Type	Setting	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		<44 μ m	<91 μ m	<191 μ m				
CP	1	X-77	430	0.114	20	0.3	1.8	10.7	180.80	544.52	1043.81	1.59
			505	0.133	30	0.7	4.4	20.6	121.86	403.85	822.89	1.73
			550	0.145	35	1.1	5.6	39.7	117.21	372.43	740.72	1.68
			600	0.159	40	1.1	5.9	23.7	114.92	353.21	659.19	1.54
CP	2	X-77	950	0.251	20	0.7	4.8	23.5	118.65	358.27	809.46	1.93
			960	0.254	30	1.4	7.4	29.0	102.99	310.09	641.93	1.74
			1040	0.275	35	1.7	9.0	32.7	95.10	285.89	610.58	1.80
			1095	0.289	40	2.1	10.0	34.7	90.68	273.56	588.58	1.82
CP	3	X-77	1660	0.439	20	0.8	5.3	24.7	117.77	344.38	730.45	1.78
			2050	0.542	30	1.4	7.5	29.8	102.71	304.42	626.51	1.72
			2220	0.587	35	1.7	8.7	32.1	96.40	288.14	608.21	1.78
			2365	0.625	40	1.9	9.4	33.1	93.34	280.96	590.67	1.77

Delavan - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44μm	<91μm	<191μm				
RF	1.5	X-77	395	0.104	20	0.7	5.3	36.1	112.61	286.22	451.75	1.34
			470	0.124	30	1.1	7.3	44.2	101.17	210.35	374.60	1.30
			540	0.143	40	1.8	9.9	49.1	91.28	193.19	372.40	1.46
			595	0.157	50	2.2	11.5	53.9	86.60	180.77	349.99	1.46
			650	0.172	60	2.5	12.9	58.2	82.86	171.25	328.75	1.44
RF	2	X-77	500	0.132	20	0.6	4.0	28.1	126.41	311.64	547.07	1.35
			595	0.157	30	0.8	5.7	35.2	113.59	263.40	473.09	1.36
			685	0.181	40	1.4	7.4	40.6	102.28	230.00	436.47	1.45
			750	0.198	50	1.5	8.4	44.7	97.73	214.59	392.81	1.40
			820	0.217	60	2.1	10.3	48.9	89.98	194.62	376.06	1.47
RF	3	X-77	740	0.196	20	0.5	3.6	25.8	128.23	319.29	572.57	1.39
			890	0.235	30	0.9	5.6	34.6	110.82	267.39	516.69	1.52
			1030	0.272	40	1.1	6.9	37.4	104.96	251.02	491.68	1.54
			1165	0.308	50	1.5	8.4	41.0	97.79	231.09	460.75	1.57
			1255	0.332	60	1.7	9.2	42.5	94.35	222.65	447.95	1.59
RF	4	X-77	1015	0.268	20	0.4	2.6	20.3	139.36	374.68	648.08	1.36
			1225	0.324	30	0.6	4.3	27.4	124.19	323.58	576.44	1.40
			1405	0.371	40	0.8	5.4	30.2	118.28	306.54	538.09	1.37
			1560	0.412	50	1.0	6.3	31.4	112.27	296.37	527.29	1.40
			1560	0.412	60	1.3	7.1	32.6	107.93	287.26	507.77	1.39

Delavan - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate (ml/min) (gal/min)		Pressure (psi)	Spray Volume (%) <44 μ m <91 μ m <191 μ m			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
RA	2	X-77	515	0.136	20	0.1	0.6	4.1	273.03	557.91	907.18	1.13
			650	0.172	30	0.1	0.9	6.5	247.08	479.24	806.85	1.17
			745	0.197	40	0.1	1.1	7.3	225.34	436.40	873.74	1.49
			810	0.214	50	0.2	1.3	8.6	205.56	409.57	897.36	1.69
RA	4	X-77	1160	0.306	20	0.1	0.7	5.8	240.93	496.32	885.92	1.30
			1380	0.365	30	0.1	1.0	8.0	212.66	441.08	890.35	1.54
			1570	0.415	40	0.2	1.2	9.2	197.67	424.33	927.90	1.72
			1755	0.464	50	0.2	1.5	10.5	186.51	410.31	937.85	1.83

TurboDrop (Greenleaf) - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	<44 μ m	<91 μ m	<191 μ m	(μ m)	(μ m)	(μ m)	
green	0.4	X-77	570	0.151	40	0.2	1.3	9.4	196.6	494.0	827.1	1.28
			390	0.103	60	0.3	2.4	15.4	157.1	402.8	637.0	1.19
			870	0.230	100	0.6	3.6	21.4	137.4	336.0	533.4	1.18
yellow	0.5	X-77	705	0.186	40	0.2	0.7	5.7	238.8	593.9	1061.2	1.39
			865	0.229	60	0.3	1.4	9.3	197.5	510.7	817.4	1.21
			1105	0.292	100	0.5	2.9	15.4	156.4	409.5	674.0	1.26
pink	0.6	X-77	930	0.246	40	0.2	0.8	6.0	233.9	581.6	1001.3	1.32
			1170	0.309	60	0.3	1.4	8.8	202.0	516.4	806.2	1.17
			1550	0.410	100	0.5	2.9	15.3	158.2	408.4	664.2	1.24
blue	0.6	X-77	1080	0.285	40	0.2	1.1	8.0	211.4	528.3	822.9	1.16
			1310	0.346	60	0.3	2.0	11.8	173.8	448.3	729.5	1.24
			1690	0.446	100	0.6	3.3	18.4	147.2	369.4	624.0	1.29
red	0.8	X-77	1460	0.386	40	0.3	1.3	8.0	211.9	551.2	1004.9	1.44
			1780	0.470	60	0.4	1.9	10.6	184.7	500.5	815.1	1.26
			2175	0.575	100	0.8	3.5	16.5	150.1	414.6	690.0	1.30

Lurmark - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	<44 μ m	<91 μ m	<191 μ m	(μ m)	(μ m)	(μ m)	
LD 80 °	0.15	X-77	405	0.107	15	0.4	2.8	26.4	129.52	301.24	501.87	1.24
			550	0.145	30	1.1	7.3	43.5	101.60	214.61	389.81	1.34
			635	0.168	40	2.0	10.6	49.6	89.23	191.86	389.41	1.56
			780	0.206	60	3.2	14.7	58.7	78.57	167.70	347.94	1.61
			1100	0.291	100	5.3	21.1	53.1	64.03	143.56	299.00	1.63
LD 80 °	0.2	X-77	485	0.128	15	0.4	2.8	25.5	131.44	323.65	550.62	1.29
			665	0.176	30	1.2	7.1	40.6	103.12	235.26	448.92	1.47
			770	0.203	40	2.0	9.6	47.1	92.34	202.46	392.01	1.48
			945	0.250	60	3.3	13.9	53.0	80.67	181.17	390.41	1.71
			1235	0.326	100	5.1	19.6	63.9	66.93	153.66	334.12	1.74
LD 80 °	0.3	X-77	840	0.222	15	0.3	2.0	16.1	153.36	412.43	673.50	1.26
			1025	0.271	30	0.9	5.3	28.3	118.87	317.66	554.84	1.37
			1185	0.313	40	1.5	7.0	32.3	106.09	287.51	513.50	1.42
			1500	0.396	60	2.6	9.9	39.3	91.45	240.38	457.11	1.52
			1880	0.497	100	4.4	14.5	48.8	73.01	195.31	421.76	1.78
LD 80 °	0.4	X-77	1020	0.269	15	0.5	2.6	16.0	148.90	437.97	702.44	1.26
			1375	0.363	30	0.3	5.6	25.2	119.81	341.58	594.40	1.39
			1535	0.406	40	1.7	7.2	29.6	106.37	306.95	559.87	1.48
			1880	0.497	60	2.7	9.6	35.6	92.52	261.25	506.20	1.59
			2440	0.645	100	4.3	13.9	46.7	76.61	203.69	438.46	1.77

Lurmark - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	<91 μm	<191 μm				
LD 110°	0.15	water	365	0.096	15	0.3	2.7	26.0	133.04	301.24	500.28	1.22
			500	0.132	30	0.8	6.2	42.4	105.89	218.45	386.87	1.29
			575	0.152	40	1.4	8.5	46.9	95.72	200.20	387.07	1.45
			730	0.193	60	2.2	11.9	55.4	85.68	176.74	352.74	1.51
			935	0.247	100	3.5	16.5	65.8	74.81	154.53	302.48	1.47
LD 110°	0.2	water	425	0.112	15	0.5	3.6	29.5	125.72	331.46	520.09	1.32
			660	0.174	30	1.0	7.3	43.2	102.13	219.43	416.04	1.43
			770	0.203	40	1.6	9.3	46.1	93.00	203.40	410.13	1.56
			920	0.243	60	1.4	12.1	53.1	85.27	181.87	372.40	1.58
			1200	0.317	100	3.7	16.6	63.3	74.27	157.96	319.15	1.55
LD 110°	0.3	water	760	0.201	15	0.4	2.5	19.7	144.87	366.22	620.26	1.30
			1025	0.271	30	0.8	5.1	33.3	118.64	268.37	484.87	1.37
			1180	0.312	40	1.5	7.5	41.3	102.52	223.55	437.64	1.50
			1480	0.391	60	2.5	10.5	50.5	88.95	189.00	374.25	1.51
			1900	0.502	100	4.2	15.6	62.7	72.90	159.63	334.21	1.64
LD 110°	0.4	water	990	0.262	15	0.3	2.0	14.5	160.04	423.54	683.47	1.24
			1360	0.390	30	0.8	3.7	25.0	127.70	323.58	570.20	1.36
			1595	0.421	40	1.1	5.4	31.8	115.29	285.00	514.29	1.40
			1865	0.493	60	2.0	8.2	40.8	98.62	231.38	449.74	1.52
			2370	0.626	100	3.8	13.5	53.0	80.13	181.03	379.91	1.66

Spraying Systems Co. - 0.25% v/v X-77

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44μm	< 91μm	< 191μm				
DG 80 °	0.15	X-77	485	0.128	30	0.6	8.7	45.4	94.67	204.25	387.36	1.43
			535	0.141	35	1.8	10.0	50.0	90.84	190.56	370.19	1.47
			560	0.148	40	2.2	11.4	54.0	87.20	180.37	353.20	1.48
			660	0.174	50	3.0	14.1	60.3	80.9	164.5	328.9	1.5
			715	0.189	60	3.5	16.0	64.9	76.47	155.67	310.69	1.50
DG 80 °	0.2	X-77	650	0.172	30	0.6	2.9	20.8	138.45	364.06	592.49	1.25
			720	0.190	35	0.7	3.3	23.0	133.22	344.93	564.80	1.25
			755	0.199	40	0.8	3.6	25.2	126.46	324.86	533.20	1.26
			860	0.227	50	1.1	5.1	29.9	118.13	298.16	492.02	1.25
			940	0.248	60	1.5	6.4	33.0	109.29	274.73	457.15	1.27
DG 80 °	0.3	X-77	650	0.172	30	0.8	5.0	29.1	119.79	316.81	543.35	1.34
			720	0.190	35	1.1	5.6	31.1	113.02	297.41	523.05	1.38
			755	0.199	40	1.4	6.6	33.6	106.91	279.79	501.01	1.41
			860	0.227	50	2.0	8.3	37.6	98.01	252.33	469.63	1.47
			940	0.248	60	2.5	10.0	41.3	90.89	231.96	446.31	1.53
DG 80 °	0.4	X-77	1365	0.361	30	1.0	5.7	29.7	115.83	314.82	560.66	1.41
			1405	0.371	35	1.3	6.6	31.7	109.27	298.43	535.19	1.43
			1580	0.417	40	1.6	7.3	33.6	104.57	280.59	514.75	1.46
			1740	0.460	50	2.2	8.7	37.0	96.63	253.86	488.15	1.55
			1900	0.502	60	2.6	9.9	40.0	91.42	236.03	473.29	1.62

Spraying Systems Co. - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		<44 μ m	<91 μ m	<191 μ m				
DG 110 °	0.15	X-77	500	0.132	30	1.7	9.2	47.8	93.23	198.02	402.14	1.56
			555	0.147	35	2.0	10.5	51.0	89.65	187.59	354.66	1.59
			580	0.153	40	2.2	11.5	53.3	86.90	181.12	371.15	1.57
			655	0.173	50	2.8	13.7	57.3	81.48	170.48	348.77	1.57
			695	0.184	60	3.2	15.5	60.4	77.28	163.36	332.32	1.56
DG 110 °	0.2	X-77	650	0.172	30	0.7	5.5	37.7	111.83	256.80	474.00	1.41
			720	0.190	35	0.9	6.2	39.9	107.63	243.59	474.78	1.51
			730	0.193	40	1.1	7.0	41.7	103.85	230.69	457.27	1.53
			875	0.231	50	1.6	8.6	45.3	96.71	210.85	427.75	1.57
			950	0.251	60	1.7	9.5	47.8	92.65	198.78	383.30	1.46
DG 110 °	0.3	X-77	980	0.259	30	0.7	5.7	35.6	112.29	272.43	492.70	1.40
			1075	0.284	35	1.0	6.7	38.2	107.23	256.00	498.93	1.53
			1130	0.299	40	1.1	7.1	39.6	104.07	243.47	474.77	1.52
			1235	0.326	50	1.6	8.5	42.2	97.22	224.99	434.78	1.50
			1395	0.369	60	1.9	9.7	44.4	92.19	212.87	407.46	1.48
DG 110 °	0.4	X-77	1365	0.361	30	1.0	5.7	29.7	115.83	314.82	560.66	1.41
			1405	0.371	35	1.3	6.6	31.7	109.27	298.43	535.19	1.43
			1580	0.417	40	1.6	7.3	33.6	104.57	280.59	514.75	1.46
			1740	0.460	50	2.2	8.7	37.0	96.63	253.86	488.15	1.55
			1900	0.502	60	2.6	9.9	40.0	91.42	236.03	473.29	1.62

Spraying Systems Co. - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44μm	< 91μm	< 191μm				
TFVS	0.2	X-77	920	0.243	10	0.1	0.7	6.4	229.23	628.47	1223.40	1.58
			1105	0.292	15	0.2	1.0	8.7	205.03	562.20	1064.12	1.53
			1260	0.333	20	0.2	1.6	11.3	178.77	515.63	1002.69	1.60
			1540	0.407	30	0.4	2.5	15.4	152.81	441.04	817.03	1.50
			1560	0.412	40	0.6	3.6	19.2	139.03	382.46	743.46	1.58
TFVS	0.25	X-77	1000	0.264	10	0.2	0.8	6.8	224.67	601.57	1190.63	1.60
			1220	0.322	15	0.2	1.2	9.6	194.93	539.80	1056.05	1.60
			1380	0.365	20	0.3	1.9	12.4	170.27	486.36	929.67	1.56
			1635	0.432	30	0.5	3.1	17.5	146.25	402.66	789.56	1.60
			1910	0.505	40	0.7	4.3	21.6	133.13	354.34	740.26	1.71
TFVS	0.3	X-77	1215	0.321	10	0.1	0.6	4.8	248.77	637.58	1196.99	1.49
			1415	0.374	15	0.2	1.0	6.8	224.62	573.11	1030.17	1.41
			1630	0.431	20	0.3	1.5	9.1	199.23	522.20	881.48	1.31
			1975	0.522	30	0.5	2.7	13.8	158.79	450.22	816.63	1.46
			2310	0.610	40	0.7	3.9	18.2	141.78	390.55	763.10	1.59
TFVS	0.4	X-77	1685	0.445	10	0.2	0.8	5.6	243.48	639.78	1236.77	1.56
			1920	0.507	15	0.2	1.0	7.1	223.58	579.94	1123.28	1.55
			2200	0.581	20	0.3	1.6	9.1	199.93	533.71	1041.33	1.58
			2690	0.711	30	0.5	2.7	13.5	162.49	456.50	895.66	1.60
			3055	0.807	40	0.7	3.8	17.4	145.10	408.82	835.10	1.69

Spraying Systems Co. - 0.25% v/v S-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		<44 μ m	< 91 μ m	< 191 μ m				
TT 110 °	0.15	X-77	350	0.092	15	0.4	3.2	20.4	142.45	357.95	567.26	1.19
			475	0.125	30	0.8	4.7	27.9	118.00	273.17	449.16	1.21
			550	0.145	40	1.5	7.9	38.0	99.51	226.69	372.78	1.21
			675	0.178	60	2.7	12.9	50.5	81.16	189.52	339.59	1.36
			825	0.218	90	3.8	17.9	64.6	67.15	162.23	284.10	1.34
TT 110 °	0.2	X-77	425	0.112	15	0.5	3.8	21.3	136.16	367.81	614.45	1.30
			650	0.172	30	0.8	5.4	28.2	118.44	297.70	504.97	1.30
			750	0.198	40	1.0	7.0	33.1	107.15	264.60	453.10	1.31
			915	0.242	60	1.9	10.0	41.4	91.09	215.57	386.46	1.37
			1105	0.292	90	2.7	13.8	52.4	77.79	184.97	350.68	1.48
TT 110 °	0.3	X-77	690	0.182	15	0.3	2.0	12.8	167.42	439.81	784.13	1.40
			915	0.242	30	0.5	3.8	23.4	133.91	324.19	588.34	1.40
			1125	0.297	40	0.8	5.1	29.3	119.52	281.43	539.15	1.49
			1375	0.363	60	1.5	8.0	39.0	99.65	228.28	490.69	1.71
			1710	0.452	90	2.7	11.9	49.2	83.53	193.14	416.64	1.72
TT 110 °	0.4	X-77	950	0.251	15	0.3	1.7	11.4	177.64	469.78	781.27	1.29
			1315	0.347	30	0.5	3.6	21.3	137.67	336.82	638.51	1.49
			1495	0.395	40	0.9	5.0	27.9	121.79	286.39	579.14	1.60
			1845	0.487	60	1.6	7.7	37.3	102.39	232.25	520.77	1.80
			2260	0.597	90	2.8	11.2	46.5	86.1	201.1	478.1	1.9

Spraying Systems Co. - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44μm	< 91μm	< 191μm				
XR 80 °	0.15	X-77	370	0.098	15	1.6	9.5	48.8	92.21	194.90	386.32	1.51
			420	0.111	20	2.2	12.6	55.1	85.15	176.06	352.61	1.52
			500	0.132	30	3.2	17.6	64.6	75.75	154.23	307.32	1.50
			575	0.152	40	4.3	22.0	70.5	67.50	141.66	283.57	1.52
			705	0.186	60	5.7	26.7	76.6	58.58	129.82	259.69	1.55
XR 80 °	0.2	X-77	490	0.129	15	0.7	5.3	31.4	115.62	297.93	503.20	1.30
			560	0.148	20	1.2	7.0	35.4	103.88	263.86	463.12	1.36
			665	0.176	30	2.0	9.8	40.6	91.76	231.05	448.90	1.55
			770	0.203	40	2.7	11.6	44.6	84.72	211.14	435.25	1.66
			935	0.247	60	3.7	14.6	50.7	75.77	188.21	429.70	1.88
XR 80 °	0.3	X-77	730	0.193	15	0.6	3.4	23.0	133.32	344.72	560.94	1.24
			835	0.221	20	1.0	5.7	31.0	113.27	293.67	484.44	1.26
			1000	0.264	30	0.8	4.2	26.0	127.25	319.95	566.28	1.37
			1145	0.303	40	3.0	13.5	47.1	80.63	200.41	411.11	1.65
			1390	0.367	60	4.6	18.3	54.6	68.03	176.65	381.57	1.77
XR 80 °	0.4	X-77	1000	0.264	15	0.7	5.3	31.4	115.62	297.93	503.20	1.30
			1150	0.304	20	1.2	7.0	35.4	103.88	263.86	463.12	1.36
			1345	0.355	30	2.0	9.8	40.6	91.76	231.05	448.90	1.55
			1550	0.410	40	2.7	11.8	44.6	84.72	211.14	435.25	1.66
			1895	0.501	60	3.7	14.6	50.7	75.77	188.21	429.70	1.88

Spraying Systems Co. - 0.25% v/v X-77

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44 μm	< 91 μm	< 191 μm				
XR 110 °	0.15	X-77	380	0.100	15	1.7	9.6	53.4	92.13	179.77	358.95	1.48
			440	0.116	20	2.5	12.6	57.2	84.25	171.24	351.73	1.56
			510	0.135	30	3.4	16.6	64.5	74.92	155.72	309.13	1.50
			575	0.152	40	4.3	20.4	69.3	66.24	146.15	286.06	1.51
			720	0.190	60	5.9	25.3	75.3	56.34	135.55	254.17	1.46
XR 110 °	0.2	X-77	495	0.131	15	1.2	7.3	46.1	101.13	206.23	382.96	1.37
			570	0.151	20	1.9	9.7	48.4	91.46	195.67	384.84	1.50
			675	0.178	30	2.7	13.8	56.2	81.12	173.93	348.44	1.54
			770	0.203	40	3.7	17.4	62.0	72.32	160.34	320.84	1.55
			950	0.251	60	5.2	21.8	68.2	61.28	148.58	283.78	1.50
XR 110 °	0.3	X-77	745	0.197	15	0.7	5.6	37.0	111.44	259.96	472.92	1.39
			850	0.225	20	1.2	7.1	40.4	103.06	233.97	417.92	1.35
			1000	0.264	30	2.1	10.3	44.1	90.06	210.36	407.88	1.51
			1155	0.305	40	2.8	13.3	49.6	81.26	191.82	376.47	1.54
			1415	0.374	60	3.8	16.7	55.6	70.89	175.71	353.94	1.61
XR 110 °	0.4	X-77	980	0.259	15	0.7	4.9	32.8	118.31	286.32	498.58	1.33
			1120	0.296	20	0.9	6.4	36.6	108.86	260.31	474.74	1.41
			1335	0.353	30	1.7	8.7	41.3	96.50	227.39	423.24	1.44
			1520	0.402	40	2.4	11.3	45.5	85.85	207.75	386.83	1.45
			1865	0.493	60	3.7	15.0	50.8	72.80	188.17	363.82	1.55

Spraying Systems Co. - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		<44μm	< 91μm	< 191μm				
TXVS	4	X-77	265	0.070	40	6.7	26.2	80.7	53.66	139.17	183.58	1.15
			285	0.075	50	7.6	24.4	75.7	55.56	148.01	225.22	1.15
			310	0.082	60	8.0	23.5	76.5	57.38	148.20	220.42	1.10
TXVS	6	X-77	390	0.103	40	6.4	19.8	74.6	68.05	150.73	231.38	1.09
			430	0.114	50	6.5	20.0	75.7	69.13	148.84	226.28	1.06
			470	0.124	60	6.9	23.5	77.4	63.13	143.22	221.40	1.11
TXVS	8	X-77	485	0.128	40	5.6	18.1	67.1	70.91	159.27	243.73	1.09
			540	0.143	50	6.8	21.6	67.9	60.85	155.51	243.43	1.18
			585	0.155	60	7.8	30.9	84.3	50.66	129.53	212.11	1.25
TXVS	10	X-77	635	0.168	40	5.6	26.0	76.6	58.62	141.37	244.12	1.31
			710	0.188	50	7.3	29.7	79.7	52.12	132.27	233.53	1.37
			775	0.205	60	8.0	31.0	82.3	49.77	128.75	219.63	1.32
TXVS	12	X-77	790	0.209	40	5.8	24.8	64.7	59.05	148.48	274.50	1.45
			890	0.235	50	6.7	26.7	72.0	56.14	141.87	262.98	1.46
			970	0.256	60	7.5	28.3	75.3	53.06	137.56	251.67	1.44

Spraying Systems Co. - 0.25% v/v X-77												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		<44 μ m	< 91 μ m	< 191 μ m				
TKSS	0.1	X-77	390	0.103	10	0.6	3.4	25.8	123.18	378.42	915.59	2.09
			475	0.125	15	0.7	4.5	27.9	116.10	335.86	766.03	1.94
			525	0.139	20	0.6	3.9	23.8	124.12	356.52	762.37	1.79
			630	0.166	30	0.6	3.6	20.8	131.99	340.95	646.36	1.51
			740	0.196	40	0.9	5.0	24.5	122.59	301.64	576.00	1.50
TKSS	0.15	X-77	570	0.151	10	0.6	3.5	21.7	127.93	370.28	934.96	2.18
			700	0.185	15	0.8	6.0	31.6	107.39	288.58	871.82	2.65
			780	0.206	20	0.8	4.5	23.4	122.38	361.61	837.12	1.98
			950	0.251	30	1.0	5.4	25.6	118.54	323.53	771.52	2.02
			1000	0.264	40	1.8	9.0	36.1	94.96	255.34	687.78	2.32
TKSS	0.2	X-77	745	0.197	10	0.4	2.9	18.3	136.30	449.68	993.34	1.91
			900	0.238	15	0.3	1.6	11.3	177.34	494.03	947.99	1.56
			1015	0.268	20	0.3	1.9	12.6	166.58	457.35	838.89	1.47
			1200	0.317	30	0.6	3.8	21.2	133.65	352.06	684.31	1.56
			1430	0.378	40	1.0	5.5	26.2	119.10	309.79	586.95	1.51
TKSS	0.3	X-77	1170	0.309	10	0.7	4.8	28.5	114.47	315.50	836.95	2.29
			1395	0.369	15	0.8	5.2	28.9	112.60	310.54	772.83	2.13
			1600	0.423	20	1.0	6.2	31.8	107.86	288.04	679.25	1.98
			1895	0.501	30	1.6	8.4	35.9	97.73	259.68	573.36	1.83
			2185	0.577	40	2.3	10.8	40.0	88.09	236.76	517.10	1.81

CP Products - 1.0 % v/v Agridex												
Nozzle Type	Setting	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		< 44 μ m	< 91 μ m	< 191 μ m				
CP	1	Agridex	430	0.114	20	0.2	0.8	4.5	267.07	643.45	1192.97	1.44
			505	0.133	30	0.3	1.2	6.4	241.30	563.35	991.08	1.33
			550	0.145	35	0.4	1.7	7.9	222.13	527.68	987.02	1.45
			600	0.159	40	0.6	3.0	12.8	162.83	438.67	734.36	1.30
CP	2	Agridex	950	0.251	20	0.3	1.4	6.3	205.54	568.79	978.16	1.30
			960	0.254	30	0.7	3.3	12.9	161.01	444.22	737.23	1.29
			1040	0.275	35	0.7	3.8	14.7	150.72	416.07	742.35	1.42
			1095	0.289	40	0.9	4.7	17.4	138.57	390.50	723.39	1.50
CP	3	Agridex	1660	0.439	20	0.4	1.9	8.5	210.56	542.35	990.53	1.44
			2050	0.542	30	0.6	3.0	12.5	162.57	469.41	826.17	1.41
			2220	0.587	35	0.7	3.7	14.3	151.90	441.69	796.14	1.46
			2365	0.625	40	0.8	4.0	15.8	145.33	416.86	782.70	1.53

Delavan - 1.0% v.v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		< 44 μm	< 91 μm	< 191 μm				
RF	1.5	Agridex	395	0.104	20	0.5	3.3	27.7	128.61	278.83	462.98	1.20
			470	0.124	30	0.9	4.4	34.0	115.28	242.20	408.81	1.21
			540	0.143	40	1.4	6.5	40.4	104.64	213.47	373.93	1.24
			595	0.157	50	1.6	8.2	45.8	97.50	200.86	359.20	1.30
			650	0.172	60	2.2	9.9	50.7	91.19	188.95	335.26	1.29
RF	2	Agridex	500	0.132	20	0.3	2.5	21.7	144.31	328.38	536.42	1.20
			595	0.157	30	0.5	3.2	27.3	129.07	285.65	473.56	1.21
			685	0.181	40	0.9	4.4	32.5	116.80	256.54	446.57	1.29
			750	0.198	50	1.1	5.5	36.1	111.22	243.01	414.62	1.25
			820	0.217	60	1.1	5.8	37.6	109.27	236.23	393.87	1.20
RF	3	Agridex	740	0.196	20	0.2	1.1	7.8	213.69	466.39	704.74	1.05
			890	0.235	30	0.3	1.8	12.4	173.62	400.78	629.93	1.14
			1030	0.272	40	0.4	2.3	15.8	157.04	366.40	581.87	1.16
			1165	0.308	50	0.5	2.9	18.4	147.68	347.34	554.42	1.17
			1255	0.332	60	0.7	3.6	21.1	138.63	324.88	528.60	1.20
RF	4	Agridex	1015	0.268	20	0.2	0.7	4.9	246.29	520.75	939.48	1.33
			1224	0.323	30	0.4	1.6	8.6	209.05	454.68	647.50	0.97
			1405	0.371	40	0.4	2.1	12.2	172.24	420.73	665.99	1.18
			1560	0.412	50	0.5	2.4	13.7	163.36	395.90	616.22	1.14
			1710	0.452	60	0.6	2.9	16.1	152.64	370.86	574.80	1.14

Delavan - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	< 44 μ m	< 91 μ m	< 191 μ m	(μ m)	(μ m)	(μ m)	
RA	2	Agridex	515	0.136	20	0.1	0.7	3.7	272.14	557.43	818.33	0.98
			650	0.172	30	0.2	1.1	7.1	237.09	468.34	799.82	1.20
			745	0.197	40	0.2	1.3	8.6	208.20	424.28	849.94	1.51
			810	0.214	50	0.3	1.7	10.2	188.52	403.64	881.88	1.72
RA	4	Agridex	1160	0.306	20	0.1	0.7	5.4	255.33	482.45	828.61	1.19
			1380	0.365	30	0.2	0.9	6.7	229.13	441.82	902.85	1.53
			1570	0.415	40	0.3	1.3	8.3	208.19	419.41	924.30	1.71
			1755	0.464	50	0.4	1.7	10.8	184.57	397.46	944.85	1.91

TurboDrop (Greenleaf) - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		< 44 μm	< 91 μm	< 191 μm				
110° green	0.4	Agridex	570	0.151	40	0.2	1.4	9.9	191.78	509.01	758.29	1.11
			690	0.103	60	0.3	2.6	16.7	150.65	415.57	703.91	1.33
			870	0.230	100	0.7	4.6	26.0	126.14	332.37	574.82	1.35
110° yellow	0.5	Agridex	705	0.186	40	0.1	0.9	7.8	213.6	559.1	994.7	1.4
			865	0.229	60	0.2	1.6	12.5	171.1	471.0	836.8	1.4
			1105	0.292	100	0.5	3.3	21.6	138.2	372.1	653.3	1.4
110° pink	0.6	Agridex	930	0.246	40	0.1	0.8	6.2	228.9	564.6	942.9	1.3
			1170	0.309	60	0.3	1.6	11.5	178.0	477.3	756.1	1.2
			1550	0.410	100	0.5	3.4	21.2	139.9	362.9	648.3	1.4
110° blue	0.6	Agridex	1080	0.285	40	0.1	0.9	7.5	217.0	519.7	774.8	1.1
			1310	0.346	60	0.3	2.1	14.4	161.7	420.7	697.7	1.3
			1690	0.446	100	0.7	4.0	24.7	130.6	331.0	596.7	1.4
110° red	0.8	Agridex	1460	0.386	40	0.1	0.8	6.5	229.9	560.4	965.8	1.3
			1780	0.470	60	0.2	1.5	11.1	181.4	467.2	785.2	1.3
			2175	0.575	100	0.5	3.2	21.1	140.5	361.1	634.4	1.4

Lurmark - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		< 44 μm	< 91 μm	< 191 μm				
LD 80 °	0.15	Agridex	405	0.107	15	0.3	2.1	20.4	148.2	347.4	580.6	1.2
			550	0.145	30	0.6	4.1	35.2	119.4	253.9	465.7	1.4
			635	0.168	40	1.2	6.1	42.7	106.4	217.0	392.3	1.3
			780	0.206	60	2.3	10.4	52.0	89.7	185.1	370.8	1.5
			1100	0.291	100	4.1	16.8	64.8	73.7	155.6	307.9	1.5
LD 80 °	0.2	Agridex	485	0.128	15	0.3	2.1	17.6	151.0	377.0	602.6	1.2
			665	0.176	30	0.7	4.5	31.0	120.9	288.9	475.9	1.2
			770	0.203	40	1.4	6.3	36.6	107.4	254.8	450.6	1.3
			945	0.250	60	2.5	9.8	44.0	91.6	212.8	416.1	1.5
			1235	0.326	100	4.2	16.3	58.0	74.2	168.9	350.4	1.6
LD 80 °	0.3	Agridex	840	0.222	15	0.3	1.3	9.5	196.1	485.2	811.7	1.3
			1025	0.271	30	0.6	2.8	18.5	143.9	370.7	609.2	1.3
			1185	0.313	40	1.1	4.3	23.3	127.2	330.9	550.3	1.3
			1500	0.396	60	1.8	6.9	31.9	107.8	281.0	473.7	1.3
			1880	0.497	100	3.6	12.0	45.2	83.5	208.7	388.2	1.5
LD 80 °	0.4	Agridex	1020	0.269	15	0.4	1.6	7.5	221.2	510.1	841.1	1.2
			1375	0.363	30	0.8	3.0	13.8	157.6	402.6	622.2	1.2
			1535	0.406	40	1.1	4.2	19.4	136.5	367.3	596.9	1.3
			1880	0.497	60	2.0	6.1	23.9	115.9	280.5	516.9	1.3
			2440	0.645	100	3.2	10.1	36.1	90.3	238.8	463.0	1.6

Lurmark - 1.0 % v/v Agridex

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		< 44μm	< 91μm	< 191μm				
LD 110 °	0.15	Agridex	365	0.096	15	0.3	2.3	22.3	144.7	321.5	547.0	1.3
			500	0.132	30	0.7	3.7	33.4	121.5	254.6	457.0	1.3
			575	0.152	40	1.0	5.1	38.7	110.9	229.0	396.4	1.2
			730	0.193	60	2.0	8.6	46.6	95.7	199.8	374.8	1.4
			935	0.247	100	3.3	13.5	58.4	80.9	170.8	325.0	1.4
LD 110 °	0.2	Agridex	425	0.112	15	0.2	2.1	22.1	143.8	332.7	536.2	1.2
			660	0.174	30	0.8	4.1	31.2	116.2	263.0	479.8	1.4
			770	0.203	40	1.0	4.8	36.8	113.8	239.6	415.4	1.3
			920	0.243	60	2.1	9.2	45.2	93.6	205.1	386.9	1.4
			1200	0.317	100	3.7	15.3	58.6	76.9	168.7	332.7	1.5
LD 110 °	0.3	Agridex	760	0.201	15	0.3	2.3	19.0	150.9	357.3	590.8	1.2
			1025	0.271	30	0.9	4.0	28.5	125.2	281.2	499.6	1.3
			1185	0.313	40	1.2	5.8	36.0	113.2	245.8	438.6	1.3
			1480	0.391	60	2.3	8.7	45.8	96.8	203.8	336.8	1.3
			1900	0.502	100	4.2	14.4	60.1	77.0	166.5	328.5	1.5
LD 110 °	0.4	Agridex	990	0.262	15	0.3	1.8	12.6	170.4	432.5	660.1	1.1
			1360	0.359	30	0.8	3.2	21.8	136.6	340.6	567.7	1.3
			1595	0.421	40	1.3	4.5	26.8	122.1	303.9	520.8	1.3
			1865	0.493	60	2.0	7.3	36.7	106.2	249.6	439.0	1.3
			2370	0.626	100	3.4	11.9	48.2	84.5	196.1	400.5	1.6

Water-Crop Oil Mix

Spraying Systems Co. - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	< 44 μ m	< 91 μ m	< 191 μ m	(μ m)	(μ m)	(μ m)	
DG 80 °	0.15	Agridex	495	0.1308	30	0.7	3.6	28.9	120.18	277.20	475.55	1.28
			545	0.1440	35	0.9	4.3	32.3	114.58	257.67	429.64	1.22
			585	0.1546	40	1.1	5.6	34.2	107.78	242.45	444.37	1.39
			660	0.1744	50	1.5	7.8	41.0	98.09	216.57	387.96	1.34
			730	0.1929	60	2.2	10.1	46.1	90.79	201.13	366.93	1.37
DG 80 °	0.2	Agridex	650	0.1717	30	0.4	2.2	14.9	157.26	396.38	613.01	1.15
			720	0.1900	35	0.5	2.5	16.9	149.15	374.26	581.30	1.15
			765	0.2021	40	0.7	3.0	19.2	141.93	357.34	554.57	1.15
			860	0.2272	50	0.9	3.6	21.9	131.68	332.44	509.01	1.13
			940	0.2483	60	1.3	4.6	24.9	120.71	306.59	487.42	1.20
DG 80 °	0.3	Agridex	970	0.2563	30	0.5	2.2	14.0	159.46	399.21	622.67	1.16
			1065	0.2814	35	0.6	2.6	15.9	151.39	378.39	593.07	1.17
			1140	0.3012	40	0.8	3.1	17.7	144.10	363.57	574.94	1.18
			1260	0.3329	50	1.1	3.9	21.0	132.01	335.49	535.50	1.20
			1360	0.3593	60	1.5	5.0	24.8	120.71	308.83	510.78	1.26
DG 80 °	0.4	Agridex	1395	0.3686	30	0.6	2.7	15.4	153.24	390.98	619.63	1.19
			1510	0.3989	35	0.8	3.3	17.5	144.95	372.37	593.95	1.21
			1610	0.4254	40	1.0	3.7	19.2	139.35	353.10	563.76	1.20
			1795	0.4742	50	1.3	4.5	22.3	127.70	324.98	528.55	1.23
			1920	0.5073	60	1.8	5.6	25.6	117.24	300.35	505.26	1.29

Spraying Systems Co. - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		< 44 μ m	< 91 μ m	< 191 μ m				
DG 110 °	0.15	Agridex	500	0.1321	30	0.7	3.7	30.5	119.30	260.99	435.78	1.21
			555	0.1466	35	0.9	4.3	33.0	114.21	246.93	407.08	1.19
			580	0.1532	40	1.1	5.4	35.9	109.13	235.82	402.66	1.25
			640	0.1691	50	1.3	7.1	40.4	101.52	217.04	384.14	1.30
			695	0.1836	60	1.6	8.7	44.7	95.19	204.14	362.78	1.31
DG 110 °	0.2	Agridex	650	0.1717	30	0.3	2.4	18.9	147.66	353.19	565.16	1.18
			720	0.1902	35	0.4	2.6	21.2	141.83	332.89	538.54	1.19
			770	0.2034	40	0.5	3.0	23.0	136.12	316.97	513.70	1.19
			875	0.2312	50	0.7	3.6	25.9	126.57	292.85	475.49	1.19
			950	0.2510	60	0.9	4.3	28.6	118.98	274.28	462.50	1.25
DG 110 °	0.3	Agridex	980	0.2589	30	0.4	2.6	18.3	147.75	355.74	554.73	1.14
			1075	0.2840	35	0.5	2.9	20.1	141.78	339.70	527.25	1.14
			1135	0.2999	40	0.6	3.3	21.7	135.75	323.76	507.52	1.15
			1235	0.3263	50	0.9	4.1	24.6	125.44	298.19	474.98	1.17
			1395	0.3686	60	1.3	5.1	27.6	116.59	277.34	447.46	1.19
DG 110 °	0.4	Agridex	1365	0.3606	30	0.5	2.8	17.1	150.40	364.45	563.17	1.13
			1465	0.3871	35	0.6	3.2	19.0	143.65	347.31	535.60	1.13
			1580	0.4174	40	0.8	3.6	20.7	136.89	331.59	511.73	1.13
			1740	0.4597	50	1.2	4.7	24.2	124.87	303.89	484.56	1.19
			1900	0.5020	60	1.6	5.8	27.1	115.31	283.09	458.22	1.21

Spraying Systems Co. - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	< 44 μ m	< 91 μ m	< 191 μ m	(μ m)	(μ m)	(μ m)	
TFVS	0.2	Agridex	920	0.243	10	0.2	0.7	6.2	229.92	580.09	1073.19	1.45
			1105	0.292	15	0.2	1.3	9.6	194.61	515.64	903.98	1.38
			1260	0.333	20	0.3	1.8	12.4	171.00	463.89	817.17	1.39
			1540	0.407	30	0.5	2.9	17.0	148.20	390.44	750.43	1.54
			1560	0.412	40	0.8	4.6	23.4	130.02	329.49	622.72	1.50
TFVS	0.25	Agridex	1000	0.264	10	0.2	0.9	6.9	223.53	560.10	1015.39	1.41
			1220	0.322	15	0.2	1.4	10.3	188.19	484.02	855.72	1.38
			1380	0.365	20	0.4	2.2	13.7	163.27	427.95	760.60	1.40
			1635	0.432	30	0.6	3.6	19.4	140.64	352.64	653.18	1.46
			1910	0.505	40	0.9	5.1	25.0	124.96	304.90	588.39	1.52
TFVS	0.3	Agridex	1215	0.321	10	0.1	0.6	4.8	247.89	616.33	1145.07	1.46
			1415	0.374	15	0.2	1.1	7.4	219.58	544.43	989.35	1.42
			1630	0.431	20	0.3	1.6	9.6	194.54	485.11	815.88	1.28
			1975	0.522	30	0.6	2.9	14.7	155.71	404.15	754.57	1.48
			2310	0.610	40	0.8	4.4	20.1	138.05	347.91	660.64	1.50
TFVS	0.4	Agridex	1685	0.445	10.0	0.2	0.5	3.9	257.85	616.20	1107.73	1.38
			1920	0.507	15.0	0.2	1.2	6.8	228.72	555.88	1019.22	1.42
			2200	0.581	20.0	0.4	1.7	9.2	199.23	496.15	832.96	1.28
			2690	0.711	30.0	0.6	2.9	14.4	158.12	405.23	765.78	1.50
			3050	0.806	40.0	0.8	4.0	18.5	142.61	353.07	673.68	1.50

Spraying Systems Co. - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		< 44 μm	< 91 μm	< 191 μm				
TT 110 °	0.15	Agridex	340	0.0898	15	0.4	2.9	18.6	144.28	341.51	508.12	1.07
			475	0.1255	30	1.3	6.4	29.1	108.42	244.59	380.39	1.11
			550	0.1453	40	1.8	9.6	41.3	92.61	208.19	333.27	1.16
			620	0.1638	50	2.1	11.9	51.3	83.33	188.16	311.49	1.22
			675	0.1783	60	2.2	13.2	57.6	78.14	176.12	303.14	1.28
			825	0.2180	90	3.6	19.1	75.6	61.75	149.19	247.82	1.25
TT 110 °	0.2	Agridex	425	0.1123	15	0.3	2.2	13.9	161.47	388.62	598.89	1.12
			650	0.1717	30	0.6	3.8	23.8	130.02	288.46	467.44	1.17
			750	0.1982	40	1.1	6.0	30.7	112.63	244.37	399.95	1.17
			915	0.2417	60	1.9	10.8	48.0	87.10	194.98	342.37	1.31
			1105	0.2919	90	3.1	15.8	65.8	69.08	159.94	285.71	1.36
TT 110 °	0.3	Agridex	690	0.1823	15	0.2	1.7	12.1	171.77	398.81	622.44	1.13
			915	0.2417	30	0.7	3.7	24.2	132.28	284.09	471.75	1.19
			1115	0.2946	40	1.1	5.8	32.8	127.38	243.46	431.39	1.31
			1375	0.3633	60	2.0	9.7	48.2	92.29	195.07	322.77	1.35
			1710	0.4518	90	3.2	14.8	62.9	74.17	164.16	301.20	1.38
TT 110 °	0.4	Agridex	950	0.2510	15	0.3	1.7	11.8	174.75	405.28	664.80	1.21
			1315	0.3474	30	0.8	4.7	26.2	127.95	277.56	503.57	1.35
			1510	0.3989	40	1.2	6.6	34.0	111.56	240.94	465.77	1.47
			1845	0.4875	60	2.0	10.1	48.6	90.41	194.20	370.34	1.44
			2260	0.5971	90	3.2	14.7	62.6	72.58	164.33	311.84	1.46

Spraying Systems Co. - 1.0% v/v Agridex

Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		< 44 μm	< 91 μm	< 191 μm				
XR 80 °	0.15	Agridex	370	0.0978	15	1.1	6.7	37.4	104.40	245.75	428.34	1.32
			420	0.1110	20	1.6	8.6	41.1	95.12	219.86	407.00	1.42
			500	0.1321	30	2.2	12.1	50.0	85.59	190.68	363.60	1.46
			575	0.1519	40	2.8	15.0	57.0	78.73	173.23	328.58	1.44
			705	0.1863	60	4.3	20.1	67.7	66.75	151.19	287.36	1.46
XR 80 °	0.2	Agridex	490	0.1295	15	0.9	5.5	32.4	112.30	274.94	454.69	1.25
			560	0.1480	20	1.1	6.6	36.7	105.79	245.29	403.81	1.22
			665	0.1757	30	1.8	9.3	42.2	93.24	213.34	391.25	1.40
			770	0.2034	40	2.4	11.9	50.0	85.17	190.77	359.06	1.44
			935	0.2470	60	3.8	16.3	62.3	72.75	162.24	313.78	1.49
XR 80 °	0.3	Agridex	730	0.1929	15	0.7	3.7	20.9	134.04	349.08	570.14	1.25
			835	0.2206	20	0.9	4.4	24.0	125.02	316.98	520.91	1.25
			1000	0.2206	30	1.5	6.1	28.7	110.80	277.24	456.81	1.25
			1145	0.3025	40	2.2	8.6	34.5	97.57	247.53	427.38	1.33
			1390	0.3672	60	3.5	12.9	42.9	80.67	212.14	395.98	1.49
XR 80 °	0.4	Agridex	1000	0.2642	15	0.7	3.3	17.9	144.19	374.79	603.17	1.23
			1150	0.3038	20	0.9	4.1	21.3	132.72	340.37	559.41	1.25
			1345	0.3554	30	1.5	5.9	26.9	115.01	293.88	501.57	1.32
			1550	0.4095	40	2.2	8.2	33.9	100.92	258.84	453.33	1.36
			1895	0.5007	60	3.3	11.6	43.2	83.49	216.62	408.64	1.50

Spraying Systems Co. - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μ m)	D _{V0.5} (μ m)	D _{V0.9} (μ m)	Span
			(ml/min)	(gal/min)		< 44 μ m	< 91 μ m	< 191 μ m				
XR 110 °	0.15	Agridex	380	0.1004	15	1.1	7.1	44.8	102.80	210.83	380.78	1.32
			440	0.1162	20	1.6	8.9	47.0	94.37	199.34	380.33	1.43
			510	0.1347	30	2.2	12.0	54.3	85.55	179.84	343.05	1.43
			575	0.1519	40	2.8	15.0	60.3	77.98	166.61	313.90	1.42
			720	0.1902	60	4.2	19.8	67.7	67.60	153.11	273.07	1.34
XR 110 °	0.2	Agridex	495	0.1308	15	0.9	6.0	39.5	109.21	236.94	428.00	1.34
			570	0.1506	20	1.2	7.0	42.9	103.11	217.74	387.75	1.31
			675	0.1783	30	1.9	10.3	48.9	90.04	193.95	373.49	1.46
			770	0.2034	40	2.6	13.0	54.7	82.40	177.96	349.84	1.50
			950	0.2510	60	3.7	16.9	60.9	72.39	163.57	320.54	1.52
XR 110 °	0.3	Agridex	745	0.1968	15	0.5	3.6	23.5	133.54	322.78	529.69	1.23
			850	0.2246	20	0.7	4.2	26.5	123.30	292.78	476.39	1.21
			1000	0.2642	30	1.1	5.6	30.7	111.43	259.24	434.63	1.25
			1155	0.3052	40	1.7	7.8	35.8	99.81	234.58	399.73	1.28
			1415	0.3738	60	2.9	11.8	45.2	84.84	203.38	352.56	1.32
XR 110 °	0.4	Agridex	980	0.2589	15	0.6	3.6	22.8	135.88	337.73	561.60	1.26
			1120	0.2959	20	0.8	4.3	25.7	126.48	311.50	515.76	1.28
			1335	0.3527	30	1.3	5.9	29.7	111.52	272.28	478.25	1.35
			1520	0.4016	40	1.6	7.4	35.0	116.59	252.54	424.38	1.27
			1865	0.4927	60	3.0	11.1	42.9	85.82	214.36	367.70	1.32

Water-Crop Oil Mix

Spraying Systems Co. - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure	Spray Volume (%)			D _{V0.1}	D _{V0.5}	D _{V0.9}	Span
			(ml/min)	(gal/min)	(psi)	< 44 μ m	< 91 μ m	< 191 μ m	(μ m)	(μ m)	(μ m)	
TXVS	4	Agridex	265	0.070	40	3.3	28.0	87.2	63.32	125.60	201.56	1.10
			285	0.075	50	4.0	32.6	88.8	59.27	121.87	195.35	1.11
			310	0.082	60	5.0	33.0	89.0	58.15	123.49	193.60	1.10
TXVS	6	Agridex	390	0.103	40	3.1	25.9	84.2	63.2	134.7	209.6	1.1
			430	0.114	50	4.0	27.0	85.6	61.5	135.9	203.2	1.0
			470	0.124	60	5.1	26.0	84.7	59.4	139.2	204.4	1.0
TXVS	8	Agridex	485	0.128	40	4.0	29.5	74.4	57.7	132.3	264.3	1.6
			540	0.143	50	4.3	30.6	78.7	56.4	127.4	243.6	1.5
			585	0.155	60	5.7	33.1	81.7	52.7	121.6	230.3	1.5
TXVS	10	Agridex	635	0.168	40	2.8	20.8	61.2	69.9	164.4	290.7	1.3
			710	0.188	50	3.1	22.8	66.3	64.3	153.2	288.0	1.5
			775	0.205	60	3.7	25.0	69.7	61.2	147.0	273.8	1.4
TXVS	12	Agridex	790	0.209	40	2.4	19.5	58.7	71.4	167.6	325.7	1.5
			890	0.235	50	3.8	22.9	62.8	67.6	158.1	288.4	1.4
			970	0.256	60	4.4	22.1	59.5	64.6	166.6	284.9	1.3

Spraying Systems Co. - 1.0% v/v Agridex												
Nozzle Type	Nozzle Size	Spray Liquid	Flow Rate		Pressure (psi)	Spray Volume (%)			D _{V0.1} (μm)	D _{V0.5} (μm)	D _{V0.9} (μm)	Span
			(ml/min)	(gal/min)		< 44 μm	< 91 μm	< 191 μm				
TKSS	0.1	Agridex	390	0.103	10	0.7	3.8	21.8	122.00	470.01	846.51	1.54
			475	0.125	15	0.3	2.1	14.1	154.62	456.72	851.63	1.53
			525	0.139	20	0.3	1.8	11.6	175.74	426.22	760.63	1.37
			630	0.166	30	0.5	2.7	13.7	160.51	356.68	626.91	1.31
			740	0.196	40	0.7	3.5	16.9	147.57	328.34	559.50	1.25
TKSS	0.15	Agridex	570	0.151	10	0.7	4.3	18.9	126.72	453.86	1026.69	1.98
			700	0.185	15	0.4	2.4	11.6	174.47	512.06	1081.31	1.77
			780	0.206	20	0.3	1.5	7.4	220.12	506.92	914.11	1.37
			950	0.251	30	0.6	2.3	9.2	201.22	446.05	791.22	1.32
			1000	0.264	40	0.9	3.5	13.7	160.48	376.72	741.21	1.55
TKSS	0.2	Agridex	745	0.197	10	0.2	1.1	6.4	235.01	610.91	1165.89	1.52
			900	0.238	15	0.2	0.9	4.6	257.86	571.37	1059.87	1.40
			1015	0.268	20	0.3	1.2	5.6	252.53	516.00	933.70	1.32
			1200	0.317	30	0.5	2.1	8.6	212.47	449.60	763.81	1.23
			1420	0.375	40	0.7	2.9	11.4	174.32	403.10	700.74	1.31
TKSS	0.3	Agridex	1170	0.309	10	0.3	1.1	5.1	251.76	644.83	1211.04	1.49
			1395	0.369	15	0.3	0.9	4.0	261.53	607.53	1088.89	1.36
			1600	0.423	20	0.4	1.4	5.6	247.78	575.36	1020.66	1.34
			1895	0.501	30	0.6	2.6	9.4	200.40	473.95	768.39	1.20
			2185	0.577	40	0.9	3.5	10.9	180.65	427.76	756.57	1.35

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