



SPRAY NOZZLES AND ACCESSORIES

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		Spray Pattern	Sizes	Description	Air Injected	Page
	TurboDrop® XL					
	20-120 psi 30-150 psi (ceramic)	110° Flat Fan	01, 015, 02, 025, 03, 04, 05, 06, 08, 10, 15	Combination of drift control, coverage, and penetration for broadcast spraying. Larger sizes used in fertilizer applications.	Yes	4
	TurboDrop® DualFan					
	20-120 psi 30-150 psi (ceramic)	Asymmetric DualFan	01, 015, 02, 025, 03, 04, 05, 06, 08, 10, 15	DualFan pattern enhances coverage while maintaining great drift control. Alternate nozzle orientation on the boom to spray four times in one pass.	Yes	4
	TurboDrop® XL-D					
	30-120 psi	110° Flat Fan	01, 015, 02, 025, 03, 04, 05, 06, 08	Maximum drift control for glyphosate and dicamba formulations requiring Very Coarse to Ultra Coarse droplets.	Yes	6
	TurboDrop® DualFan-D					
	30-120 psi	Asymmetric DualFan	01, 015, 02, 025, 03, 04, 05, 06, 08	Enhanced coverage while maintaining maximum drift control with Very Coarse to Ultra Coarse droplets for glyphosate and dicamba formulations.	Yes	6
	AirMix®					
	15-90 psi	110° Flat Fan Hollow Cone Off Center DualFan (AMDF)	01, 015, 02, 025, 03, 04, 05, 06, More sizes available for AMDF	Economical drift control and wide pressure range used in all types of sprayers from broadcast to backpack. Fits standard caps.	Yes	7
	TurboDrop® Ceramic Flat Fan					
	40-150 psi	110° Flat Fan	01, 015, 02, 025 03, 04, 05, 06, 08 10	High pressures improve canopy penetration, broad droplet spectrum for use in a variety of applications.	Yes	8
	TurboDrop® Asymmetric TwinFan					
	40-150 psi	110° TwinFan	01, 015, 02, 025 03, 04, 05, 06, 08	High pressures penetrate the canopy while a coarse droplet spectrum controls drift. Asymmetrical twinfan spray pattern provides the best backside coverage.	Yes	8
	Universal TurboDrop® Ceramic Flat Fan					
	40-400 psi	110° Flat Fan	01, 015, 02, 025 03, 04, 05, 06, 08 10	Universal mount and extreme pressure range lends this nozzle to a wide variety of applications, ranging from air blast in vineyards to car wash and industrial uses.	Yes	9
	TurboDrop® Variable Rate					
	40-140 psi	110° Flat Fan	015VR, 02VR, 03VR (Sizes do not conform to ISO standard)	High tolerance variable rate nozzle that provides predictable flow rates at three times the range of traditional nozzles.	Yes	10
	TurboDrop® Variable Rate DualFan					
	40-140 psi	Asymmetric DualFan	015VR, 02VR, 03VR (Sizes do not conform to ISO standard)	A versatile nozzle that combines a flow rate three times the range of traditional nozzles, with the Asymmetric DualFan spray pattern.	Yes	10

		Spray Pattern	Sizes	Description	Air Injected	Page
	TurboDrop® Variable Rate Fertilizer					
	10-140 psi	Six Hole Streaming	015VR, 02VR, 03VR, 05VR (Sizes do not conform to ISO standard)	An airless version of the Variable Rate nozzle body increases pressure and flow rate range. Flow rate is up to five times the standard nozzle size classification. Specifically designed for fertilizer applications.	No	11
	TurboDrop® Variable Rate Fertilizer Hose Barb					
	10-140 psi	Hose Barb	015VR, 02VR, 03VR, 05VR (Sizes do not conform to ISO standard)	Hose Barb version of our Variable Rate Fertilizer nozzle. Designed to integrate into custom fertilizer rigs, providing the benefits of an up to five times flow rate range.	No	11
	Blended Pulse™					
	15-90 psi	110° Flat Fan	03, 04, 05, 06	Designed for PWM applications to provide the drift control and coverage balance broadcast spraying requires.	No	12
	Blended Pulse™ DualFan					
	30-120 psi	Asymmetric DualFan	06, 07, 08, 09, 10, 12	DualFan spray pattern coupled with Medium to Coarse spray quality and low drift make this the most versatile nozzle for PWM applications.	No	12
	SoftDrop					
	30-120 psi	110° Flat Fan	04, 05, 06, 08, 10	Designed with PWM in mind, provides maximum drift control with Very Coarse to Ultra Coarse droplets for glyphosate and dicamba formulations.	No	14
	SprayMax DualFan					
	40-150 psi	Asymmetric DualFan	02, 025, 03, 035, 04, 045, 05, 055, 06, 065, 07, 075, 08, 09, 10, 12, 14, 16, 18, 20, 25, 30	DualFan spray pattern and PWM ready. This nozzle works best in applications like fungicides and insecticides where coverage is the highest importance.	No	15
	SprayMax					
	40-150 psi	110° Flat Fan	02, 03, 04, 05, 06, 08, 10, 12, 16, 20, 30	Conventional nozzle that can be used with PWM systems. Larger sizes work well for fertilizer applications.	No	16
	Boomless Air Injected Nozzles					
	30-60 psi	13' & 16' Swath	40, 85	Made for spraying hard to reach areas, or for use on smaller spray rigs. Air injection helps to control drift and increases pattern uniformity.	Yes	17
	Beluga HoseDrop Spraying System					
	15-90 psi	Dual Horizontal	AirMix and SMP Nozzle Sizes; other nozzles possible	System for spraying inside of the canopy for fungicide, insecticide, and other contact chemicals.	Optional	17
	Parts and Accessories					
				Replacement parts, specialty application components, calibration jugs, handheld weather meters, easyFlow Closed Transfer System		18

TurboDrop® XL and TurboDrop® DualFan Medium Pressure Nozzles

The TurboDrop® Venturi (TDXL/TDVC) is the heart of both the TurboDrop® and TurboDrop® DualFan nozzle. The Venturi (or injector) meters the flow and injects air into the spray fluid. The TurboDrop® Venturi is ISO color coded for flow rate. The pattern tip or combination of tips is double the flow rate of the Venturi. For example, a blue 03 Venturi requires an 06 pattern tip, or a pair of tips that add up to 06. The 03 TurboDrop® DualFan uses a 11002 plus an 8004 combination of pattern tips. The TurboDrop® Venturi nozzle utilizes a patented stabilization chamber and pulsation dampener which results in even mixing of air with the spray liquid, and a tighter, more uniform droplet spectrum for a unique combination of drift control and coverage.

The TurboDrop® XL nozzle is unique among air injection nozzles in that it was designed for contact chemicals, not just glyphosate (a systemic herbicide). In fact, the TurboDrop® XL, the TurboDrop® DualFan and the AirMix® were the first air injection nozzles recommended by Bayer CropScience for use with Liberty™ herbicide. The single fan XL can be used in most ag spray applications by choosing the appropriate combination of carrier rate and droplet size. The TurboDrop® DualFan may improve coverage with certain canopy types, or even help target smaller, just emerging weeds. To maximize coverage, TADF nozzles may be alternated on the boom to provide four angles of spray orientation into the canopy, effectively spraying the target four times in one pass.

One size will often fit a variety of applications. For example, the 04 TurboDrop® DualFan will deliver glyphosate at 10 gpa at 11-15 mph between 35 and 65 psi. For 15 gpa fungicides, or other contact pesticides, this same nozzle could be operated at 11-13 mph at roughly 80-110 psi. Sprayer speed may be reduced a couple of miles per hour (9-10 mph) to deliver 20 gpa at 90-110 psi.

Pressure Range: 20-120 psi (30-150 psi, ceramic) **Recommended Boom Height XL:** 18-36" **DF:** 15-25" (with 20" nozzle spacing)
Materials of Construction: Polyacetal, EPDM. Semi-ceramic version (TDCXL/TACDF) utilizes ceramic pre-orifice for extended wear life.

TurboDrop® XL



TDXL11001
TDXL110015
TDXL11002
TDXL110025
TDXL11003
TDXL11004
TDXL11005
TDXL11006
TDXL11008
TDXL11010
TDXL11015

TurboDrop® DualFan



TADF01
TADF015
TADF02
TADF025
TADF03
TADF04
TADF05
TADF06
TADF08
TADF10
TADF15

						GALLONS PER ACRE BASED ON 20" NOZZLE SPACING															
		TDXL Droplet	TADF Droplet	PSI	GPM	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	20 MPH	
TDXL11001	TADF01	C	M	30	0.09	5.1	4.3	3.7	3.2	2.9	2.6	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	
		C	M	40	0.10	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5	2.3	2.1	2.0	1.9	1.7	1.7	1.5	
		M	M	50	0.11	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.8	2.6	2.4	2.2	2.1	2.0	1.8	1.7	
		M	F	60	0.12	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.8	
		M	F	70	0.13	7.9	6.5	5.6	4.9	4.4	3.9	3.6	3.3	3.0	2.8	2.6	2.5	2.3	2.2	2.0	
		F	F	80	0.14	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5	3.2	3.0	2.8	2.6	2.5	2.3	2.1	
		F	F	90	0.15	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8	2.6	2.5	2.2	
		F	F	100	0.16	9.4	7.8	6.7	5.9	5.2	4.7	4.3	3.9	3.6	3.4	3.1	2.9	2.8	2.6	2.3	
		F	F	120	0.17	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.6	
		C	M	30	0.13	7.7	6.4	5.5	4.8	4.3	3.9	3.5	3.2	3.0	2.8	2.6	2.4	2.3	2.1	1.9	
		C	M	40	0.15	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8	2.6	2.5	2.2	
		M	M	50	0.17	10.0	8.3	7.1	6.2	5.5	5.0	4.5	4.2	3.8	3.6	3.3	3.1	2.9	2.8	2.5	
TDXL110015	TADF015	C	M	30	0.13	7.7	6.4	5.5	4.8	4.3	3.9	3.5	3.2	3.0	2.8	2.6	2.4	2.3	2.1	1.9	
		C	M	40	0.15	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8	2.6	2.5	2.2	
		M	M	50	0.17	10.0	8.3	7.1	6.2	5.5	5.0	4.5	4.2	3.8	3.6	3.3	3.1	2.9	2.8	2.5	
		M	M	60	0.18	10.9	9.1	7.8	6.8	6.1	5.5	5.0	4.5	4.2	3.9	3.6	3.4	3.2	3.0	2.7	
		M	M	70	0.20	11.8	9.8	8.4	7.4	6.5	5.9	5.4	4.9	4.5	4.2	3.9	3.7	3.5	3.3	2.9	
		M	M	80	0.21	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.2	
		F	F	90	0.23	13.4	11.1	9.5	8.4	7.4	6.7	6.1	5.6	5.1	4.8	4.5	4.2	3.9	3.7	3.3	
		F	F	100	0.24	14.1	11.7	10.1	8.8	7.8	7.0	6.4	5.9	5.4	5.0	4.7	4.4	4.1	3.9	3.5	
		F	F	120	0.26	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	3.9	
		C	M	30	0.17	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.6	
		C	M	40	0.20	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.0	
		M	M	50	0.22	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2	3.9	3.7	3.3	
TDXL11002	TADF02	C	M	30	0.17	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.6	
		C	M	40	0.20	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.0	
		M	M	50	0.22	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2	3.9	3.7	3.3	
		M	M	60	0.24	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.6	
		M	M	70	0.26	15.7	13.1	11.2	9.8	8.7	7.9	7.1	6.5	6.0	5.6	5.2	4.9	4.6	4.4	3.9	
		M	M	80	0.28	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.2	
		F	F	90	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.5	
		F	F	100	0.32	18.8	15.7	13.4	11.7	10.4	9.4	8.5	7.8	7.2	6.7	6.3	5.9	5.5	5.2	4.7	
		F	F	120	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1	
		VC	VC	30	0.22	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.2	
		VC	VC	40	0.25	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.7	
		C	M	50	0.28	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.2	
TDXL110025	TADF025	M	M	60	0.31	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.5	
		M	M	70	0.33	19.6	16.4	14.0	12.3	10.9	9.8	8.9	8.2	7.6	7.0	6.5	6.1	5.8	5.5	4.9	
		M	M	80	0.35	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.3	
		M	M	90	0.38	22.3	18.6	15.9	13.9	12.4	11.1	10.1	9.3	8.6	8.0	7.4	7.0	6.6	6.2	5.6	
		M	M	100	0.40	23.5	19.6	16.8	14.7	13.0	11.7	10.7	9.8	9.0	8.4	7.8	7.3	6.9	6.5	5.9	
		F	F	120	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4	
		VC	VC	30	0.26	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	3.9	
		VC	VC	40	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.5	
		C	M	50	0.34	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.0	
		C	M	60	0.37	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.5	
		M	M	70	0.40	23.6	19.6	16.8	14.7	13.1	11.8	10.7	9.8	9.1	8.4	7.9	7.4	6.9	6.5	5.9	
		M	M	80	0.42	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.3	
TDXL11003	TADF03	M	M	90	0.45	26.7	22.3	19.1	16.7	14.9	13.4	12.2	11.1	10.3	9.5	8.9	8.4	7.9	7.4	6.7	
		M	M	100	0.47	28.2	23.5	20.1	17.6	15.7	14.1	12.8	11.7	10.8	10.1	9.4	8.8	8.3	7.8	7.0	
		M	M	120	0.52	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	7.7	
		VC	VC	30	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1	
		VC	VC	40	0.40	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	5.9	
		C	M	50	0.45	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	6.6	
		C	M	60	0.49	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.3	
		M	M	70	0.53	31.4	26.2	22.5	19.6	17.5	15.7	14.3	13.1	12.1	11.2	10.5	9.8	9.2	8.7	7.9	
		M	M	80	0.57	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.4	
		M	M	90	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9	
		M	M	100	0.63	37.6	31.3	26.8	23.5	20.9	18.8	17.1	15.7	14.4	13.4	12.5	11.7	11.0	10.4	9.4	
		M	M	120	0.69	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.3	
TDXL11004	TADF04	VC	VC	30	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4	
		VC	VC</																		

TurboDrop® XL and TurboDrop® DualFan Medium Pressure Nozzles

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																			
		TDXL Droplet	TADF Droplet	PSI	GPM	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	20 MPH	
		XC	VC	30	0.52	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	7.7	
		XC	VC	40	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9	
		XC	C	50	0.67	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.0	
		VC	C	60	0.73	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	10.9	
		VC	M	70	0.79	47.1	39.3	33.7	29.5	26.2	23.6	21.4	19.6	18.1	16.8	15.7	14.7	13.9	13.1	11.8	
		C	M	80	0.85	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	12.6	
		C	M	90	0.90	53.5	44.6	38.2	33.4	29.7	26.7	24.3	22.3	20.6	19.1	17.8	16.7	15.7	14.9	13.4	
		M	M	100	0.95	56.4	47.0	40.3	35.2	31.3	28.2	25.6	23.5	21.7	20.1	18.8	17.6	16.6	15.7	14.1	
		M	M	120	1.04	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	15.4	
		XC	VC	30	0.69	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.3	
		XC	VC	40	0.80	47.5	39.6	33.9	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	11.9	
		XC	C	50	0.89	53.1	44.3	37.9	33.2	29.5	26.6	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.8	13.3	
		XC	C	60	0.98	58.2	48.5	41.6	36.4	32.3	29.1	26.5	24.2	22.4	20.8	19.4	18.2	17.1	16.2	14.5	
		VC	M	70	1.06	62.9	52.4	44.9	39.3	34.9	31.4	28.6	26.2	24.2	22.5	21.0	19.6	18.5	17.5	15.7	
		VC	M	80	1.13	67.2	56.0	48.0	42.0	37.3	33.6	30.5	28.0	25.8	24.0	22.4	21.0	19.8	18.7	16.8	
		VC	M	90	1.20	71.3	59.4	50.9	44.6	39.6	35.6	32.4	29.7	27.4	25.5	23.8	22.3	21.0	19.8	17.8	
		C	M	100	1.26	75.1	62.6	53.7	47.0	41.7	37.6	34.2	31.3	28.9	26.8	25.0	23.5	22.1	20.9	18.8	
		C	M	120	1.39	82.3	68.6	58.8	51.4	45.7	41.2	37.4	34.3	31.7	29.4	27.4	25.7	24.2	22.9	20.6	
		XC	XC	30	0.87	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	12.9	
		XC	XC	40	1.00	59.4	49.5	42.4	37.1	33.0	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	14.9	
		XC	VC	50	1.12	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	22.1	20.8	19.5	18.4	16.6	
		XC	VC	60	1.22	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	18.2	
		XC	VC	70	1.32	78.6	65.5	56.1	49.1	43.7	39.3	35.7	32.7	30.2	28.1	26.2	24.6	23.1	21.8	19.6	
		VC	C	80	1.41	84.0	70.0	60.0	52.5	46.7	42.0	38.2	35.0	32.3	30.0	28.0	26.3	24.7	23.3	21.0	
		VC	C	90	1.50	89.1	74.3	63.6	55.7	49.5	44.6	40.5	37.1	34.3	31.8	29.7	27.8	26.2	24.8	22.3	
		VC	M	100	1.58	93.9	78.3	67.1	58.7	52.2	47.0	42.7	39.1	36.1	33.5	31.3	29.3	27.6	26.1	23.5	
		VC	M	120	1.73	102.9	85.7	73.5	64.3	57.2	51.4	46.8	42.9	39.6	36.7	34.3	32.2	30.3	28.6	25.7	
				30	1.30	77.2	64.3	55.1	48.2	42.9	38.6	35.1	32.2	29.7	27.6	25.7	24.1	22.7	21.4	19.3	
				40	1.50	89.1	74.3	63.6	55.7	49.5	44.6	40.5	37.1	34.3	31.8	29.7	27.8	26.2	24.8	22.3	
				50	1.68	99.6	83.0	71.2	62.3	55.3	49.8	45.3	41.5	38.3	35.6	33.2	31.1	29.3	27.7	24.9	
				60	1.84	109.1	90.9	77.9	68.2	60.6	54.6	49.6	45.5	42.0	39.0	36.4	34.1	32.1	30.3	27.3	
				70	1.98	117.9	98.2	84.2	73.7	65.5	58.9	53.6	49.1	45.3	42.1	39.3	36.8	34.7	32.7	29.5	
				80	2.12	126.0	105.0	90.0	78.8	70.0	63.0	57.3	52.5	48.5	45.0	42.0	39.4	37.1	35.0	31.5	
				90	2.25	133.7	111.4	95.5	83.5	74.3	66.8	60.8	55.7	51.4	47.7	44.6	41.8	39.3	37.1	33.4	
				100	2.37	140.9	117.4	100.6	88.0	78.3	70.4	64.0	58.7	54.2	50.3	47.0	44.0	41.4	39.1	35.2	
				120	2.60	154.3	128.6	110.2	96.5	85.7	77.2	70.1	64.3	59.4	55.1	51.4	48.2	45.4	42.9	38.6	

* Color changes reflect ISO code updates.

Spray 4 Times in Only 1 Pass with TurboDrop® Asymmetric DualFan Nozzles



When set up with alternating forward and backward mounting on the boom, TurboDrop® Asymmetric DualFan nozzles create four angles of spray directed at the target. The inside pattern tips angled 10° forward and back use smaller sizes to provide Medium droplets ensuring the best coverage and efficacy for contact chemicals. The outside pattern tips angled 50° forward and back are a larger size. They will produce coarser droplets, which blanket the smaller droplets, controlling drift. This combination provides the best balance of both coverage and drift control.

TurboDrop® XL-D and TurboDrop® DualFan-D Ultra Coarse Nozzles

The D versions of the TurboDrop® nozzles were designed with dicamba, 2,4-D and glyphosate in mind, where a coarser spray droplet is desirable. Between 30 and 90 psi, these nozzles deliver Ultra Coarse (UC), Extremely Coarse (XC), and Very Coarse (VC) droplets for maximum drift control. It is important to remember that as sprays become coarser, coverage may be compromised. The D version of the TurboDrop® DualFan has the ability to cover the target from two to four angles of attack, helping to counter the potential loss of coverage and further enhance chemical performance.

Approved nozzles, pressures, and application rates change often for auxin herbicides. For updates on Greenleaf Technologies approved nozzles visit our website. All approved nozzles are listed on the herbicide manufacturer's label. Be sure to read the application guidelines and know the laws in your state before spraying. Other sizes are also available.

Pressure Range: 30-120 psi (30-150 psi, ceramic) **Recommended Boom Height XL:** 18-36" **DF:** 15-25" (with 20" nozzle spacing)

Materials of Construction: Polyacetal, EPDM, ceramic (TDCXL-D/TACDF-D)

				GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																	
		Droplet	Droplet	PSI	GPM	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	20 MPH	
	TDXL11002-D		UC	UC	30	0.17	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.6
			XC	XC	40	0.20	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.0
			XC	XC	50	0.22	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2	3.9	3.7	3.3
			XC	XC	60	0.24	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.6
			VC	VC	70	0.26	15.7	13.1	11.2	9.8	8.7	7.9	7.1	6.5	6.0	5.6	5.2	4.9	4.6	4.4	3.9
			VC	VC	80	0.28	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.2
	TDXL110025-D		UC	UC	90	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.7
			UC	UC	100	0.32	18.8	15.7	13.4	11.7	10.4	9.4	8.5	7.8	7.2	6.7	6.3	5.9	5.5	5.2	4.7
			UC	UC	120	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1
			XC	XC	30	0.22	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.2
			XC	XC	40	0.25	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.7
			XC	XC	50	0.28	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.2
	TDXL11003-D		XC	XC	60	0.31	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.5
			VC	VC	70	0.33	19.6	16.4	14.0	12.3	10.9	9.8	8.9	8.2	7.6	7.0	6.5	6.1	5.8	5.5	4.9
			VC	VC	80	0.35	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.3
			VC	VC	90	0.38	22.3	18.6	15.9	13.9	12.4	11.1	10.1	9.3	8.6	8.0	7.4	7.0	6.6	6.2	5.6
			UC	UC	100	0.40	23.5	19.6	16.8	14.7	13.0	11.7	10.7	9.8	9.0	8.4	7.8	7.3	6.9	6.5	5.9
			UC	UC	120	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4
	TDXL11004-D		UC	UC	30	0.26	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	3.9
			UC	UC	40	0.30	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.5
			XC	XC	50	0.34	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.0
			XC	XC	60	0.37	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.5
			XC	XC	70	0.40	23.6	19.6	16.8	14.7	13.1	11.8	10.7	9.8	9.1	8.4	7.9	7.4	6.9	6.5	5.9
			VC	VC	80	0.42	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.3
	TDXL11004-D		UC	UC	30	0.35	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.1
			UC	UC	40	0.40	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	5.9
			UC	XC	50	0.45	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	6.6
			XC	XC	60	0.49	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.3
			XC	XC	70	0.53	31.4	26.2	22.5	19.6	17.5	15.7	14.3	13.1	12.1	11.2	10.5	9.8	9.2	8.7	7.9
			VC	VC	80	0.57	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.4
	TDXL11005-D		XC	VC	90	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9
			UC	UC	100	0.63	37.6	31.3	26.8	23.5	20.9	18.8	17.1	15.7	14.4	13.4	12.5	11.7	11.0	10.4	9.4
			UC	UC	120	0.69	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.3
			UC	UC	30	0.43	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.4
			UC	UC	40	0.50	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.4
			XC	XC	50	0.56	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.3
	TDXL11005-D		UC	XC	60	0.61	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.1
			UC	XC	70	0.66	39.3	32.7	28.1	24.6	21.8	19.6	17.9	16.4	15.1	14.0	13.1	12.3	11.6	10.9	9.8
			XC	VC	80	0.71	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	10.5
			VC	VC	90	0.75	44.6	37.1	31.8	27.8	24.8	22.3	20.3	18.6	17.1	15.9	14.9	13.9	13.1	12.4	11.1
			UC	UC	100	0.79	47.0	39.1	33.5	29.5	26.1	23.5	21.3	19.6	18.1	16.8	15.7	14.7	13.8	13.0	11.7
			UC	UC	120	0.87	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	12.9
	TDXL11006-D		UC	UC	30	0.52	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	7.7
			UC	UC	40	0.60	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	8.9
			UC	UC	50	0.67	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.0
			XC	XC	60	0.73	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	10.9
			XC	XC	70	0.79	47.1	39.3	33.7	29.5	26.2	23.6	21.4	19.6	18.1	16.8	15.7	14.7	13.9	13.1	11.8
			UC	XC	80	0.85	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	12.6
		UC	XC	90	0.90	53.5	44.6	38.2	33.4	29.7	26.7	24.3	22.3	20.6	19.1	17.8	16.7	15.7	14.9	13.4	
		UC	UC	100	0.95	56.4	47.0	40.3	35.2	31.3	28.2	25.6	23.5	21.7	20.1	18.8	17.6	16.6	15.7	14.1	
		UC	UC	120	1.04	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	15.4	

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* Color changes reflect ISO code updates.

ASABE droplet size based on University of Nebraska-Lincoln wind tunnel testing. *Estimated

Modular Versatility

The D versions utilize larger pattern tips (without affecting the flow rate of the nozzle) to create bigger droplets. Due to the modular design, it is easy and inexpensive to convert from the standard TurboDrop® to the D version and vice versa, or even to convert from a standard TADF to TDXL-D. The graphic to the right illustrates how one single TurboDrop® Venturi has the option of four different pattern tip set-ups, both single fan and DualFan. The modular design allows the user to switch back and forth from any of the possible configurations.



AirMix® Low Pressure Nozzles

The AirMix® Nozzle is a compact, two piece air injection nozzle that fits in a standard cap, and can be cleaned without tools. The AirMix® utilizes a unique air cleaning system to prevent nozzle plugging. Please target 40 psi when selecting nozzle size, to allow for changes in speed. Higher pressures are recommended for penetrating dense canopies and for coverage critical contact chemicals. Acid resistant polypropylene AirMix® AMCQ nozzles are the only Greenleaf Technologies nozzles recommended for strong acid applications.

The new TipGuard Spray Tip Protection System protects spray nozzles from damage caused by hard ground, fence posts, irrigation systems and other obstacles. The TipGuard is also compatible with other similar nozzle types. It is easy to handle with gloves, and stackable for easy storage. Sold in stacks of ten.

Pressure Range: 15-90 psi **Recommended Boom Height:** 16-36" (with 20" nozzle spacing)

Materials of Construction: Polyacetal, or polypropylene with EPDM (AMCQ)

AirMix® Nozzle



AM11001
AM110015
AM11002
AM110025
AM11003
AM11004
AM11005
AM11006

AirMix® TipGuard



AMTG

AirMix® Off Center



AMOC02
AMOC025
AMOC03
AMOC04
AMOC05

AirMix® Hollow Cone



AMHC80025

AirMix® Acid Resistant



AMCQ110015
AMCQ11002
AMCQ11003
AMCQ11004
AMCQ11005
AMCQ11006

AirMix® DualFan Nozzle



AMDF02
AMDF025
AMDF03
AMDF035
AMDF04
AMDF045
AMDF05
AMDF055
AMDF06
AMDF07
AMDF08
AMDF09
AMDF10
AMDF11
AMDF12

AirMix® TipGuard Ten Stack



AMTGST01
AMTGST015
AMTGST02
AMTGST025
AMTGST03
AMTGST04
AMTGST05
AMTGST06

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING													
	Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH	20 MPH		
	C	15	0.06	4.5	3.6	3.0	2.3	1.8	1.5	1.3	1.1	1.0	0.9		
	C	20	0.07	5.3	4.2	3.5	2.6	2.1	1.8	1.5	1.3	1.2	1.1		
	M	30	0.09	6.4	5.1	4.3	3.2	2.6	2.1	1.8	1.6	1.4	1.3		
	M	40	0.10	7.4	5.9	5.0	3.7	3.0	2.5	2.1	1.9	1.7	1.5		
	F	50	0.11	8.3	6.6	5.5	4.2	3.3	2.8	2.4	2.1	1.8	1.7		
	F	60	0.12	9.1	7.3	6.1	4.5	3.6	3.0	2.6	2.3	2.0	1.8		
	F	70	0.13	9.8	7.9	6.5	4.9	3.9	3.3	2.8	2.5	2.2	2.0		
	F	80	0.14	10.5	8.4	7.0	5.3	4.2	3.5	3.0	2.6	2.3	2.1		
	F	90	0.15	11.1	8.9	7.4	5.6	4.5	3.7	3.2	2.8	2.5	2.2		
	C	15	0.09	6.8	5.5	4.5	3.4	2.7	2.3	1.9	1.7	1.5	1.4		
	C	20	0.11	7.9	6.3	5.3	3.9	3.2	2.6	2.3	2.0	1.8	1.6		
	M	30	0.13	9.6	7.7	6.4	4.8	3.9	3.2	2.8	2.4	2.1	1.9		
	M	40	0.15	11.1	8.9	7.4	5.6	4.5	3.7	3.2	2.8	2.5	2.2		
	F	50	0.17	12.5	10.0	8.3	6.2	5.0	4.2	3.6	3.1	2.8	2.5		
	F	60	0.18	13.6	10.9	9.1	6.8	5.5	4.5	3.9	3.4	3.0	2.7		
	F	70	0.20	14.7	11.8	9.8	7.4	5.9	4.9	4.2	3.7	3.3	2.9		
	F	80	0.21	15.8	12.6	10.5	7.9	6.3	5.3	4.5	3.9	3.5	3.2		
	F	90	0.23	16.7	13.4	11.1	8.4	6.7	5.6	4.8	4.2	3.7	3.3		
	C	15	0.12	9.1	7.3	6.1	4.5	3.6	3.0	2.6	2.3	2.0	1.8		
	C	20	0.14	10.5	8.4	7.0	5.3	4.2	3.5	3.0	2.6	2.3	2.1		
	C	30	0.17	12.9	10.3	8.6	6.4	5.1	4.3	3.7	3.2	2.9	2.6		
	M	40	0.20	14.9	11.9	9.9	7.4	5.9	5.0	4.2	3.7	3.3	3.0		
	M	50	0.22	16.6	13.3	11.1	8.3	6.6	5.5	4.7	4.2	3.7	3.3		
	F	60	0.24	18.2	14.5	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6		
	F	70	0.26	19.6	15.7	13.1	9.8	7.9	6.5	5.6	4.9	4.4	3.9		
	F	80	0.28	21.0	16.8	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2		
	F	90	0.30	22.3	17.8	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5		
	VC	15	0.15	11.4	9.1	7.6	5.7	4.5	3.8	3.2	2.8	2.5	2.3		
	C	20	0.18	13.1	10.5	8.8	6.6	5.3	4.4	3.8	3.3	2.9	2.6		
	C	30	0.22	16.1	12.9	10.7	8.0	6.4	5.4	4.6	4.0	3.6	3.2		
	C	40	0.25	18.6	14.9	12.4	9.3	7.4	6.2	5.3	4.6	4.1	3.7		
	M	50	0.28	20.8	16.6	13.8	10.4	8.3	6.9	5.9	5.2	4.6	4.2		
	M	60	0.31	22.7	18.2	15.2	11.4	9.1	7.6	6.5	5.7	5.1	4.5		
	M	70	0.33	24.6	19.6	16.4	12.3	9.8	8.2	7.0	6.1	5.5	4.9		
	M	80	0.35	26.3	21.0	17.5	13.1	10.5	8.8	7.5	6.6	5.8	5.3		
	F	90	0.38	27.8	22.3	18.6	13.9	11.1	9.3	8.0	7.0	6.2	5.6		
	XC	15	0.18	13.6	10.9	9.1	6.8	5.5	4.5	3.9	3.4	3.0	2.7		
	VC	20	0.21	15.8	12.6	10.5	7.9	6.3	5.3	4.5	3.9	3.5	3.2		
	VC	30	0.26	19.3	15.4	12.9	9.6	7.7	6.4	5.5	4.8	4.3	3.9		
	C	40	0.30	22.3	17.8	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5		
	C	50	0.34	24.9	19.9	16.6	12.5	10.0	8.3	7.1	6.2	5.5	5.0		
	M	60	0.37	27.3	21.8	18.2	13.6	10.9	9.1	7.8	6.8	6.1	5.5		
	M	70	0.40	29.5	23.6	19.6	14.7	11.8	9.8	8.4	7.4	6.5	5.9		
	M	80	0.42	31.5	25.2	21.0	15.8	12.6	10.5	9.0	7.9	7.0	6.3		
	M	90	0.45	33.4	26.7	22.3	16.7	13.4	11.1	9.5	8.4	7.4	6.7		
	XC	15	0.24	18.2	14.5	12.1	9.1	7.3	6.1	5.2	4.5	4.0	3.6		
	VC	20	0.28	21.0	16.8	14.0	10.5	8.4	7.0	6.0	5.3	4.7	4.2		
	VC	30	0.35	25.7	20.6	17.1	12.9	10.3	8.6	7.3	6.4	5.7	5.1		
	C	40	0.40	29.7	23.8	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9		
	C	50	0.45	33.2	26.6	22.1	16.6	13.3	11.1	9.5	8.3	7.4	6.6		
	M	60	0.49	36.4	29.1	24.2	18.2	14.5	12.1	10.4	9.1	8.1	7.3		
	M	70	0.53	39.3	31.4	26.2	19.6	15.7	13.1	11.2	9.8	8.7	7.9		
	M	80	0.57	42.0	33.6	28.0	21.0	16.8	14.0	12.0	10.5	9.3	8.4		
	M	90	0.60	44.6	35.6	29.7	22.3	17.8	14.9	12.7	11.1	9.9	8.9		
	XC	15	0.31	22.7	18.2	15.2	11.4	9.1	7.6	6.5	5.7	5.1	4.5		
	VC	20	0.35	26.3	21.0	17.5	13.1	10.5	8.8	7.5	6.6	5.8	5.3		
	VC	30	0.43	32.2	25.7	21.4	16.1	12.9	10.7	9.2	8.0	7.1	6.4		
	C	40	0.50	37.1	29.7	24.8	18.6	14.9	12.4	10.6	9.3	8.3	7.4		
	C	50	0.56	41.5	33.2	27.7	20.8	16.6	13.8	11.9	10.4	9.2	8.3		
	M	60	0.61	45.5	36.4	30.3	22.7	18.2	15.2	13.0	11.4	10.1	9.1		
	M	70	0.66	49.1	39.3	32.7	24.6	19.6	16.4	14.0	12.3	10.9	9.8		
	M	80	0.71	52.5	42.0	35.0	26.3	21.0	17.5	15.0	13.1	11.7	10.5		
	M	90	0.75	55.7	44.6	37.1	27.8	22.3	18.6	15.9	13.9	12.4	11.1		
	XC	15	0.37	27.3	21.8	18.2	13.6	10.9	9.1	7.8	6.8	6.1	5.5		
	XC	20	0.42	31.5	25.2	21.0	15.8	12.6	10.5	9.0	7.9	7.0	6.3		
	VC	30	0.52	38.6	30.9	25.7	19.3	15.4	12.9	11.0	9.6	8.6	7.7		
	C	40	0.60	44.6	35.6	29.7	22.3	17.8	14.9	12.7	11.1	9.9	8.9		
	C	50	0.67	49.8	39.8	33.2	24.9	19.9	16.6	14.2	12.5	11.1	10.0		
	M	60	0.73	54.6	43.6	36.4	27.3	21.8	18.2	15.6	13.6	12.1	10.9		
	M	70	0.79	58.9	47.1	39.3	29.5	23.6	19.6	16.8	14.7	13.1	11.8		
	M	80	0.85	63.0	50.4	42.0	31.5	25.2	21.0	18.0	15.8	14.0	12.6		
	M	90	0.90	66.8	53.5	44.6	33.4	26.7	22.3	19.1	16.7	14.9	13.4		

TurboDrop® Flat Fan and TurboDrop® Asymmetric TwinFan High Pressure Nozzles

Pressure Range: 40-150 psi **Recommended Boom Height TDCFFC:** 18-36" **TDAT:** 15-25" (with 20" nozzle spacing)

Materials of Construction: Ceramic, polyacetal, EPDM

TurboDrop® Flat Fan



TDCFFC11001
TDCFFC110015
TDCFFC11002
TDCFFC110025
TDCFFC11003
TDCFFC11004
TDCFFC11005
TDCFFC11006
TDCFFC11008
TDCFFC11010

TurboDrop® Asymmetric TwinFan



TDAT11001
TDAT110015
TDAT11002
TDAT110025
TDAT11003
TDAT11004
TDAT11005
TDAT11006
TDAT11008

The high pressure TurboDrop® nozzle is available in single fan or asymmetric twinfan versions. Both nozzles utilize a ceramic metering orifice and ceramic pattern orifices to provide the longest wear life for large farms or professional applicators. The high pressure TurboDrop® nozzles provide the same combination of drift control and coverage that the medium pressure TurboDrop® nozzles deliver, but at a higher pressure range.

The single fan TDCFFC nozzle may be used to provide maximum canopy penetration. The asymmetric twinfan (TDAT) splits the flow into equal 110° patterns, one directed 10° forward and the other 50° rearward. In most sizes of the TDAT, the droplet size remains Coarse up to about 100 psi. The next size smaller pattern orifice, with the same Venturi, may be used to provide a Medium droplet spectrum.

With single flat fan nozzles, the force from the travel speed of the sprayer deflects the downward oriented droplets forward in the driving direction. Coverage on the backside of the plant is minimized. The 50° rearward spray of the TDAT is designed to overcome this effect and improve backside coverage. The 10° forward spray will provide a combination of penetration and front side coverage. To maximize coverage, TDAT nozzles may be alternated on the boom to provide four angles of spray orientation into the canopy, effectively spraying the target four times in one pass.

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING															
				5	6	7	8	9	10	12	14	16	18				
		Droplet	Droplet	PSI	GPM	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH
TDCFFC11001	TDAT01	VC	VC	40	0.10	5.9	5.0	4.2	3.7	3.3	3.0	2.5	2.1	1.9	1.7		
		VC	VC	50	0.11	6.6	5.5	4.7	4.2	3.7	3.3	2.8	2.4	2.1	1.8		
		C	C	60	0.12	7.3	6.1	5.2	4.5	4.0	3.6	3.0	2.6	2.3	2.0		
		C	C	70	0.13	7.9	6.5	5.6	4.9	4.4	3.9	3.3	2.8	2.5	2.2		
		C	C	80	0.14	8.4	7.0	6.0	5.3	4.7	4.2	3.5	3.0	2.6	2.3		
		M	M	90	0.15	8.9	7.4	6.4	5.6	5.0	4.5	3.7	3.2	2.8	2.5		
		M	M	110	0.17	9.9	8.2	7.0	6.2	5.5	4.9	4.1	3.5	3.1	2.7		
		M	F	130	0.18	10.7	8.9	7.6	6.7	5.9	5.4	4.5	3.8	3.3	3.0		
		M	F	150	0.19	11.5	9.6	8.2	7.2	6.4	5.8	4.8	4.1	3.6	3.2		
		M	XC	40	0.15	8.9	7.4	6.4	5.6	5.0	4.5	3.7	3.2	2.8	2.5		
TDCFFC110015	TDAT015	M	VC	50	0.17	10.0	8.3	7.1	6.2	5.5	5.0	4.2	3.6	3.1	2.8		
		M	VC	60	0.18	10.9	9.1	7.8	6.8	6.1	5.5	4.5	3.9	3.4	3.0		
		M	C	70	0.20	11.8	9.8	8.4	7.4	6.5	5.9	4.9	4.2	3.7	3.3		
		M	C	80	0.21	12.6	10.5	9.0	7.9	7.0	6.3	5.3	4.5	3.9	3.5		
		M	C	90	0.23	13.4	11.1	9.5	8.4	7.4	6.7	5.6	4.8	4.2	3.7		
		F	M	110	0.25	14.8	12.3	10.6	9.2	8.2	7.4	6.2	5.3	4.6	4.1		
		F	M	130	0.27	16.1	13.4	11.5	10.0	8.9	8.0	6.7	5.7	5.0	4.5		
		F	M	150	0.29	17.3	14.4	12.3	10.8	9.6	8.6	7.2	6.2	5.4	4.8		
		XC	VC	40	0.20	11.9	9.9	8.5	7.4	6.6	5.9	5.0	4.2	3.7	3.3		
		VC	VC	50	0.22	13.3	11.1	9.5	8.3	7.4	6.6	5.5	4.7	4.2	3.7		
TDCFFC11002	TDAT02	VC	VC	60	0.24	14.5	12.1	10.4	9.1	8.1	7.3	6.1	5.2	4.5	4.0		
		VC	C	70	0.26	15.7	13.1	11.2	9.8	8.7	7.9	6.5	5.6	4.9	4.4		
		C	C	80	0.28	16.8	14.0	12.0	10.5	9.3	8.4	7.0	6.0	5.3	4.7		
		C	C	90	0.30	17.8	14.9	12.7	11.1	9.9	8.9	7.4	6.4	5.6	5.0		
		C	M	110	0.33	19.7	16.4	14.1	12.3	10.9	9.9	8.2	7.0	6.2	5.5		
		M	M	130	0.36	21.4	17.8	15.3	13.4	11.9	10.7	8.9	7.6	6.7	5.9		
		M	F	150	0.39	23.0	19.2	16.4	14.4	12.8	11.5	9.6	8.2	7.2	6.4		
		XC	VC	40	0.25	14.9	12.4	10.6	9.3	8.3	7.4	6.2	5.3	4.6	4.1		
		VC	VC	50	0.28	16.6	13.8	11.9	10.4	9.2	8.3	6.9	5.9	5.2	4.6		
		VC	C	60	0.31	18.2	15.2	13.0	11.4	10.1	9.1	7.6	6.5	5.7	5.1		
TDCFFC110025	TDAT025	VC	C	70	0.33	19.6	16.4	14.0	12.3	10.9	9.8	8.2	7.0	6.1	5.5		
		C	C	80	0.35	21.0	17.5	15.0	13.1	11.7	10.5	8.8	7.5	6.6	5.8		
		C	C	90	0.38	22.3	18.6	15.9	13.9	12.4	11.1	9.3	8.0	7.0	6.2		
		C	M	110	0.41	24.6	20.5	17.6	15.4	13.7	12.3	10.3	8.8	7.7	6.8		
		M	M	130	0.45	26.8	22.3	19.1	16.7	14.9	13.4	11.2	9.6	8.4	7.4		
		M	F	150	0.48	28.8	24.0	20.5	18.0	16.0	14.4	12.0	10.3	9.0	8.0		
		VC	VC	40	0.30	17.8	14.9	12.7	11.1	9.9	8.9	7.4	6.4	5.6	5.0		
		C	VC	50	0.34	19.9	16.6	14.2	12.5	11.1	10.0	8.3	7.1	6.2	5.5		
		C	C	60	0.37	21.8	18.2	15.6	13.6	12.1	10.9	9.1	7.8	6.8	6.1		
		C	C	70	0.40	23.6	19.6	16.8	14.7	13.1	11.8	9.8	8.4	7.4	6.5		
TDCFFC11003	TDAT03	C	C	80	0.42	25.2	21.0	18.0	15.8	14.0	12.6	10.5	9.0	7.9	7.0		
		M	C	90	0.45	26.7	22.3	19.1	16.7	14.9	13.4	11.1	9.5	8.4	7.4		
		M	M	110	0.50	29.6	24.6	21.1	18.5	16.4	14.8	12.3	10.6	9.2	8.2		
		M	M	130	0.54	32.1	26.8	22.9	20.1	17.8	16.1	13.4	11.5	10.0	8.9		
		M	F	150	0.58	34.5	28.8	24.6	21.6	19.2	17.3	14.4	12.3	10.8	9.6		
		XC	VC	40	0.40	23.8	19.8	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6		
		VC	VC	50	0.45	26.6	22.1	19.0	16.6	14.8	13.3	11.1	9.5	8.3	7.4		
		VC	C	60	0.49	29.1	24.2	20.8	18.2	16.2	14.5	12.1	10.4	9.1	8.1		
		C	C	70	0.53	31.4	26.2	22.5	19.6	17.5	15.7	13.1	11.2	9.8	8.7		
		C	C	80	0.57	33.6	28.0	24.0	21.0	18.7	16.8	14.0	12.0	10.5	9.3		
TDCFFC11004	TDAT04	C	C	90	0.60	35.6	29.7	25.5	22.3	19.8	17.8	14.9	12.7	11.1	9.9		
		M	M	110	0.66	39.4	32.8	28.1	24.6	21.9	19.7	16.4	14.1	12.3	10.9		
		M	M	130	0.72	42.8	35.7	30.6	26.8	23.8	21.4	17.8	15.3	13.4	11.9		
		M	M	150	0.77	46.0	38.3	32.9	28.8	25.6	23.0	19.2	16.4	14.4	12.8		
		XC	VC	40	0.50	29.7	24.8	21.2	18.6	16.5	14.9	12.4	10.6	9.3	8.3		
		VC	VC	50	0.56	33.2	27.7	23.7	20.8	18.4	16.6	13.8	11.9	10.4	9.2		
		VC	VC	60	0.61	36.4	30.3	26.0	22.7	20.2	18.2	15.2	13.0	11.4	10.1		
		C	C	70	0.66	39.3	32.7	28.1	24.6	21.8	19.6	16.4	14.0	12.3	10.9		
		C	C	80	0.71	42.0	35.0	30.0	26.3	23.3	21.0	17.5	15.0	13.1	11.7		
		C	C	90	0.75	44.6	37.1	31.8	27.8	24.8	22.3	18.6	15.9	13.9	12.4		
TDCFFC11005	TDAT05	C	M	110	0.83	49.3	41.0	35.2	30.8	27.4	24.6	20.5	17.6	15.4	13.7		
		C	M	130	0.90	53.5	44.6	38.2	33.5	29.7	26.8	22.3	19.1	16.7	14.9		
		M	M	150	0.97	57.5	47.9	41.1	35.9	32.0	28.8	24.0	20.5	18.0	16.0		
		XC	VC	40	0.60	35.6	29.7	25.5	22.3	19.8	17.8	14.9	12.7	11.1	9.9		
		VC	VC	50	0.67	39.8	33.2	28.5	24.9	22.1	19.9	16.6	14.2	12.5	11.1		
		VC	VC	60	0.73	43.6	36.4	31.2	27.3	24.2	21.8	18.2	15.6	13.6	12.1		
		VC	VC	70	0.79	47.1	39.3	33.7	29.5	26.2	23.6	19.6	16.8	14.7	13.1		
		C	C	80	0.85	50.4	42.0	36.0	31.5	28.0	25.2	21.0	18.0	15.8	14.0		
		C	C	90	0.90	53.5	44.6	38.2	33.4	29.7	26.7	22.3	19.1	16.7	14.9		
		C	C	110	0.99	59.1	49.3	42.2	36.9	32.8	29.6	24.6	21.1	18.5	16.4		
TDCFFC11006	TDAT06	C	M	130	1.08	64.3	53.5	45.9	40.2	35.7	32.1	26.8	22.9	20.1	17.8		
		M	M	150	1.16	69.0	57.5	49.3	43.1	38.3	34.5	28.8	24.6	21.6	19.2		
		XC	VC	40	0.80	47.5	39.6	33.9	29.7	26.4	23.8	19.8	17.0	14.9	13.2		
		VC	VC	50	0.89	53.1	44.3	37.9	33.2	29.5	26.6	22.1	19.0	16.6</			

Universal TurboDrop® High Pressure Nozzle and Venturi

The Universal TurboDrop® is similar to the high pressure TurboDrop®, with a different connection type. Rather than quarter turn, quick connect, the UICC and UICCFEC have an adapter screw which allows other caps to be used. The maximum pressure is also much higher, at 400 psi.

The UICC and UICCFEC have been used on air blast orchard and vineyard sprayers (with and without air assist), as well as on high pressure fruit and vegetable sprayers to improve canopy penetration and coverage. They have also been used in car/truck wash applications to improve contact time with soaps and other cleaning chemicals. A variety of pattern tips may be used with the UICC.

Pressure Range: 40-400 psi

Materials of Construction: Polyacetal, ceramic, brass, EPDM

Universal TurboDrop®
Ceramic Flat Fan



UICCFEC11001
UICCFEC110015
UICCFEC11002
UICCFEC110025
UICCFEC11003
UICCFEC11004
UICCFEC11005
UICCFEC11006
UICCFEC11008
UICCFEC11010

Universal Venturi Ceramic	Pattern Tip			GPM															
	Hollow Poly	Cone Ceramic	Flat Fan APE	40 psi	100 psi	150 psi	180 psi	190 psi	200 psi	220 psi	240 psi	260 psi	280 psi	300 psi	350 psi	400 psi			
UICC01 (orange)	QHC023 (blue)	ATR Red	Red .310	0.10	0.16	0.19	0.21	0.22	0.22	0.23	0.24	0.25	0.26	0.27	0.30	0.32			
UICC015 (green)	QHC023 (blue)	ATR Green	Red .310	0.15	0.24	0.29	0.32	0.33	0.34	0.35	0.37	0.38	0.40	0.41	0.44	0.47			
UICC02 (yellow)	QHC045 (yellow)	ATR Blue	Green .436	0.20	0.32	0.39	0.42	0.44	0.45	0.47	0.49	0.51	0.53	0.55	0.59	0.63			
UICC025 (purple)	QHC045 (yellow)	Disc-core	Blue .613	0.25	0.40	0.48	0.53	0.54	0.56	0.59	0.61	0.64	0.66	0.68	0.74	0.79			
UICC03 (blue)	QHC068 (green)	Disc-core	Blue .613	0.30	0.47	0.58	0.64	0.65	0.67	0.70	0.73	0.76	0.79	0.82	0.89	0.95			
UICC04 (red)	QHC068 (green)	Disc-core	Gray .866	0.40	0.63	0.77	0.85	0.87	0.89	0.94	0.98	1.02	1.06	1.10	1.18	1.26			
UICC05 (brown)		Disc-core	White 1.23	0.50	0.79	0.97	1.06	1.09	1.12	1.17	1.22	1.27	1.32	1.37	1.48	1.58			
UICC06 (gray)		Disc-core	Ivory 1.75	0.60	0.95	1.16	1.27	1.31	1.34	1.41	1.47	1.53	1.59	1.64	1.77	1.90			
UICC08 (white)		Disc-core	Black 2.46	0.80	1.26	1.55	1.70	1.74	1.79	1.88	1.96	2.04	2.12	2.19	2.37	2.53			
UICC10 (black)		Disc-core	Black 2.46	1.00	1.58	1.94	2.12	2.18	2.24	2.35	2.45	2.55	2.65	2.74	2.96	3.16			

Universal TurboDrop®
Venturi



UICC01
UICC015
UICC02
UICC025
UICC03
UICC04
UICC05
UICC06
UICC08
UICC10



The Universal TurboDrop® Venturi may be combined with hollow cone (or disc and core) or flat fan tips for use on high pressure orchard, vineyard and vegetable sprayers. The ceramic orifice in the Universal Venturi controls the flow rate; the tip controls the pattern. When using disc and core combinations, always test configuration to ensure desired performance.

TurboDrop® Variable Rate and TurboDrop® Variable Rate DualFan Nozzles

Each TurboDrop® Variable Rate nozzle will cover the range of two to three standard TurboDrop® nozzle sizes. The flow rate increases more rapidly with an increase in pressure, making Variable Rate nozzles useful in covering wider speed ranges or providing on-the-go variable rate application. The wider flow rate range provided by the TurboDrop® Variable rate technology can be an option for those wanting more flexibility than conventionally sized nozzles without the complexities of a broadcast PWM system. As with all ag spray nozzles, it is important to match droplet size to the application type.

The DualFan Variable Rate will provide a smaller droplet size spectrum compared to the single fan version, as well as deliver dual spray coverage. To maximize coverage with the TWVR nozzles, alternate them on the boom to deliver four angles of spray orientation to the target.

- Three times flow rate at constant speed (variable rate applications)
- Three times speed range at constant GPA rate (variable speed applications)
- Flow tolerance: ± 5%
- Flow control (vs. pressure control) systems will be more accurate

"I use it for all my post emerge spraying, that's 80% of my yearly work. One nozzle not only replaced 4 others, but it also replaced my old twin fans I used for fungicides/insecticides. That's 5 nozzles with the potential of more."

-Jason West, custom applicator in Springfield, ON; using TurboDrop Variable Rate DualFan nozzles (TWVR03).

Pressure Range: 40-140 psi **Recommended Boom Height TDVR:** 18-36" **TWVR:** 15-25"(on 20" centers)
Materials of Construction: Polyacetal, EPDM, stainless steel



		GALLONS PER ACRE BASED ON 15" NOZZLE SPACING																			
		TDVR	TWVR	PSI	GPM	4	5	6	8	10	11	12	13	14	15	16	17	18	19	20	
		XC	VC	40	0.17	16.8	13.5	11.2	8.4	6.7	6.1	5.6	5.2	4.8	4.5	4.2	4.0	3.7	3.5	3.4	
		VC	VC	50	0.22	21.8	17.4	14.5	10.9	8.7	7.9	7.3	6.7	6.2	5.8	5.4	5.1	4.8	4.6	4.4	
		VC	C	60	0.27	26.7	21.4	17.8	13.4	10.7	9.7	8.9	8.2	7.6	7.1	6.7	6.3	5.9	5.6	5.3	
		C	C	70	0.33	32.7	26.1	21.8	16.3	13.1	11.9	10.9	10.1	9.3	8.7	8.2	7.7	7.3	6.9	6.5	
		M	M	80	0.38	37.6	30.1	25.1	18.8	15.0	13.7	12.5	11.6	10.7	10.0	9.4	8.9	8.4	7.9	7.5	
		M	M	90	0.42	41.6	33.3	27.7	20.8	16.6	15.1	13.9	12.8	11.9	11.1	10.4	9.8	9.2	8.8	8.3	
		M	F	100	0.45	44.6	35.6	29.7	22.3	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9	
		F	F	120	0.50	49.5	39.6	33.0	24.8	19.8	18.0	16.5	15.2	14.1	13.2	12.4	11.6	11.0	10.4	9.9	
		F	F	140	0.54	53.5	42.8	35.6	26.7	21.4	19.4	17.8	16.4	15.3	14.3	13.4	12.6	11.9	11.3	10.7	
				XC	VC	40	0.22	21.8	17.4	14.5	10.9	8.7	7.9	7.3	6.7	6.2	5.8	5.4	5.1	4.8	4.6
XC	VC			50	0.29	28.7	23.0	19.1	14.4	11.5	10.4	9.6	8.8	8.2	7.7	7.2	6.8	6.4	6.0	5.7	
VC	C			60	0.42	41.6	33.3	27.7	20.8	16.6	15.1	13.9	12.8	11.9	11.1	10.4	9.8	9.2	8.8	8.3	
C	C			70	0.51	50.5	40.4	33.7	25.2	20.2	18.4	16.8	15.5	14.4	13.5	12.6	11.9	11.2	10.6	10.1	
C	M			80	0.58	57.4	45.9	38.3	28.7	23.0	20.9	19.1	17.7	16.4	15.3	14.4	13.5	12.8	12.1	11.5	
M	M			90	0.64	63.4	50.7	42.2	31.7	25.3	23.0	21.1	19.5	18.1	16.9	15.8	14.9	14.1	13.3	12.7	
M	F			100	0.69	68.3	54.6	45.5	34.2	27.3	24.8	22.8	21.0	19.5	18.2	17.1	16.1	15.2	14.4	13.7	
M	F			120	0.75	74.3	59.4	49.5	37.1	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	15.6	14.9	
F	F			140	0.82	81.2	64.9	54.1	40.6	32.5	29.5	27.1	25.0	23.2	21.6	20.3	19.1	18.0	17.1	16.2	
				XC	VC	40	0.33	32.7	26.1	21.8	16.3	13.1	11.9	10.9	10.1	9.3	8.7	8.2	7.7	7.3	6.9
		XC	VC	50	0.41	40.6	32.5	27.1	20.3	16.2	14.8	13.5	12.5	11.6	10.8	10.1	9.6	9.0	8.5	8.1	
		VC	C	60	0.51	50.5	40.4	33.7	25.2	20.2	18.4	16.8	15.5	14.4	13.5	12.6	11.9	11.2	10.6	10.1	
		VC	C	70	0.67	66.3	53.1	44.2	33.2	26.5	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.7	14.0	13.3	
		C	M	80	0.80	79.2	63.4	52.8	39.6	31.7	28.8	26.4	24.4	22.6	21.1	19.8	18.6	17.6	16.7	15.8	
		C	M	90	0.87	86.1	68.9	57.4	43.1	34.5	31.3	28.7	26.5	24.6	23.0	21.5	20.3	19.1	18.1	17.2	
		M	F	100	0.93	92.1	73.7	61.4	46.0	36.8	33.5	30.7	28.3	26.3	24.6	23.0	21.7	20.5	19.4	18.4	
		M	F	120	1.02	101.0	80.8	67.3	50.5	40.4	36.7	33.7	31.1	28.9	26.9	25.2	23.8	22.4	21.3	20.2	
		M	F	140	1.10	108.9	87.1	72.6	54.5	43.6	39.6	36.3	33.5	31.1	29.0	27.2	25.6	24.2	22.9	21.8	

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																		
		TDVR	TWVR	PSI	GPM	4	5	6	8	10	11	12	13	14	15	16	17	18	19	20
TDVR015	TWVR015	XC	VC	40	0.17	12.6	10.1	8.4	6.3	5.0	4.6	4.2	3.9	3.6	3.4	3.2	3.0	2.8	2.7	2.5
		VC	VC	50	0.22	16.3	13.1	10.9	8.2	6.5	5.9	5.4	5.0	4.7	4.4	4.1	3.8	3.6	3.4	3.3
		VC	C	60	0.27	20.0	16.0	13.4	10.0	8.0	7.3	6.7	6.2	5.7	5.3	5.0	4.7	4.5	4.2	4.0
		C	C	70	0.33	24.5	19.6	16.3	12.3	9.8	8.9	8.2	7.5	7.0	6.5	6.1	5.8	5.4	5.2	4.9
		M	M	80	0.38	28.2	22.6	18.8	14.1	11.3	10.3	9.4	8.7	8.1	7.5	7.1	6.6	6.3	5.9	5.6
		M	M	90	0.42	31.2	24.9	20.8	15.6	12.5	11.3	10.4	9.6	8.9	8.3	7.8	7.3	6.9	6.6	6.2
		M	F	100	0.45	33.4	26.7	22.3	16.7	13.4	12.2	11.1	10.3	9.5	8.9	8.4	7.9	7.4	7.0	6.7
		F	F	120	0.50	37.1	29.7	24.8	18.6	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.8	7.4
		F	F	140	0.54	40.1	32.1	26.7	20.0	16.0	14.6	13.4	12.3	11.5	10.7	10.0	9.4	8.9	8.4	8.0
				40	0.22	16.3	13.1	10.9	8.2	6.5	5.9	5.4	5.0	4.7	4.4	4.1	3.8	3.6	3.4	3.3
TDVR02	TWVR02	XC	VC	50	0.29	21.5	17.2	14.4	10.8	8.6	7.8	7.2	6.6	6.2	5.7	5.4	5.1	4.8	4.5	4.3
		VC	C	60	0.42	31.2	24.9	20.8	15.6	12.5	11.3	10.4	9.6	8.9	8.3	7.8	7.3	6.9	6.6	6.2
		C	C	70	0.51	37.9	30.3	25.2	18.9	15.1	13.8	12.6	11.7	10.8	10.1	9.5	8.9	8.4	8.0	7.6
		C	M	80	0.58	43.1	34.5	28.7	21.5	17.2	15.7	14.4	13.3	12.3	11.5	10.8	10.1	9.6	9.1	8.6
		M	M	90	0.64	47.5	38.0	31.7	23.8	19.0	17.3	15.8	14.6	13.6	12.7	11.9	11.2	10.6	10.0	9.5
		M	F	100	0.69	51.2	41.0	34.2	25.6	20.5	18.6	17.1	15.8	14.6	13.7	12.8	12.1	11.4	10.8	10.2
		M	F	120	0.75	55.7	44.6	37.1	27.8	22.3	20.3	18.6	17.1	15.9	14.9	13.9	13.1	12.4	11.7	11.1
		F	F	140	0.82	60.9	48.7	40.6	30.4	24.4	22.1	20.3	18.7	17.4	16.2	15.2	14.3	13.5	12.8	12.2
				40	0.33	24.5	19.6	16.3	12.3	9.8	8.9	8.2	7.5	7.0	6.5	6.1	5.8	5.4	5.2	4.9
		XC	VC	50	0.41	30.4	24.4	20.3	15.2	12.2	11.1	10.1	9.4	8.7	8.1	7.6	7.2	6.8	6.4	6.1
TDVR03	TWVR03	VC	C	60	0.51	37.9	30.3	25.2	18.9	15.1	13.8	12.6	11.7	10.8	10.1	9.5	8.9	8.4	8.0	7.6
		VC	C	70	0.67	49.7	39.8	33.2	24.9	19.9	18.1	16.6	15.3	14.2	13.3	12.4	11.7	11.1	10.5	9.9
		C	M	80	0.80	59.4	47.5	39.6	29.7	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9
		C	M	90	0.87	64.6	51.7	43.1	32.3	25.8	23.5	21.5	19.9	18.5	17.2	16.1	15.2	14.4	13.6	12.9
		M	F	100	0.93	69.1	55.2	46.0	34.5	27.6	25.1	23.0	21.2	19.7	18.4	17.3	16.2	15.3	14.5	13.8
		M	F	120	1.02	75.7	60.6	50.5	37.9	30.3	27.5	25.2	23.3	21.6	20.2	18.9	17.8	16.8	15.9	15.1
		M	F	140	1.10	81.7	65.3	54.5	40.8	32.7	29.7	27.2	25.1	23.3	21.8	20.4	19.2	18.2	17.2	16.3
				40	0.33	24.5	19.6	16.3	12.3	9.8	8.9	8.2	7.5	7.0	6.5	6.1	5.8	5.4	5.2	4.9
		XC	VC	50	0.41	30.4	24.4	20.3	15.2	12.2	11.1	10.1	9.4	8.7	8.1	7.6	7.2	6.8	6.4	6.1

TurboDrop® Variable Rate Fertilizer Nozzles

The TurboDrop® Variable Rate fertilizer nozzle is designed to apply liquid fertilizer at a four to five times flow rate range to allow for varying fertilizer requirements of the target crop. It is available in a six hole streaming version (TDVRF) for use on standard sprayers, and a hose barb version (TDVRHB) for tool bars, nitrogen applicators and other dedicated fertilizer rigs.

The TurboDrop® Variable Rate may be operated from 10-140 psi, allowing up to a five times rate change at a given speed. Additionally, the TDVRF and TDVRHB can maintain a constant gpa rate over a five times speed change.

The TDVRF utilizes a six hole streaming tip in order to minimize potential leaf burn while maximizing fertilizer distribution, maintaining uniformity with varying spray heights. The TDVRHB utilizes a 3/8" hose barb for ease of installation on fertilizer rigs, and acts as a variable-flow metering orifice. Check valve design keeps flow accuracy to $\pm 5\%$ in all versions.

The TDVRF and TDVRHB are "airless," providing a wider operating range, and eliminating the possibility of fertilizer spitting from the side. The TDVRC nozzle body is available as a stand alone product that can be integrated into custom fertilizer systems.

Pressure Range: 10-140 psi **Materials of Construction:** Polyacetal, EPDM, stainless steel

TurboDrop® Variable Rate
Fertilizer



TDVRF015
TDVRF02
TDVRF03
TDVRF05

TurboDrop® Variable Rate
Fertilizer Hose Barb



TDVRHB015
TDVRHB02
TDVRHB03
TDVRHB05

TurboDrop® Variable Rate
Fertilizer Nozzle Body



TDVRC015
TDVRC02
TDVRC03
TDVRC05

	PSI	GPM	3 MPH	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	16 MPH	18 MPH	20 MPH
TDVRF015 TDVRHB015 TDVRC015	10	0.12	8.1	6.1	4.9	4.1	3.5	3.0	2.7	2.4	2.2	2.0	1.9	1.7	1.5	1.4	1.2
	20	0.17	11.5	8.6	6.9	5.7	4.9	4.3	3.8	3.4	3.1	2.9	2.7	2.5	2.2	1.9	1.7
	30	0.27	17.6	13.2	10.5	8.8	7.5	6.6	5.9	5.3	4.8	4.4	4.1	3.8	3.3	2.9	2.6
	40	0.35	23.1	17.3	13.9	11.6	9.9	8.7	7.7	6.9	6.3	5.8	5.3	5.0	4.3	3.9	3.5
	50	0.39	25.8	19.4	15.5	12.9	11.1	9.7	8.6	7.7	7.0	6.5	6.0	5.5	4.8	4.3	3.9
	60	0.44	29.2	21.9	17.5	14.6	12.5	11.0	9.7	8.8	8.0	7.3	6.7	6.3	5.5	4.9	4.4
	70	0.48	31.9	23.9	19.1	15.9	13.7	12.0	10.6	9.6	8.7	8.0	7.4	6.8	6.0	5.3	4.8
	80	0.52	34.1	25.5	20.4	17.0	14.6	12.8	11.4	10.2	9.3	8.5	7.9	7.3	6.4	5.7	5.1
	100	0.57	37.4	28.0	22.4	18.7	16.0	14.0	12.5	11.2	10.2	9.3	8.6	8.0	7.0	6.2	5.6
	120	0.62	40.9	30.7	24.6	20.5	17.5	15.3	13.6	12.3	11.2	10.2	9.4	8.8	7.7	6.8	6.1
	140	0.67	44.2	33.2	26.5	22.1	19.0	16.6	14.7	13.3	12.1	11.1	10.2	9.5	8.3	7.4	6.6
TDVRF02 TDVRHB02 TDVRC02	10	0.18	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	3.2	3.0	2.7	2.5	2.2	2.0	1.8
	20	0.25	16.6	12.4	9.9	8.3	7.1	6.2	5.5	5.0	4.5	4.1	3.8	3.5	3.1	2.8	2.5
	30	0.38	25.3	19.0	15.2	12.7	10.9	9.5	8.4	7.6	6.9	6.3	5.8	5.4	4.8	4.2	3.8
	40	0.51	33.8	25.3	20.3	16.9	14.5	12.7	11.3	10.1	9.2	8.4	7.8	7.2	6.3	5.6	5.1
	50	0.58	38.0	28.5	22.8	19.0	16.3	14.2	12.7	11.4	10.4	9.5	8.8	8.1	7.1	6.3	5.7
	60	0.65	43.1	32.3	25.9	21.5	18.5	16.2	14.4	12.9	11.8	10.8	9.9	9.2	8.1	7.2	6.5
	70	0.70	45.9	34.5	27.6	23.0	19.7	17.2	15.3	13.8	12.5	11.5	10.6	9.8	8.6	7.7	6.9
	80	0.74	49.1	36.8	29.5	24.6	21.0	18.4	16.4	14.7	13.4	12.3	11.3	10.5	9.2	8.2	7.4
	100	0.82	54.2	40.6	32.5	27.1	23.2	20.3	18.1	16.3	14.8	13.5	12.5	11.6	10.2	9.0	8.1
	120	0.90	59.4	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.1	9.9	8.9
	140	0.97	64.2	48.1	38.5	32.1	27.5	24.1	21.4	19.2	17.5	16.0	14.8	13.7	12.0	10.7	9.6
TDVRF03 TDVRHB03 TDVRC03	10	0.23	15.2	11.4	9.1	7.6	6.5	5.7	5.1	4.6	4.1	3.8	3.5	3.3	2.8	2.5	2.3
	20	0.33	21.5	16.1	12.9	10.8	9.2	8.1	7.2	6.5	5.9	5.4	5.0	4.6	4.0	3.6	3.2
	30	0.49	32.5	24.4	19.5	16.2	13.9	12.2	10.8	9.7	8.9	8.1	7.5	7.0	6.1	5.4	4.9
	40	0.66	43.6	32.7	26.2	21.8	18.7	16.4	14.5	13.1	11.9	10.9	10.1	9.3	8.2	7.3	6.5
	50	0.74	48.8	36.6	29.3	24.4	20.9	18.3	16.3	14.6	13.3	12.2	11.3	10.5	9.1	8.1	7.3
	60	0.83	54.5	40.8	32.7	27.2	23.3	20.4	18.2	16.3	14.9	13.6	12.6	11.7	10.2	9.1	8.2
	70	0.89	58.4	43.8	35.0	29.2	25.0	21.9	19.5	17.5	15.9	14.6	13.5	12.5	11.0	9.7	8.8
	80	0.94	62.2	46.7	37.3	31.1	26.7	23.3	20.7	18.7	17.0	15.6	14.4	13.3	11.7	10.4	9.3
	100	1.05	69.6	52.2	41.7	34.8	29.8	26.1	23.2	20.9	19.0	17.4	16.1	14.9	13.0	11.6	10.4
	120	1.15	76.2	57.1	45.7	38.1	32.6	28.6	25.4	22.8	20.8	19.0	17.6	16.3	14.3	12.7	11.4
	140	1.25	82.3	61.7	49.4	41.2	35.3	30.9	27.4	24.7	22.4	20.6	19.0	17.6	15.4	13.7	12.3
TDVRF05 TDVRHB05 TDVRC05	10	0.45	30.0	22.5	18.0	15.0	12.8	11.2	10.0	9.0	8.2	7.5	6.9	6.4	5.6	5.0	4.5
	20	0.64	42.4	31.8	25.4	21.2	18.2	15.9	14.1	12.7	11.6	10.6	9.8	9.1	7.9	7.1	6.4
	30	0.76	50.0	37.5	30.0	25.0	21.4	18.8	16.7	15.0	13.6	12.5	11.5	10.7	9.4	8.3	7.5
	40	0.93	61.4	46.0	36.8	30.7	26.3	23.0	20.5	18.4	16.7	15.3	14.2	13.2	11.5	10.2	9.2
	50	1.04	68.6	51.4	41.1	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	12.9	11.4	10.3
	60	1.09	72.0	54.0	43.2	36.0	30.9	27.0	24.0	21.6	19.6	18.0	16.6	15.4	13.5	12.0	10.8
	70	1.27	83.8	62.8	50.3	41.9	35.9	31.4	27.9	25.1	22.8	20.9	19.3	17.9	15.7	14.0	12.6
	80	1.37	90.3	67.7	54.2	45.1	38.7	33.9	30.1	27.1	24.6	22.6	20.8	19.3	16.9	15.0	13.5
	100	1.53	101.0	75.7	60.6	50.5	43.3	37.9	33.7	30.3	27.5	25.2	23.3	21.6	18.9	16.8	15.1
	120	1.68	110.6	83.0	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	20.7	18.4	16.6
	140	1.81	119.5	89.6	71.7	59.7	51.2	44.8	39.8	35.8	32.6	29.9	27.6	25.6	22.4	19.9	17.9



TDVRF02 at 30 psi



TDVRF02 at 60 psi



TDVRF02 at 90 psi



TDVRF02 at 120 psi

Blended Pulse™ and Blended Pulse™ DualFan Nozzles for PWM Systems

The Blended Pulse™ nozzle is a purpose built non-air injected nozzle for Pulse Width Modulation systems, providing consistent spray patterns and flow rates. This design produces the most effective droplet spectrum of Medium to Coarse to Very Coarse (depending on the nozzle size and pressure), making these nozzles truly general purpose. Lower pressures will be better for burndown applications where drift control is important, and slightly higher pressures will be best for coverage critical applications like contact herbicides, fungicides and insecticides. The dual patterns of the Blended Pulse™ DualFan eliminate any concern about missing the target due to the nozzles being off for a fraction of a second (even at higher speeds). To maximize coverage, BPDF nozzles may be alternated on the boom to provide four angles of spray orientation into the canopy, effectively spraying the target four times in one pass. We recommend keeping the duty cycle between 50 and 100%, and the pressure between 20 and 80 psi, depending on the application.

Pressure Range: 20-80 psi **Recommended Boom Height BP:** 18-36" **BPDF:** 15-25" (with 20" nozzle spacing)

Materials of Construction: Polyacetal, EPDM

Blended Pulse™
Nozzle for PWM



BP11003
BP11004
BP11005
BP11006

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																			
	Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH	
	VC	20	0.21	15.8	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.3	3.2	
	VC	30	0.26	19.3	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	4.1	3.9	
	C	40	0.30	22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.7	4.5	
	C	50	0.34	24.9	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.2	5.0	
	M	60	0.37	27.3	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.7	5.5	
	M	70	0.40	29.5	23.6	19.6	16.8	14.7	13.1	11.8	10.7	9.8	9.1	8.4	7.9	7.4	6.9	6.5	6.2	5.9	
	M	80	0.42	31.5	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.3	
	VC	20	0.28	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.4	4.2	
	VC	30	0.35	25.7	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.4	5.1	
	C	40	0.40	29.7	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	6.3	5.9	
	C	50	0.45	33.2	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	7.0	6.6	
	M	60	0.49	36.4	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.7	7.3	
	M	70	0.53	39.3	31.4	26.2	22.5	19.6	17.5	15.7	14.3	13.1	12.1	11.2	10.5	9.8	9.2	8.7	8.3	7.9	
	M	80	0.57	42.0	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.8	8.4	
	VC	20	0.35	26.3	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.5	5.3	
	VC	30	0.43	32.2	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.8	6.4	
	C	40	0.50	37.1	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.8	7.4	
	C	50	0.56	41.5	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.7	8.3	
	M	60	0.61	45.5	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.6	9.1	
	M	70	0.66	49.1	39.3	32.7	28.1	24.6	21.8	19.6	17.9	16.4	15.1	14.0	13.1	12.3	11.6	10.9	10.3	9.8	
	M	80	0.71	52.5	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	11.1	10.5	
	XC	20	0.42	31.5	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.3	
	VC	30	0.52	38.6	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	8.1	7.7	
	C	40	0.60	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9	
	C	50	0.67	49.8	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.5	10.0	
	M	60	0.73	54.6	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	11.5	10.9	
	M	70	0.79	58.9	47.1	39.3	33.7	29.5	26.2	23.6	21.4	19.6	18.1	16.8	15.7	14.7	13.9	13.1	12.4	11.8	
	M	80	0.85	63.0	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	13.3	12.6	

Blended Pulse™ DualFan
Nozzle for PWM



BPDF06
BPDF07
BPDF08
BPDF09
BPDF10
BPDF12

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																			
	Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH	
	VC	20	0.42	31.5	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.3	
	VC	30	0.52	38.6	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	8.1	7.7	
	C	40	0.60	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9	
	C	50	0.67	49.8	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.5	10.0	
	M	60	0.73	54.6	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	11.5	10.9	
	M	70	0.79	58.9	47.1	39.3	33.7	29.5	26.2	23.6	21.4	19.6	18.1	16.8	15.7	14.7	13.9	13.1	12.4	11.8	
	M	80	0.85	63.0	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	13.3	12.6	
	VC	20	0.49	36.8	29.4	24.5	21.0	18.4	16.3	14.7	13.4	12.3	11.3	10.5	9.8	9.2	8.6	8.2	7.7	7.4	
	VC	30	0.61	45.0	36.0	30.0	25.7	22.5	20.0	18.0	16.4	15.0	13.8	12.9	12.0	11.3	10.6	10.0	9.5	9.0	
	C	40	0.70	52.0	41.6	34.7	29.7	26.0	23.1	20.8	18.9	17.3	16.0	14.9	13.9	13.0	12.2	11.6	10.9	10.4	
	C	50	0.78	58.1	46.5	38.7	33.2	29.1	25.8	23.2	21.1	19.4	17.9	16.6	15.5	14.5	13.7	12.9	12.2	11.6	
	M	60	0.86	63.7	50.9	42.4	36.4	31.8	28.3	25.5	23.1	21.2	19.6	18.2	17.0	15.9	15.0	14.1	13.4	12.7	
	M	70	0.93	68.8	55.0	45.8	39.3	34.4	30.6	27.5	25.0	22.9	21.2	19.6	18.3	17.2	16.2	15.3	14.5	13.8	
	M	80	0.99	73.5	58.8	49.0	42.0	36.8	32.7	29.4	26.7	24.5	22.6	21.0	19.6	18.4	17.3	16.3	15.5	14.7	
	VC	20	0.57	42.0	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.8	8.4	
	VC	30	0.69	51.4	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.8	10.3	
	C	40	0.80	59.4	47.5	39.6	33.9	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9	
	C	50	0.89	66.4	53.1	44.3	37.9	33.2	29.5	26.6	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.8	14.0	13.3	
	M	60	0.98	72.7	58.2	48.5	41.6	36.4	32.3	29.1	26.5	24.2	22.4	20.8	19.4	18.2	17.1	16.2	15.3	14.5	
	M	70	1.06	78.6	62.9	52.4	44.9	39.3	34.9	31.4	28.6	26.2	24.2	22.5	21.0	19.6	18.5	17.5	16.5	15.7	
	M	80	1.13	84.0	67.2	56.0	48.0	42.0	37.3	33.6	30.5	28.0	25.8	24.0	22.4	21.0	19.8	18.7	17.7	16.8	
	VC	20	0.64	47.3	37.8	31.5	27.0	23.6	21.0	18.9	17.2	15.8	14.5	13.5	12.6	11.8	11.1	10.5	9.9	9.5	
	VC	30	0.78	57.9	46.3	38.6	33.1	28.9	25.7	23.1	21.0	19.3	17.8	16.5	15.4	14.5	13.6	12.9	12.2	11.6	
	C	40	0.90	66.8	53.5	44.6	38.2	33.4	29.7	26.7	24.3	22.3	20.6	19.1	17.8	16.7	15.7	14.9	14.1	13.4	
	C	50	1.01	74.7	59.8	49.8	42.7	37.4	33.2	29.9	27.2	24.9	23.0	21.3	19.9	18.7	17.6	16.6	15.7	14.9	
	M	60	1.10	81.8	65.5	54.6	46.8	40.9	36.4	32.7	29.8	27.3	25.2	23.4	21.8	20.5	19.3	18.2	17.2	16.4	
	M	70	1.19	88.4	70.7	58.9	50.5	44.2	39.3	35.4	32.1	29.5	27.2	25.3	23.6	22.1	20.8	19.6	18.6	17.7	
	M	80	1.27	94.5	75.6	63.0	54.0	47.3	42.0	37.8	34.4	31.5	29.1	27.0	25.2	23.6	22.2	21.0	19.9	18.9	
	VC	20	0.71	52.5	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	11.1	10.5	
	VC	30	0.87	64.3	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	13.5	12.9	
	C	40	1.00	74.3	59.4	49.5	42.4	37.1	33.0	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	15.6	14.9	
	C	50	1.12	83.0	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	22.1	20.8	19.5	18.4	17.5	16.6	
	M	60	1.22	90.9	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	19.1	18.2	
	M	70	1.32	98.2	78.6	65.5	56.1	49.1	43.7	39.3	35.7	32.7	30.2	28.1	26.2	24.6	23.1	21.8	20.7	19.6	
	M	80	1.41	105.0	84.0	70.0	60.0	52.5	46.7	42.0	38.2	35.0	32.3	30.0	28.0	26.3	24.7	23.3	22.1	21.0	
		XC	20	0.85	63.0	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	13.3	12.6
VC		30	1.04	77.2	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	16.2	15.4	
C		40	1.20	89.1	71.3	59.4	50.9	44.6	39.6	35.6	32.4	29.7	27.4	25.5	23.8	22.3	21.0	19.8	18.8	17.8	
C		50	1.34	99.6	79.7	66.4	56.9	49.8	44.3	39.8	36.2	33.2	30.7	28.5	26.6	24.9	23.4	22.1	21.0	19.9	
M		60	1.47	109.1	87.3	72.7	62.4	54.6	48.5	43.9	39.7	36.4	33.6	31.2	29.1	27.3	25.7	24.2	23.0	21.8	
M		70	1.59	117.9	94.3	78.6	67.4	58.9	52.4	47.1	42.9	39.3	36.3	33.7	31.4	29.5	27.7	26.2	24.8	23.6	
	M	80	1.70	126.0	100.8	84.0	72.0	63.0	56.0	50.4	45.8	42.0	38.8	36.0	33.6	31.5	29.6	28.0	26.5	25.2	

PWM Nozzle Technology Overview

Although Pulse Width Modulation technology has been around for over 20 years, it has recently gained relevance with the increase in weed species that are resistant to plant protection products. Part of the resistance problem stems from not hitting the target with a full dose of active ingredient.

One of the advantages of PWM systems is the instant on/off of the solenoids, allowing the operator to spray right up to the edge of the field. Another advantage of PWM is that pressure is no longer tied to travel speed, as with conventional spray systems, so that pressure can be maintained across the field, and the spray quality (droplet spectrum) is the same at the start, middle and end of the spray job. As the sprayer slows down at the headlands of the field, the system delivers the same rate at the same pressure, with the same spray quality.

Not only do PWM systems have a greater speed range than conventional systems, but they also allow for more refined section control, or even individual nozzle control. This function prevents overlaps in spraying, and can lead to significant chemical savings by preventing over-dosing.

Finally, most PWM systems also include turn compensation as another feature. When the sprayer is turning, the end of the "outer" boom is moving much faster than the sprayer, which would normally result in under-dosing (again, promoting resistance), while the end of the "inner" boom is travelling more slowly and putting out a much higher rate. PWM systems compensate for these speed differences, controlling the solenoids to maintain the correct rate, by keeping the width of the pulse wide enough to deliver the proper flow. For small or irregular fields, turn compensation can provide chemical savings as well as a higher level of accuracy.

As with conventional spraying, choosing the right nozzle is critical with PWM spraying. Air induction nozzles are generally not recommended, because the multiple pulses per second do not allow the air inducing function to work properly. For this reason, Greenleaf Technologies offers different nozzles for PWM spraying, so that the operator can choose the optimal spray quality as well as the best spray pattern for the job.

The Softdrop nozzle is designed to deliver Extremely Coarse to Ultra Coarse droplets for systemic products like glyphosate, dicamba and 2,4-D, where drift control is of the utmost concern. The Blended Pulse™ and Blended Pulse™ DualFan are designed for coverage critical contact chemicals, providing a Medium to Coarse to Very Coarse spray quality. The SprayMax and SprayMax DualFan deliver the smallest droplets, Fine to Medium, and should only be used for insecticides, fungicides and other contact products when conditions allow for this type of spray quality.

The writings of Tom Wolf, Jason Deveau, and Sprayers 101 were used as reference material when developing the information provided above.

Blended Pulse™ is a trademark of and used with permission of Capstan Ag Systems, Inc.



Blended Pulse™ DualFan BPDF06 nozzles field testing on a John Deere ExactApply™ PWM equipped sprayer in Mississippi



SoftDrop SD04 nozzles field testing in Germany



SprayMax DualFan DF20 nozzles running on an Aim Command™ PWM equipped sprayer at a Greenleaf Technologies dealer in Texas

SoftDrop Ultra Coarse Nozzles for PWM Systems

The SoftDrop nozzle is a non-air inducted spray nozzle designed to produce Extremely Coarse and Ultra Coarse droplets for maximum drift control with dicamba, 2,4-D, glyphosate, and other systemic products applied by PWM equipped spray rigs. The SoftDrop is also excellent for liquid fertilizers and mixtures of liquid fertilizers and systemic herbicides. This nozzle can also be used without a PWM system, and will function well as a conventional nozzle that can produce an Extremely Coarse to Ultra Coarse droplet spectrum.

Approved nozzles, pressures, and application rates change often for auxin herbicides. For updates on Greenleaf Technologies approved nozzles, please visit our website. All approved nozzles are listed on the herbicide manufacturer’s label. Be sure to read the application guidelines and know the laws in your state before spraying.

Pressure Range: 20-120 psi **Recommended Boom Height:** 18-36” (with 20” nozzle spacing)
Materials of Construction: Polyacetal, EPDM

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Selecting the right nozzle for PWM: Nozzle Size, Pressure, Frequency, and Duty Cycle

All SprayMax, SprayMax DualFan, SoftDrop, Blended Pulse™, and Blended Pulse™ DualFan Greenleaf Technologies PWM nozzles have been designated for use with PWM systems such as Aim Command™, Capstan Synchro™, Raven Hawkeye™, or John Deere ExactApply™ and other PWM spraying systems.

To size the nozzles, take the desired GPA rate and divide by 0.7, in order to target a 70% duty cycle. For example, if the application rate is 10 GPA, divide this by 0.70 to get 14.3. That will be the GPA to look for on the tabulation chart. If you need assistance with choosing the right nozzle for your application, please call us directly at the number listed below.

SprayMax Asymmetric DualFan Nozzles for PWM Systems

The SprayMax DualFan Nozzle is a non-air injected nozzle that employs conventional flat fan tips in an asymmetric dual cap. The dual tips are oriented 10° forward and 50° rearward to provide a combination of penetration and backside coverage in complex canopies. To maximize coverage, the nozzles may be alternated on the boom to provide four angles of spray orientation into the canopy, effectively spraying the target four times in one pass. This nozzle can also be used without a PWM system, functioning as a conventional nozzle that can produce a Medium to Fine droplet spectrum.

The Medium to Fine droplet spectrum coupled with the asymmetric DualFan spray pattern of the SprayMax DualFan makes it an exceptional nozzle for fungicide, insecticide, and other contact critical broadcast applications.

Pressure Range: 20-80 psi **Recommended Boom Height:** 15-25" (with 20" nozzle spacing)

Materials of Construction: Polyacetal, EPDM

SprayMax DualFan



DF02
DF025
DF03
DF035
DF04
DF045
DF05
DF055
DF06
DF065
DF07
DF075
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DF09
DF10
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DF14
DF16
DF18
DF20
DF25
DF30

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																			
	Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH	
DF025	F	20	0.18	13.1	10.5	8.8	7.5	6.6	5.8	5.3	4.8	4.4	4.0	3.8	3.5	3.3	3.1	2.9	2.8	2.6	
	F	30	0.22	16.1	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.4	3.2	
	F	40	0.25	18.6	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.9	3.7	
	F	50	0.28	20.8	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.4	4.2	
	VF	60	0.31	22.7	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.8	4.5	
DF03	F	20	0.21	15.8	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.3	3.2	
	F	30	0.26	19.3	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	4.1	3.9	
	F	40	0.30	22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.7	4.5	
	F	50	0.34	24.9	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.2	5.0	
	F	60	0.37	27.3	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.7	5.5	
DF04	M	20	0.28	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.4	4.2	
	F	30	0.35	25.7	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.4	5.1	
	F	40	0.40	29.7	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	6.3	5.9	
	F	50	0.45	33.2	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	7.0	6.6	
	F	60	0.49	36.4	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.7	7.3	
DF05	M	20	0.35	26.3	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.5	5.3	
	F	30	0.43	32.2	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.8	6.4	
	F	40	0.50	37.1	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.8	7.4	
	F	50	0.56	41.5	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.7	8.3	
	F	60	0.61	45.5	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.6	9.1	
DF06	M	20	0.42	31.5	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.3	
	M	30	0.52	38.6	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	8.1	7.7	
	F	40	0.60	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9	
	F	50	0.67	49.8	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.5	10.0	
	F	60	0.73	54.6	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	11.5	10.9	
DF07	M	20	0.49	36.8	29.4	24.5	21.0	18.4	16.3	14.7	13.4	12.3	11.3	10.5	9.8	9.2	8.6	8.2	7.7	7.4	
	F	30	0.61	45.0	36.0	30.0	25.7	22.5	20.0	18.0	16.4	15.0	13.8	12.9	12.0	11.3	10.6	10.0	9.5	9.0	
	F	40	0.70	52.0	41.6	34.7	29.7	26.0	23.1	20.8	18.9	17.3	16.0	14.9	13.9	13.0	12.2	11.6	10.9	10.4	
	F	50	0.78	58.1	46.5	38.7	33.2	29.1	25.8	23.2	21.1	19.4	17.9	16.6	15.5	14.5	13.7	12.9	12.2	11.6	
	F	60	0.86	63.7	50.9	42.4	36.4	31.8	28.3	25.5	23.1	21.2	19.6	18.2	17.0	15.9	15.0	14.1	13.4	12.7	
DF08	M	20	0.57	42.0	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.8	8.4	
	M	30	0.69	51.4	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.8	10.3	
	F	40	0.80	59.4	47.5	39.6	33.9	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9	
	F	50	0.89	66.4	53.1	44.3	37.9	33.2	29.5	26.6	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.8	14.0	13.3	
	F	60	0.98	72.7	58.2	48.5	41.6	36.4	32.3	29.1	26.5	24.2	22.4	20.8	19.4	18.2	17.1	16.2	15.3	14.5	
DF09	M	20	0.64	47.3	37.8	31.5	27.0	23.6	21.0	18.9	17.2	15.8	14.5	13.5	12.6	11.8	11.1	10.5	9.9	9.5	
	M	30	0.78	57.9	46.3	38.6	33.1	28.9	25.7	23.1	21.0	19.3	17.8	16.5	15.4	14.5	13.6	12.9	12.2	11.6	
	F	40	0.90	66.8	53.5	44.6	38.2	33.4	29.7	26.7	24.3	22.3	20.6	19.1	17.8	16.7	15.7	14.9	14.1	13.4	
	F	50	1.01	74.7	59.8	49.8	42.7	37.4	33.2	29.9	27.2	24.9	23.0	21.3	19.9	18.7	17.6	16.6	15.7	14.9	
	F	60	1.10	81.8	65.5	54.6	46.8	40.9	36.4	32.7	29.8	27.3	25.2	23.4	21.8	20.5	19.3	18.2	17.2	16.4	
DF10	M	20	0.71	52.5	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	11.1	10.5	
	M	30	0.87	64.3	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	13.5	12.9	
	F	40	1.00	74.3	59.4	49.5	42.4	37.1	33.0	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	15.6	14.9	
	F	50	1.12	83.0	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	22.1	20.8	19.5	18.4	17.5	16.6	
	F	60	1.22	90.9	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	19.1	18.2	
DF12	M	20	0.85	63.0	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	13.3	12.6	
	F	30	1.04	77.2	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	16.2	15.4	
	F	40	1.20	89.1	71.3	59.4	50.9	44.6	39.6	35.6	32.4	29.7	27.4	25.5	23.8	22.3	21.0	19.8	18.8	17.8	
	F	50	1.34	99.6	79.7	66.4	56.9	49.8	44.3	39.8	36.2	33.2	30.7	28.5	26.6	24.9	23.4	22.1	21.0	19.9	
	F	60	1.47	109.1	87.3	72.7	62.4	54.6	48.5	43.6	39.7	36.4	33.6	31.2	29.1	27.3	25.7	24.2	23.0	21.8	
DF14	M	20	0.99	73.5	58.8	49.0	42.0	36.8	32.7	29.4	26.7	24.5	22.6	21.0	19.6	18.4	17.3	16.3	15.5	14.7	
	M	30	1.21	90.0	72.0	60.0	51.4	45.0	40.0	36.0	32.7	30.0	27.7	25.7	24.0	22.5	21.2	20.0	19.0	18.0	
	F	40	1.40	104.0	83.2	69.3	59.4	52.0	46.2	41.6	37.8	34.7	32.0	29.7	27.7	26.0	24.5	23.1	21.9	20.8	
	F	50	1.57	116.2	93.0	77.5	66.4	58.1	51.7	46.5	42.3	38.7	35.8	33.2	31.0	29.1	27.3	25.8	24.5	23.2	
	F	60	1.71	127.3	101.8	84.9	72.7	63.7	56.6	50.9	46.3	42.4	39.2	36.4	33.9	31.8	30.0	28.3	26.8	25.5	
DF16	M	20	1.13	84.0	67.2	56.0	48.0	42.0	37.3	33.6	30.5	28.0	25.8	24.0	22.4	21.0	19.8	18.7	17.7	16.8	
	M	30	1.39	102.9	82.3	68.6	58.8	51.4	45.7	41.2	37.4	34.3	31.7	29.4	27.4	25.7	24.2	22.9	21.7	20.6	
	M	40	1.60	118.8	95.0	79.2	67.9	59.4	52.8	47.5	43.2	39.6	36.6	33.9	31.7	29.7	28.0	26.4	25.0	23.8	
	F	50	1.79	132.8	106.3	88.5	75.9	66.4	59.0	53.1	48.3	44.3	40.9	37.9	35.4	33.2	31.3	29.5	28.0	26.6	
	F	60	1.96	145.5	116.4	97.0	83.1	72.7	64.7	58.2	52.9	48.5	44.8	41.6	38.8	36.4	34.2	32.3	30.6	29.1	
DF18	C	20	1.27	94.5	75.6	63.0	54.0	47.3	42.0	37.8	34.4	31.5									

SprayMax Extended Range Nozzles

SprayMax Extended Range nozzles provide excellent spray distribution across wide pressure range, in an economical design. The TCP version incorporates the tip into the cap for easy handling. 80° and 65° nozzles require higher boom heights.

Pressure Range: 15-60 psi Recommended Boom Height: 15-25" (with 20" nozzle spacing) Materials of Construction: Polyacetal

SprayMax 110°



- TCP11002
- TCP11003
- TCP11004
- TCP11005
- TCP11006
- TCP11008
- TCP11010
- TCP11012
- TCP11016
- TCP11020
- TCP11030

SprayMax 110°



- SMP11001
- SMP11005
- SMP11002
- SMP110025
- SMP11003
- SMP11004
- SMP11005
- SMP11006
- SMP11008
- SMP11010
- SMP11015

SprayMax 80°



- SMP8002
- SMP8003
- SMP8004
- SMP8005
- SMP8006

SprayMax 65°



- SMP6502

* Color changes reflect ISO code updates.

		GALLONS PER ACRE BASED ON 20" NOZZLE SPACING																			
		Droplet	PSI	GPM	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	16 MPH	17 MPH	18 MPH	19 MPH	20 MPH
SMP11001		F	15	0.06	4.5	3.6	3.0	2.6	2.3	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.9
		VF	20	0.07	5.3	4.2	3.5	3.0	2.6	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.1
		VF	30	0.09	6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.4	1.3
		VF	40	0.10	7.4	5.9	5.0	4.2	3.7	3.3	3.0	2.7	2.5	2.3	2.1	2.0	1.9	1.7	1.7	1.6	1.5
		VF	50	0.11	8.3	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.8	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.7
SMP110015		F	15	0.09	6.8	5.5	4.5	3.9	3.4	3.0	2.7	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.4
		VF	20	0.11	7.9	6.3	5.3	4.5	3.9	3.5	3.2	2.9	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6
		VF	30	0.13	9.6	7.7	6.4	5.5	4.8	4.3	3.9	3.5	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9
		VF	40	0.15	11.1	8.9	7.4	6.4	5.6	5.0	4.5	4.1	3.7	3.4	3.2	3.0	2.8	2.6	2.5	2.3	2.2
		VF	50	0.17	12.5	10.0	8.3	7.1	6.2	5.5	5.0	4.5	4.2	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.5
SMP11002 TCP11002		F	15	0.12	9.1	7.3	6.1	5.2	4.5	4.0	3.6	3.3	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8
		F	20	0.14	10.5	8.4	7.0	6.0	5.3	4.7	4.2	3.8	3.5	3.2	3.0	2.8	2.6	2.5	2.3	2.2	2.1
		F	30	0.17	12.9	10.3	8.6	7.3	6.4	5.7	5.1	4.7	4.3	4.0	3.7	3.4	3.2	3.0	2.9	2.7	2.6
		F	40	0.20	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.1	3.0
		F	50	0.22	16.6	13.3	11.1	9.5	8.3	7.4	6.6	6.0	5.5	5.1	4.7	4.4	4.2	3.9	3.7	3.5	3.3
SMP110025		F	15	0.15	11.4	9.1	7.6	6.5	5.7	5.1	4.5	4.1	3.8	3.5	3.2	3.0	2.8	2.7	2.5	2.4	2.3
		F	20	0.18	13.1	10.5	8.8	7.5	6.6	5.8	5.3	4.8	4.4	4.0	3.8	3.5	3.3	3.1	2.9	2.8	2.6
		F	30	0.22	16.1	12.9	10.7	9.2	8.0	7.1	6.4	5.8	5.4	4.9	4.6	4.3	4.0	3.8	3.6	3.4	3.2
		F	40	0.25	18.6	14.9	12.4	10.6	9.3	8.3	7.4	6.8	6.2	5.7	5.3	5.0	4.6	4.4	4.1	3.9	3.7
		F	50	0.28	20.8	16.6	13.8	11.9	10.4	9.2	8.3	7.5	6.9	6.4	5.9	5.5	5.2	4.9	4.6	4.4	4.2
SMP11003 TCP11003		F	15	0.18	13.6	10.9	9.1	7.8	6.8	6.1	5.5	5.0	4.5	4.2	3.9	3.6	3.4	3.2	3.0	2.9	2.7
		F	20	0.21	15.8	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.3	3.2
		F	30	0.26	19.3	15.4	12.9	11.0	9.6	8.6	7.7	7.0	6.4	5.9	5.5	5.1	4.8	4.5	4.3	4.1	3.9
		F	40	0.30	22.3	17.8	14.9	12.7	11.1	9.9	8.9	8.1	7.4	6.9	6.4	5.9	5.6	5.2	5.0	4.7	4.5
		F	50	0.34	24.9	19.9	16.6	14.2	12.5	11.1	10.0	9.1	8.3	7.7	7.1	6.6	6.2	5.9	5.5	5.2	5.0
SMP11004 TCP11004		M	15	0.24	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.6	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.8	3.6
		F	20	0.28	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.3	4.9	4.7	4.4	4.2
		F	30	0.35	25.7	20.6	17.1	14.7	12.9	11.4	10.3	9.4	8.6	7.9	7.3	6.9	6.4	6.1	5.7	5.4	5.1
		F	40	0.40	29.7	23.8	19.8	17.0	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	6.3	5.9
		F	50	0.45	33.2	26.6	22.1	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	7.0	6.6
SMP11005 TCP11005		F	15	0.31	22.7	18.2	15.2	13.0	11.4	10.1	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.1	4.8	4.5
		M	20	0.35	26.3	21.0	17.5	15.0	13.1	11.7	10.5	9.5	8.8	8.1	7.5	7.0	6.6	6.2	5.8	5.5	5.3
		F	30	0.43	32.2	25.7	21.4	18.4	16.1	14.3	12.9	11.7	10.7	9.9	9.2	8.6	8.0	7.6	7.1	6.8	6.4
		F	40	0.50	37.1	29.7	24.8	21.2	18.6	16.5	14.9	13.5	12.4	11.4	10.6	9.9	9.3	8.7	8.3	7.8	7.4
		F	50	0.56	41.5	33.2	27.7	23.7	20.8	18.4	16.6	15.1	13.8	12.8	11.9	11.1	10.4	9.8	9.2	8.7	8.3
SMP11006 TCP11006		M	15	0.37	27.3	21.8	18.2	15.6	13.6	12.1	10.9	9.9	9.1	8.4	7.8	7.3	6.8	6.4	6.1	5.7	5.5
		M	20	0.42	31.5	25.2	21.0	18.0	15.8	14.0	12.6	11.5	10.5	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.3
		F	30	0.52	38.6	30.9	25.7	22.0	19.3	17.1	15.4	14.0	12.9	11.9	11.0	10.3	9.6	9.1	8.6	8.1	7.7
		F	40	0.60	44.6	35.6	29.7	25.5	22.3	19.8	17.8	16.2	14.9	13.7	12.7	11.9	11.1	10.5	9.9	9.4	8.9
		F	50	0.67	49.8	39.8	33.2	28.5	24.9	22.1	19.9	18.1	16.6	15.3	14.2	13.3	12.5	11.7	11.1	10.5	10.0
SMP11008 TCP11008		C	15	0.49	36.4	29.1	24.2	20.8	18.2	16.2	14.5	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.7	7.3
		M	20	0.57	42.0	33.6	28.0	24.0	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.8	8.4
		M	30	0.69	51.4	41.2	34.3	29.4	25.7	22.9	20.6	18.7	17.1	15.8	14.7	13.7	12.9	12.1	11.4	10.8	10.3
		F	40	0.80	59.4	47.5	39.6	33.9	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9
		F	50	0.89	66.4	53.1	44.3	37.9	33.2	29.5	26.6	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.8	14.0	13.3
SMP11010 TCP11010		VC	15	0.61	45.5	36.4	30.3	26.0	22.7	20.2	18.2	16.5	15.2	14.0	13.0	12.1	11.4	10.7	10.1	9.6	9.1
		C	20	0.71	52.5	42.0	35.0	30.0	26.3	23.3	21.0	19.1	17.5	16.2	15.0	14.0	13.1	12.4	11.7	11.1	10.5
		M	30	0.87	64.3	51.4	42.9	36.7	32.2	28.6	25.7	23.4	21.4	19.8	18.4	17.1	16.1	15.1	14.3	13.5	12.9
		M	40	1.00	74.3	59.4	49.5	42.4	37.1	33.0	29.7	27.0	24.8	22.8	21.2	19.8	18.6	17.5	16.5	15.6	14.9
		M	50	1.12	83.0	66.4	55.3	47.4	41.5	36.9	33.2	30.2	27.7	25.5	23.7	22.1	20.8	19.5	18.4	17.5	16.6
TCP11012		M	60	1.22	90.9	72.7	60.6	52.0	45.5	40.4	36.4	33.1	30.3	28.0	26.0	24.2	22.7	21.4	20.2	19.1	18.2
		VC	15	0.73	54.6	43.6	36.4	31.2	27.3	24.2	21.8	19.8	18.2	16.8	15.6	14.5	13.6	12.8	12.1	11.5	10.9
		C	20	0.85	63.0	50.4	42.0	36.0	31.5	28.0	25.2	22.9	21.0	19.4	18.0	16.8	15.8	14.8	14.0	13.3	12.6
		M	30	1.04	77.2	61.7	51.4	44.1	38.6	34.3	30.9	28.1	25.7	23.7	22.0	20.6	19.3	18.2	17.1	16.2	15.4
		M	40	1.20	89.1	71.3	59.4	50.9	44.6	39.6	35.6	32.4	29.7	27.4	25.5	23.8	22.3	21.0	19.8	18.8	17.8
SMP11015		M	50	1.34	99.6	79.7	66.4	56.9	49.8	44.3	39.8	36.2	33.2	30.7	28.5	26.6	24.9	23.4	22.1	21.0	19.9
		M	60	1.47	109.1	87.3	72.7	62.4	54.6	48.5	43.6	39.7	36.4	33.6							

Boomless Air Injection Nozzles

The Boom TD is a pair of air injected boomless nozzles designed to be used where a boom would be impractical, such as spraying pasture or other rough ground. Other versions of this nozzle type are also available for roadside spraying, etc. The TurboDrop injector improves the overall patterning of the boomless nozzle, as well as dramatically reducing spray drift. Two nozzles are included and cover a combined swath of 32 feet with the Boom85TD, and 26 feet with the Boom40TD, with optimized spray height and pressure.

TurboDrop® Boom85TD



Boom85TD

Mount nozzles 6-7" apart, 36-48" high, with enough overlap between the nozzles to prevent streaking. Spray swath may change with changes in pressure.

Materials of Construction: Stainless Steel

		Boom85TD Application Rate: GPA @ 42" height (16' swath per nozzle)														
BOOM85TD	PSI	GPM	3 MPH	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	
	30	7.5	77.3	58.0	46.4	38.7	33.1	29.0	25.8	23.2	21.1	19.3	17.8	16.6	15.5	
	40	8.5	87.7	65.7	52.6	43.8	37.6	32.9	29.2	26.3	23.9	21.9	20.2	18.8	17.5	
	50	9.5	98.0	73.5	58.8	49.0	42.0	36.7	32.7	29.4	26.7	24.5	22.6	21.0	19.6	
	60	10.5	107.3	80.4	64.4	53.6	46.0	40.2	35.8	32.2	29.3	26.8	24.8	23.0	21.5	

TurboDrop® Boom40TD



Boom40TD

Boom40TD Application Rate: GPA @ 42" height (13' swath per nozzle)																
BOOM40TD	PSI	GPM	3 MPH	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	11 MPH	12 MPH	13 MPH	14 MPH	15 MPH	
	30	3.5	44.4	33.3	26.7	22.2	19.0	16.7	14.8	13.3	12.1	11.1	10.3	9.5	8.9	
	40	4.0	50.8	38.1	30.5	25.4	21.8	19.0	16.9	15.2	13.8	12.7	11.7	10.9	10.2	
	50	4.5	57.1	42.8	34.3	28.6	24.5	21.4	19.0	17.1	15.6	14.3	13.2	12.2	11.4	
	60	5.0	63.5	47.6	38.1	31.7	27.2	23.8	21.2	19.0	17.3	15.9	14.6	13.6	12.7	

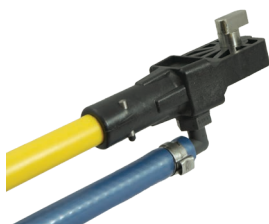
Beluga HoseDrop Spraying System

The Beluga HoseDrop is a customizable spraying system designed to spray inside the crop canopy. Depending on configuration, the system can work for crops as diverse as canola, corn, potatoes, asparagus or strawberries. Set up and removal times are similar to swapping nozzles on a boom.

Customize the spacing of the HoseDrops by mounting the included brackets to the spray boom. The HoseDrop then hooks onto the bracket, and the hose connects to your existing nozzle body. Additional Beluga spray heads may be added to the HoseDrop. The Beluga holds two standard size spray nozzles, and can be set up with AirMix, SMP, or other tips from Greenleaf Technologies.



Beluga Spray Head



HoseDrop Connector



Beluga configured with AirMix Off Center Nozzles (AMOC02)



HoseDrop with two Belugas

Anatomy of a TurboDrop® Asymmetric DualFan Nozzle

The TurboDrop® Asymmetric DualFan nozzle (TADF/TACDF) is made up of the TurboDrop® Venturi (TDXLV/TDVC) and a DF Cap, housing two SMP nozzles which function as spray pattern tips. The nozzle is asymmetric, meaning that the two spray patterns are oriented at 10° forward and 50° rearward. This flatter angle facing backwards helps with back side coverage of the target as speed increases. Additionally, the two SMP tips are usually different sizes with different spray angles (except in the largest TADF sizes). This setup targets more spray to the trailing pattern, again to enhance backside coverage. By having two different tips, the droplet size (spray quality) differs between the two spray patterns. The leading spray pattern produces a smaller droplet size, covering the front of the target as the spray boom passes. the rear facing, larger pattern tip coats the backside of the target, and can also help direct the smaller droplets down into the canopy.

Field testing has also shown that alternating the TADF on the spray boom to provide four angles into the canopy can further maximize coverage on the target. (This is possible due to the asymmetric angles of the DualFan cap- the first nozzle on the spray boom would be oriented with the 10° angled pattern facing forward, the next nozzle with the 50° angled pattern facing forward, and so on down the boom.) Alternating the nozzles effectively delivers four sprays in one pass of the sprayer, with the 50° oriented nozzles to the front and back providing larger droplets on the outside of the spray "cloud." The smaller droplets produced by the 10° angled tips are directed almost straight down, between the coarser spray patterns in this setup, resulting in a canopy of coarser, high velocity spray that helps prevent small to medium droplets from drifting off target. The difference in tip output, spray quality, and velocity between the two tips additionally produces a low pressure area within the droplet canopy, pulling the droplets down and keeping them within the two 50° angled spray patterns.

The DF Cap is mated to the (TDXLV/TDVC) using a G-120 gasket. The DF Caps component parts are the two DF-SP8 pieces which slide into the DF-B base, locking in the SMP nozzles and DF-ORAS gaskets. Finally, the assembled nozzle is connected to the boom or nozzle body with a G-125 gasket. Any of these parts can be ordered separately if replacements are needed.



Parts and Accessories

Venturi



The heart of the TurboDrop® air injection nozzle; meters flow rate and injects air. Available in all poly or poly with ceramic metering orifice (for extended wear life).

- TDXLV005
- TDXLV/TDVC01
- TDXLV/TDVC015
- TDXLV/TDVC02
- TDXLV/TDVC025
- TDXLV/TDVC03
- TDXLV/TDVC04
- TDXLV/TDVC05
- TDXLV/TDVC06
- TDXLV/TDVC08
- TDXLV/TDVC10
- TDXLV15

DualFan Cap



Allows DualFan spraying (10° and 50° angles) with standard tips, AirMix® nozzles, or as part of TurboDrop® DualFan nozzles. Includes DF cap, and two DF-SP8 tip clips.

DualFan Tip Slide



Part of the DualFan cap. Uses a friction fit and slides onto the cap securing the pattern tip or nozzle and either DF-ORAS or DF-ORAA gaskets.

Dual Fan Tip Clip Gasket (for SMP)



Gasket to be used in conjunction with the DF-SP8 to mount an SMP nozzle tip to a DF Cap. EPDM construction.

DualFan Tip Clip Gasket (for AirMix or BP)



Gasket to be used in conjunction with the DF-SP8 to mount an AirMix or BP nozzle tip to a DF Cap.

Gaskets



One-hole gasket. G125 is 3.0mm thick, G120 is 2.8mm thick and used between the DF or TCP caps and the TurboDrop Venturi.

Diffuser



Quickly builds and ensures proper patterning. Use with 80° or narrower angle flat fan tips on TurboDrop® Venturi and with 110° tips that are more than double the size of the Venturi (as in the TDXL-D). EPDM and polyacetal construction.

Parts and Accessories

Cap



Standard ISO color coded cap for use with AM, BP, or SMP nozzles.

Polyacetal with EPDM seat gasket.

C01
C015
C02
C025
C03
C04
C05
C06
C08
C10

Quick Hollow Cone Spray Nozzle



Quarter turn quick connect, hollow cone tip. For use with TurboDrop Venturi or as a standalone hollow cone tip.

Polyacetal with EPDM seat gasket.

QHC013
QHC023
QHC045
QHC068

Standard Tip Strainer



Tip strainer. Available in 24, 50, or 100 mesh variants.

Polyacetal with stainless steel screen.

TS24M
TS50M
TS100M

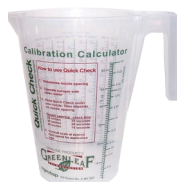
Extension Adapter



When used with DualFan nozzle, lowers the nozzle approximately 1" to clear obstructions on certain sprayers.

EXAD

Quick Check Calibration Calculator



One minute at 40 PSI is all it takes to measure the amount of liquid being dispersed through spray nozzles, and calculate application rates. Can also be used to adjust nozzle flow rates, determine nozzle accuracy, and evaluate line pressure losses.

QC02

Gripper Tip Strainer



Tip strainer with an integral seat gasket. Available in 24, 50, or 100 mesh variants.

Polyacetal with stainless steel screen and EPDM gasket.

GTS24M
GTS50M
GTS100M

Handheld Weather Meters

Handheld Weather Meter WM10



Simple and accurate (+/-5%) measurement of wind speed in mph, kmh, m/s, or knots.

- Range: 0.5-67 mph
- Lanyard included
- Auto Power off
- Water Resistant
- Backlit LCD display

WM10

Handheld Weather Meter WM30



Dual Display of Wind Speed, Temperature or Wind Chill

- Wind Speed
- Temperature
- Wind Chill
- Relative Humidity
- Dew Point

WM30

Handheld Weather Meter WM20



- Wind Speed
- Temperature
- Wind Chill (MPH, KPH, Knots, M/Sec, Ft/Min, Beaufort)

WM20

Handheld Weather Meter WM300



- Wind Speed/Temp/Wind Chill
- Digital Wind Direction in Degrees and Compass Points
- Accuweather.com® patented Comfort Index™
- Relative Humidity (no recalibration needed)
- Dew Point
- Wet Bulb
- Delta T

WM300

Handheld Weather Meter WM200



- Wind Speed/Temp/Wind Chill
- Digital Wind Direction in Degrees and Compass Points
- Backlight

WM200

Self-Cleaning Closed Transfer System for Plant Protection Products

The easyFlow is the first closed, contamination-avoiding and self-cleaning transfer system for liquid plant protection products from sealed or non-sealed small PPP containers enabling the user to do partial or complete dosing. The easyFlow system is designed to fulfill all standards of environmental protection and operational safety today and in the future.



easyFlow Tank Adaptor



EFTA55

- Mounts directly to sprayer tank, nurse tank or chemical inductor.
- Easy to install and operate.
- Built in backflow prevention.
- Gravity flow, no pump needed.
- Large diameters for quick transfer.

Includes mounting screws, sealing gasket and counter plate. Also includes Banjo cam lever adaptor (075ABP) for water inlet.

easyFlow Container Adaptor



EFJA64

- Fits most chemical containers (63mm).
- Cuts and pushes back the aluminum seal of the PPP container, preventing contamination.
- Has built in rinsing nozzle for fast and easy cleaning of containers and both adaptors.
- Remains attached to PPP container until all chemical is dispensed.
- Multiple Container Adaptors may be used in combination with one Tank Adaptor.

easyFlow Bulk Container Adaptor



EFJA64T

Container adaptor with hose barb for connecting to bulk chemical containers.

easyFlow Wedge Plate Kit



EFWP71

Compensates for inclined tank surfaces, up to 5°.

easyFlow Perforator



EFP965

Tool to pierce containers and speed draining of chemical jugs. Especially useful with thick or sticky liquids.

easyFlow Kit 1



EFBA02

- Includes:
- 1x Tank Adaptor (part# EFTA55)
 - 2x Container Adaptor (part# EFJA64)

easyFlow Kit 2

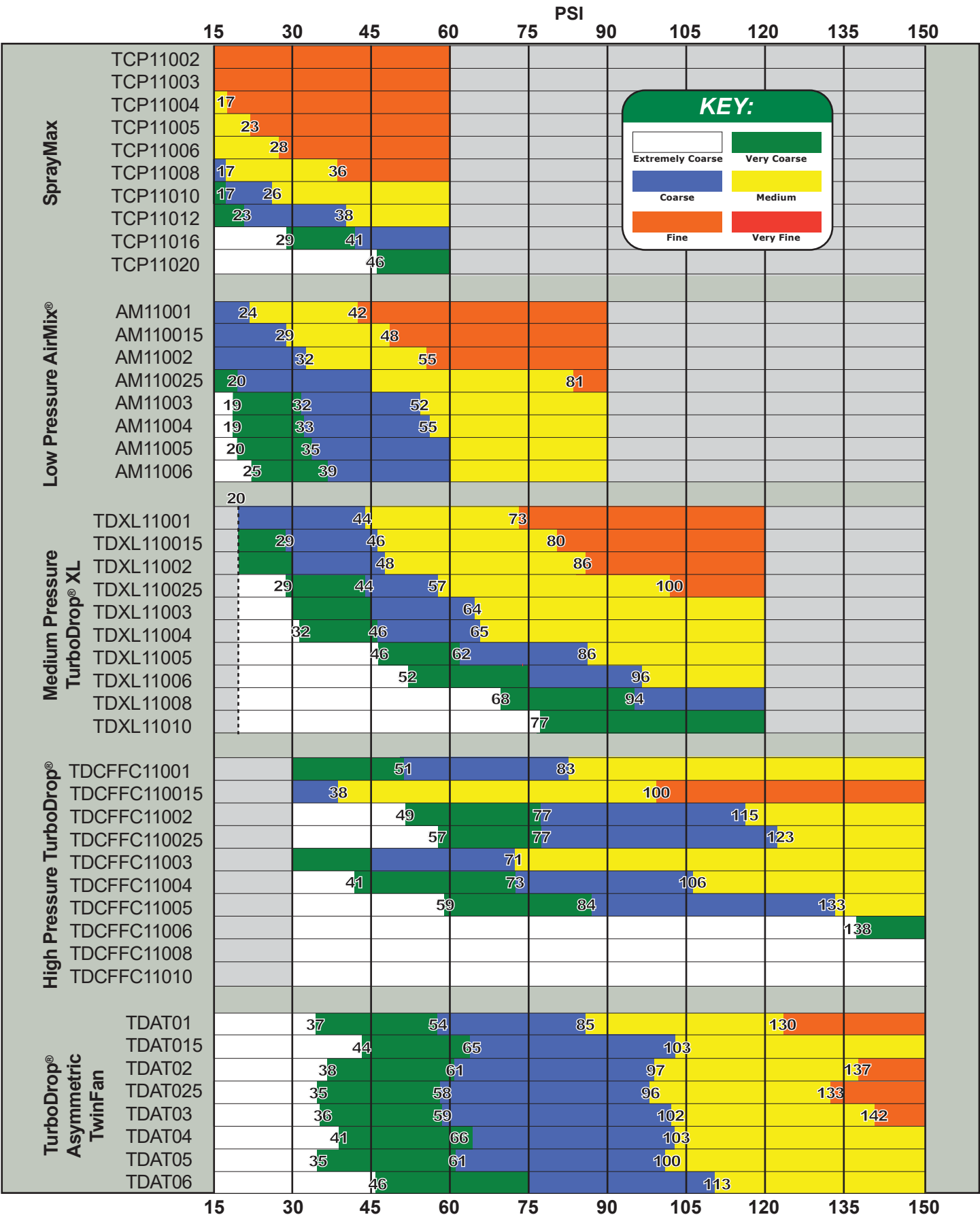


EF0376

- Includes:
- 1x Tank Adaptor (part# EFTA55)
 - 3x Container Adaptor (part# EFJA64)

Visit us online for a detailed video demonstration!
www.greenleaftech.com/easyflow

Greenleaf Technologies ASABE Droplet Size Categories



KEY:

Extremely Coarse

Very Coarse

Coarse

Medium

Fine

Very Fine

Droplet size classification scheme based on lab tests following ASAE/BCPC made at the JKI (Julius Kühn-Institute, Braunschweig) and the Geisenheim Technical Institute. Classifications are subject to change. Droplet size for TADF/TACDF see pages 4 & 5 and for "D" Series nozzles see page 6.

15 Inch Broadcast Nozzle Tabulation Chart

						GALLONS PER ACRE BASED ON 15" NOZZLE SPACING												
						PSI	GPM	4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	9 MPH	10 MPH	12 MPH	14 MPH	16 MPH	20 MPH
AM11002 TDXL11002 TDXL11002-D TADF02 TADF02-D	AM	VC		VC	VC	15	0.12	12.1	9.7	8.1	6.9	6.1	5.4	4.8	4.0	3.5	3.0	2.7
	TDXL	C	VC	UC	C	20	0.14	14.0	11.2	9.3	8.0	7.0	6.2	5.6	4.7	4.0	3.5	3.1
	TDXL-D	C	VC	UC	C	30	0.17	17.1	13.7	11.4	9.8	8.6	7.6	6.9	5.7	4.9	4.3	3.8
	TADF	M	C	XC	C	40	0.20	19.8	15.8	13.2	11.3	9.9	8.8	7.9	6.6	5.7	5.0	4.4
	TADF-D	M	C	XC	C	50	0.22	22.1	17.7	14.8	12.6	11.1	9.8	8.9	7.4	6.3	5.5	4.9
		F	M	XC	M	60	0.24	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.1	6.9	6.1	5.4
		F	M	VC	M	70	0.26	26.2	21.0	17.5	15.0	13.1	11.6	10.5	8.7	7.5	6.5	5.8
		F	M	VC	M	80	0.28	28.0	22.4	18.7	16.0	14.0	12.4	11.2	9.3	8.0	7.0	6.2
		F	F	VC	M	90	0.30	29.7	23.8	19.8	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6
		F	F	VC	M	100	0.32	31.3	25.0	20.9	17.9	15.7	13.9	12.5	10.4	8.9	7.8	7.0
		F	F	VC	M	120	0.35	34.3	27.4	22.9	19.6	17.1	15.2	13.7	11.4	9.8	8.6	7.6
AM110025 TDXL110025 TDXL110025-D TADF025 TADF025-D	AM	VC		VC	VC	15	0.15	15.2	12.1	10.1	8.7	7.6	6.7	6.1	5.1	4.3	3.8	3.4
	TDXL	C	VC	UC	C	20	0.18	17.5	14.0	11.7	10.0	8.8	7.8	7.0	5.8	5.0	4.4	3.9
	TDXL-D	C	VC	UC	C	30	0.22	21.4	17.1	14.3	12.2	10.7	9.5	8.6	7.1	6.1	5.4	4.8
	TADF	M	C	XC	C	40	0.25	24.8	19.8	16.5	14.1	12.4	11.0	9.9	8.3	7.1	6.2	5.5
	TADF-D	M	C	XC	C	50	0.28	27.7	22.1	18.4	15.8	13.8	12.3	11.1	9.2	7.9	6.9	6.1
		M	M	XC	M	60	0.31	30.3	24.2	20.2	17.3	15.2	13.5	12.1	10.1	8.7	7.6	6.7
		M	M	VC	M	70	0.33	32.7	26.2	21.8	18.7	16.4	14.6	13.1	10.9	9.4	8.2	7.3
		M	M	VC	M	80	0.35	35.0	28.0	23.3	20.0	17.5	15.6	14.0	11.7	10.0	8.8	7.8
		F	M	VC	M	90	0.38	37.1	29.7	24.8	21.2	18.6	16.5	14.9	12.4	10.6	9.3	8.3
		F	M	VC	M	100	0.40	39.1	31.3	26.1	22.4	19.6	17.4	15.7	13.0	11.2	9.8	8.7
		F	M	VC	M	120	0.43	42.9	34.3	28.6	24.5	21.4	19.1	17.1	14.3	12.2	10.7	9.5
AM11003 TDXL11003 TDXL11003-D TADF03 TADF03-D	AM	VC		VC	VC	15	0.18	18.2	14.5	12.1	10.4	9.1	8.1	7.3	6.1	5.2	4.5	4.0
	TDXL	C	VC	UC	C	20	0.21	21.0	16.8	14.0	12.0	10.5	9.3	8.4	7.0	6.0	5.3	4.7
	TDXL-D	C	VC	UC	C	30	0.26	25.7	20.6	17.1	14.7	12.9	11.4	10.3	8.6	7.3	6.4	5.7
	TADF	M	C	XC	C	40	0.30	29.7	23.8	19.8	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6
	TADF-D	M	C	XC	C	50	0.34	33.2	26.6	22.1	19.0	16.6	14.8	13.3	11.1	9.5	8.3	7.4
		M	M	XC	M	60	0.37	36.4	29.1	24.2	20.8	18.2	16.2	14.5	12.1	10.4	9.1	8.1
		M	M	XC	M	70	0.40	39.3	31.4	26.2	22.5	19.6	17.5	15.7	13.1	11.2	9.8	8.7
		M	M	VC	M	80	0.42	42.0	33.6	28.0	24.0	21.0	18.7	16.8	14.0	12.0	10.5	9.3
		M	M	VC	M	90	0.45	44.6	35.6	29.7	25.5	22.3	19.8	17.8	14.9	12.7	11.1	9.9
		M	M	VC	M	100	0.47	47.0	37.6	31.3	26.8	23.5	20.9	18.8	15.7	13.4	11.7	10.4
		M	M	VC	M	120	0.52	51.4	41.2	34.3	29.4	25.7	22.9	20.6	17.1	14.7	12.9	11.4
AM11004 TDXL11004 TDXL11004-D TADF04 TADF04-D	AM	VC		VC	VC	15	0.24	24.2	19.4	16.2	13.9	12.1	10.8	9.7	8.1	6.9	6.1	5.4
	TDXL	C	VC	UC	C	20	0.28	28.0	22.4	18.7	16.0	14.0	12.4	11.2	9.3	8.0	7.0	6.2
	TDXL-D	C	VC	UC	C	30	0.35	34.3	27.4	22.9	19.6	17.1	15.2	13.7	11.4	9.8	8.6	7.6
	TADF	M	C	XC	C	40	0.40	39.6	31.7	26.4	22.6	19.8	17.6	15.8	13.2	11.3	9.9	8.8
	TADF-D	M	C	XC	C	50	0.45	44.3	35.4	29.5	25.3	22.1	19.7	17.7	14.8	12.6	11.1	9.8
		M	M	XC	M	60	0.49	48.5	38.8	32.3	27.7	24.2	21.6	19.4	16.2	13.9	12.1	10.8
		M	M	XC	M	70	0.53	52.4	41.9	34.9	29.9	26.2	23.3	21.0	17.5	15.0	13.1	11.6
		M	M	XC	M	80	0.57	56.0	44.8	37.3	32.0	28.0	24.9	22.4	18.7	16.0	14.0	12.4
		M	M	VC	M	90	0.60	59.4	47.5	39.6	33.9	29.7	26.4	23.8	19.8	17.0	14.9	13.2
		M	M	VC	M	100	0.63	62.6	50.1	41.7	35.8	31.3	27.8	25.0	20.9	17.9	15.7	13.9
		M	M	VC	M	120	0.69	68.6	54.9	45.7	39.2	34.3	30.5	27.4	22.9	19.6	17.1	15.2
AM11005 TDXL11005 TDXL11005-D TADF05 TADF05-D	AM	VC		VC	VC	15	0.31	30.3	24.2	20.2	17.3	15.2	13.5	12.1	10.1	8.7	7.6	6.7
	TDXL	C	VC	UC	C	20	0.35	35.0	28.0	23.3	20.0	17.5	15.6	14.0	11.7	10.0	8.8	7.8
	TDXL-D	C	VC	UC	C	30	0.43	42.9	34.3	28.6	24.5	21.4	19.1	17.1	14.3	12.2	10.7	9.5
	TADF	M	C	XC	C	40	0.50	49.5	39.6	33.0	28.3	24.8	22.0	19.8	16.5	14.1	12.4	11.0
	TADF-D	M	C	XC	C	50	0.56	55.3	44.3	36.9	31.6	27.7	24.6	22.1	18.4	15.8	13.8	12.3
		M	M	XC	M	60	0.61	60.6	48.5	40.4	34.6	30.3	26.9	24.2	20.2	17.3	15.2	13.5
		M	M	XC	M	70	0.66	65.5	52.4	43.7	37.4	32.7	29.1	26.2	21.8	18.7	16.4	14.6
		M	M	VC	M	80	0.71	70.0	56.0	46.7	40.0	35.0	31.1	28.0	23.3	20.0	17.5	15.6
		M	M	VC	M	90	0.75	74.3	59.4	49.5	42.4	37.1	33.0	29.7	24.8	21.2	18.6	16.5
		M	M	VC	M	100	0.79	78.3	62.6	52.2	44.7	39.1	34.8	31.3	26.1	22.4	19.6	17.4
		M	M	VC	M	120	0.87	85.7	68.6	57.2	49.0	42.9	38.1	34.3	28.6	24.5	21.4	19.1
AM11006 TDXL11006 TDXL11006-D TADF06 TADF06-D	AM	VC		VC	VC	15	0.37	36.4	29.1	24.2	20.8	18.2	16.2	14.5	12.1	10.4	9.1	8.1
	TDXL	C	VC	UC	C	20	0.42	42.0	33.6	28.0	24.0	21.0	18.7	16.8	14.0	12.0	10.5	9.3
	TDXL-D	C	VC	UC	C	30	0.52	51.4	41.2	34.3	29.4	25.7	22.9	20.6	17.1	14.7	12.9	11.4
	TADF	M	C	XC	C	40	0.60	59.4	47.5	39.6	33.9	29.7	26.4	23.8	19.8	17.0	14.9	13.2
	TADF-D	M	C	XC	C	50	0.67	66.4	53.1	44.3	37.9	33.2	29.5	26.6	22.1	19.0	16.6	14.8
		M	M	XC	M	60	0.73	72.7	58.2	48.5	41.6	36.4	32.3	29.1	24.2	20.8	18.2	16.2
		M	M	VC	M	70	0.79	78.6	62.9	52.4	44.9	39.3	34.9	31.4	26.2	22.5	19.6	17.5
		M	M	VC	M	80	0.85	84.0	67.2	56.0	48.0	42.0	37.3	33.6	28.0	24.0	21.0	18.7
		M	M	VC	M	90	0.90	89.1	71.3	59.4	50.9	44.6	39.6	35.6	29.7	25.5	22.3	19.8
		M	M	VC	M	100	0.95	93.9	75.1	62.6	53.7	47.0	41.7	37.6	31.3	26.8	23.5	20.9
		M	M	VC	M	120	1.04	102.9	82.3	68.6	58.8	51.4	45.7	41.2	34.3	29.4	25.7	22.9
TDXL11008 TDXL11008-D TADF08 TADF08-D	AM	VC		VC	VC	20	0.57	56.0	44.8	37.3	32.0	28.0	24.9	22.4	18.7	16.0	14.0	12.4
	TDXL	C	VC	UC	C	30	0.69	68.6	54.9	45.7	39.2	34.3	30.5	27.4	22.9	19.6	17.1	15.2
	TDXL-D	C	VC	UC	C	40	0.80	79.2	63.4	52.8	45.3	39.6	35.2	31.7	26.4	22.6	19.8	17.6
	TADF	M	C	XC	C	50	0.89	88.5	70.8	59.0	50.6	44.3	39.4	35.4	29.5	25.3	22.1	19.7
	TADF-D	M	C	XC	C	60	0.98	97.0	77.6	64.7	55.4	48.5	43.1	38.8	32.3	27.7	24.2	21.6
		M	M	XC	M	70	1.06	104.8	83.8	69.8	59.9	52.4	46.6	41.9	34.9	29.9	26.2	23.3
		M	M	VC	M	80	1.13	112.0	89.6	74.7	64.0	56.0	49.8	44.8	37.3	32.0	28.0	24.9
		M	M	VC	M	90	1.20	118.8	95.0	79.2	67.9	59.4	52.8	47.5	39.6	33.9	29.7	26.4
		M	M	VC	M	100	1.26	125.2	100.2	83.5	71.6	62.6	55.7	50.1	41.7	35.8	31.3	27.8
		M	M	VC	M	120	1.39	137.2	109.7	91.5	78.4	68.6	61.0	54.9	45.7	39.2	34.3	30.5
TDXL11010 TADF10	AM	VC		VC	VC	20	0.71	70.0	56.0</									

About Greenleaf Technologies

Greenleaf Technologies was founded in 1985 by Bill Smart with the idea of bringing high tech spray equipment to the market.

Bill Smart spent his whole life developing, tinkering with and promoting advanced fluid handling technology. If not destroyed by Hurricane Katrina, his 2000 square foot workshop might have served as a museum of his ideas for unique and innovative spray systems.



In 1995, a partnership was formed between agrotop GmbH and Greenleaf Technologies whereby Greenleaf would promote and distribute the agrotop spray technology product line in North America.



Steffen Graef of agrotop developed the TurboDrop® nozzle in 1993 in response to the market need for an agricultural spray nozzle that would provide a combination of canopy penetration and coverage with contact chemicals that was previously not available. The high pressure TurboDrop® venturi nozzle was born!

An additional advantage of the TurboDrop® design was its superior drift control even at high pressures. With the rapid growth of GMO crops and particularly glyphosate tolerant ones, spray drift management was becoming extremely important.

In 1998, the TDXL medium pressure TurboDrop® venturi nozzle was introduced to provide a more compact, economical, multi-purpose, user-friendly air injection nozzle to the North American market. Millions of XL nozzles have been sold since.

Introduced in 2001, the AirMix nozzle was developed to provide an economical entry level venturi nozzle with a lower operating pressure. An acid resistant version has found a niche in low pH applications, and an Off-Center version has also been introduced.



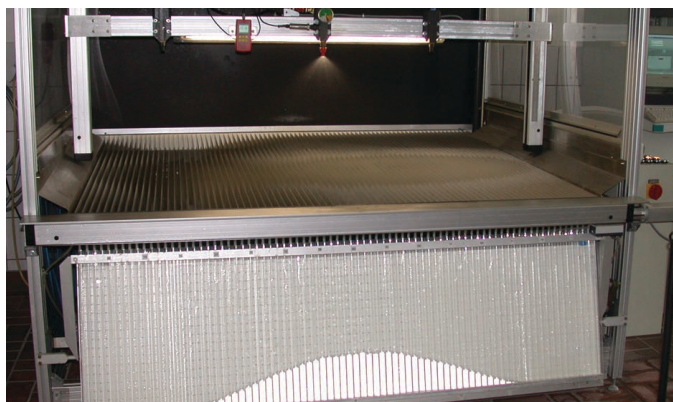
In 2007, a Variable Rate version of the TurboDrop nozzle was introduced, for applications where either the carrier rate or speed needs to change at a 3-4X rate. It is offered in a single fan and a DualFan version. A streaming fertilizer version was introduced in 2009, and a Hose Barb version in 2013.



The TurboDrop® Asymmetric DualFan nozzle became available in April 2011. Initially designed to improve backside coverage on vertical targets, the TADF/TACDF has been transformed into a full season nozzle through the use of an alternating configuration on the spray boom, effectively spraying the target four times in one pass. The TurboDrop® DualFan has proven to be effective in the widest variety of applications due to its unique combination of spray coverage, canopy penetration and drift control.



D versions of both the XL and TurboDrop DualFan nozzles were introduced in 2014, to provide maximum drift control with Very Coarse, Extremely Coarse and Ultra Coarse droplets for new dicamba, 2,4-D and glyphosate formulations.

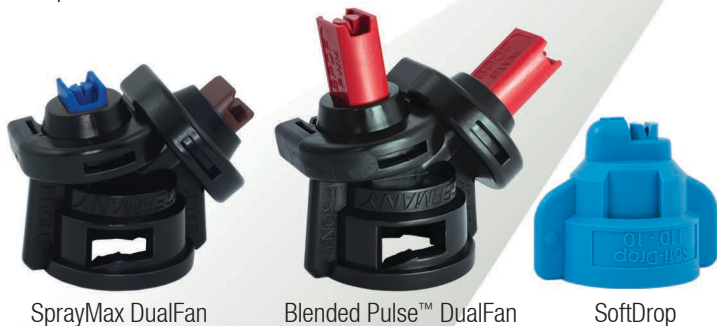


This year we have filled out a full line of nozzles for PWM applications. This includes the SprayMax DualFan for contact critical applications, the SoftDrop nozzle for Ultra Coarse drift control, and our Blended Pulse™ DualFan nozzles, the first general purpose PWM nozzle to combine our asymmetric DualFan spray pattern with the ability to select Medium to Very Coarse droplets depending on the nozzle size and pressure.

New Products from Greenleaf Technologies

PWM Nozzles for Every Application

For 2020 we have a full product line of nozzles for PWM applications. This includes the SprayMax Dual Fan for contact critical applications, the new SoftDrop nozzle for Ultra Coarse drift control, and our New Blended Pulse™ DualFan nozzles, the first general purpose PWM nozzle to combine our asymmetric DualFan spray pattern with the ability to select Medium to Very Coarse droplets depending on the nozzle size and pressure.



SprayMax DualFan

Blended Pulse™ DualFan

SoftDrop

Blended Pulse™ is a trademark of and used with permission of Capstan Ag Systems, Inc.

More information on page **12**

Beluga HoseDrop Spraying System

The Beluga HoseDrop system is designed to maximize coverage inside the crop canopy by placing the nozzles closer to the intended target. The system can be customized with up to three Beluga spray heads, for a total of up to six spray nozzles per row. A variety of nozzles may be used, from SMP flat fans to hollow cones to any of the AirMix nozzle types.

Lightweight at less than a pound, the tough and flexible HoseDrops bend through the canopy and swing on the boom to reduce the possibility of plant damage.

Call us today to find out how the Beluga Hose Drop can work with your spray rig.



More information on page **17**



AVI 110



CVI 80

ALBUZ

Greenleaf Technologies is now the North American distributor for Albuz, the world renowned ceramic nozzle manufacturer of high pressure nozzles for orchard, vineyard, and vegetable applications. Ask your dealer about Albuz nozzles from Greenleaf Technologies.



ESI 6 Hole



ATR 80



AXI 110

AirMix™



TipGuard

Ten Stack



AirMix nozzles from Greenleaf Technologies already make Drift Control Easy, now with the TipGuard Spray Tip Protection System, it's even easier.

The TipGuard System protects spray nozzles from damage. To top it off, Greenleaf Technologies AirMix nozzles with the TipGuard System are no more expensive than comparable nozzles without tip protection.

Upgrade your spray rig ten nozzles at a time, with the stackable TipGuard Spray Tip Protection System using the proven drift control of AirMix.

The Best Deal in Drift Control just got Better!

More information on page **7**

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