IMPORTANT DISCLAIMER: The below tip charts are based on **commonly used** Pulse Width Modulation ("PWM") spray systems, and the inherent pressure drops that occur through the solenoid associated with them. ENSURE your PWM system follows the same gauge/tip pressure relationships. ALWAYS confirm pressure at spray tip corresponds with label requirements PRIOR to spraying any chemical. Proper maintenance and observation of system performance to maintain accurate pressures is recommended.

Engenia™ Herbicide

Engenia is a trademark of BASF Corporation.

Pulse Width Modulation (PWM) Spray Tip Charts§ for Spraying Engenia™ Herbicide[1] on Dicamba-Tolerant Crop - Based on Approved Nozzle List @ www.EngeniaTankMix.com

For More Info VISIT WWW.WILGER.NET

For use with COMBO-JET® Tip-Caps & PWM Spray Systems

§Charts based on application of water with 20" Nozzle Spacing, with 110° Spray Angle Tips

VERY IMPORTANT NOTE ON PRESSURE

GAUGE PRESSURE
Boom Pressure (PSI)
Gauge pressure is the boom pressure required to obtain the required tip pressure (PSI). Gauge pressure figures (due to solenoids) are for standard Capstan and Raven PWM solenoids. Check with PWM system supplier to confirm gauge/tip pressure relationship.

TIP PRESSURE
Pressure (PSI) at the Tip
All required label rates and operating criteria are based on required tip pressure, not to be confused with gauge pressure. Tip pressure creates the spray pattern and droplet quality required for spray application.

FLOW RATE
Flow Rate at Tip Pressure
The US Gallon/Minute flow rate of water at the tip at stated pressure.

DUTY CYCLE (%)
Effective ON time of PWM
Since PWM systems hold pressure constant, the flow at the tip is adjusted by the length of time the solenoids stay open (the duty cycle). Ideal operating duty cycle range is 50-100%. At 100% duty cycle, solenoid is fully open and not pulsing.

~~25 PSI~~ ~~15.0 MPH~~

OUTSIDE REQ'D RANGE
Outside label requirements
If a cell is crossed out, it signifies that the travel speed, pressure or droplet category is outside the required operating range by the chemical label.

~~15.0 MPH~~

OUTSIDE BOUNDS
Outside label requirements
If a cell is crossed out in black, it signifies the speed is out of bound due to tip pressure or other criteria.

EXAMPLE APPLICATIONS

15 US GPA @ 12.5 MPH

UR110-08 @ 15 US GPA
63 PSI @ Gauge
50 PSI @ Tip
12.5 MPH
71% duty cycle[2]

20 US GPA @ 12.5 MPH

UR110-10 @ 10 US GPA
55 PSI @ Gauge
50 PSI @ Tip
12.5 MPH
75% duty cycle

[2]To calculate duty cycle for a specific speed, divide traveled speed by speed at 100% duty cycle. i.e. UR110-08 @ 15 GPA and 50 PSI @ tip: 13.3MPH / 17.7MPH = 71% Duty Cycle

UR Dual Chamber Drift Reduction

SPRAY TIP PICTURE & PART #	Gauge Pressure (PSI)	Tip Pressure (PSI)	FLOW RATE (US GPM)	Class.	15 US Gallon/Acre Application SPEED (MPH) @ % DUTY CYCLE 25%	50%	75%	100%	20 US Gallon/Acre Application SPEED (MPH) @ % DUTY CYCLE 25%	50%	75%	100%
UR110-05 - #40292-05	**UR110-05 Specifications**				**UR110-05 @ 15 US GPA**				**UR110-05 @ 20 US GPA**			
UR DUAL PRE-ORIFICE DESIGN  - Patent Pending	~~28~~	~~25~~	~~0.40~~	~~UC~~	~~2.6~~	~~3.9~~	~~5.9~~	~~7.8~~	~~1.5~~	~~2.9~~	~~4.4~~	~~5.9~~
	33	30	0.43	UC	2.1	4.3	6.4	8.6	1.6	3.2	4.8	6.4
	39	35	0.47	UC	2.3	4.6	6.9	9.3	1.7	3.5	5.2	6.9
	44	40	0.50	UC	2.5	5.0	7.4	9.9	1.9	3.7	5.6	7.4
	55	50	0.56	UC	2.8	5.5	8.3	11.1	2.1	4.2	6.2	8.3
UR110-06 - #40292-06	**UR110-06 Specifications**				**UR110-06 @ 15 US GPA**				**UR110-06 @ 20 US GPA**			
UR DUAL PRE-ORIFICE DESIGN  - Patent Pending	~~29~~	~~25~~	~~0.47~~	~~UC~~	~~2.3~~	~~4.7~~	~~7.0~~	~~9.4~~	~~1.8~~	~~3.5~~	~~5.3~~	~~7.0~~
	34	30	0.52	UC	2.6	5.1	7.7	10.3	1.9	3.9	5.8	7.7
	40	35	0.56	UC	2.8	5.6	8.3	11.1	2.1	4.2	6.3	8.3
	46	40	0.60	UC	3.0	5.9	8.9	11.9	2.2	4.5	6.7	8.9
	57	50	0.67	UC	3.3	6.6	10.0	13.3	2.5	5.0	7.5	10.0
	69	60	0.73	UC	3.6	7.3	10.9	14.5	2.7	5.5	8.2	10.9
UR110-08 - #40292-08	**UR110-08 Specifications**				**UR110-08 @ 15 US GPA**				**UR110-08 @ 20 US GPA**			
UR DUAL PRE-ORIFICE DESIGN  - Patent Pending	~~32~~	~~25~~	~~0.63~~	~~UC~~	~~3.1~~	~~6.3~~	~~9.4~~	~~12.5~~	~~2.3~~	~~4.7~~	~~7.0~~	~~9.4~~
	38	30	0.69	UC	3.4	6.9	10.3	13.7	2.6	5.1	7.7	10.3
	44	35	0.75	UC	3.7	7.4	11.1	14.8	2.8	5.6	8.3	11.1
	51	40	0.80	UC	4.0	7.9	11.9	~~15.8~~	3.0	5.9	8.9	11.9
	63	50	0.89	UC	4.4	8.9	13.3	~~17.7~~	3.3	6.6	10.0	13.3
	76	60	0.98	UC	4.8	9.7	14.5	~~19.4~~	3.6	7.3	10.9	14.5
	90	70	1.06	UC	5.2	10.5	~~15.7~~	~~21.0~~	3.9	7.9	11.8	~~15.7~~
UR110-10 - #40292-10	**UR110-10 Specifications**				**UR110-10 @ 15 US GPA**				**UR110-10 @ 20 US GPA**			
UR DUAL PRE-ORIFICE DESIGN  - Patent Pending	~~35~~	~~25~~	~~0.79~~	~~UC~~	~~3.9~~	~~7.8~~	~~11.7~~	~~15.7~~	~~2.9~~	~~5.9~~	~~8.8~~	~~11.7~~
	42	30	0.87	UC	4.3	8.6	12.9	~~17.1~~	3.2	6.4	9.6	12.9
	51	35	0.94	UC	4.6	9.3	13.9	~~18.5~~	3.5	6.9	10.4	13.9
	57	40	1.00	UC	5.0	9.9	14.9	~~19.8~~	3.7	7.4	11.1	14.9
	71	50	1.12	UC	5.5	11.1	~~16.6~~	~~22.1~~	4.2	8.3	12.5	~~16.6~~
	86	60	1.22	UC	6.1	12.1	~~18.2~~	~~24.2~~	4.5	9.1	13.6	~~18.2~~
	98	70	1.32	UC	6.5	13.1	~~19.6~~	~~26.2~~	4.9	9.8	14.7	~~19.6~~

IMPORTANT: Required Pre-orifices

Each DR & UR tip-caps include snap-in pre-orifices that MUST be used for proper spray operation. These pre-orifices are **NOT** interchangeable between sizes/series of tip-cap.

UR Dual Pre-orifices Series

The **UR series** tip-cap includes two snap-in orifices. One is short and snaps directly into the cap, the other is longer and snaps into the short orifice. NEVER operate UR series spray tips without BOTH orifices properly snapped in.

DR Single Pre-orifice Series

The **DR series** tip-cap includes a single pre-orifice that snaps into the tip-cap. NEVER operate DR series spray tips without the pre-orifice properly snapped in.

DR Single Pre-orifice Series

SPRAY TIP PICTURE & PART #	Gauge Pressure (PSI)	Tip Pressure (PSI)	FLOW RATE (US GPM)	Class.	10 US Gallon/Acre Application SPEED (MPH) @ % DUTY CYCLE 25%	50%	75%	100%	15 US Gallon/Acre Application SPEED (MPH) @ % DUTY CYCLE 25%	50%	75%	100%
DR110-10 - #40286-10	**DR110-10 Specifications**				**DR110-10 @ 15 US GPA**				**DR110-10 @ 20 US GPA**			
DR SINGLE PRE-ORIFICE DESIGN  - Patented -	~~35~~	~~25~~	~~0.79~~	~~UC~~	~~3.9~~	~~7.8~~	~~11.7~~	~~15.7~~	~~2.9~~	~~5.9~~	~~8.8~~	~~11.7~~
	42	30	0.87	UC	4.3	8.6	12.9	~~17.1~~	3.2	6.4	9.6	12.9
	51	35	0.94	UC	4.6	9.3	13.9	~~18.5~~	3.5	6.9	10.4	13.9
	57	40	1.00	UC	5.0	9.9	14.9	~~19.8~~	3.7	7.4	11.1	14.9
	71	50	1.12	UC	5.5	11.1	~~16.6~~	~~22.1~~	4.2	8.3	12.5	~~16.6~~

[1]TO THE EXTENT CONSISTENT WITH APPLICABLE LAW AND PRODUCT LABELS, BASF AND WILGER MAKE NO RECOMMENDATION OR WARRANTY HEREIN REGARDING THE USE OF ANY PRODUCT THAT MAY APPEAR ON THIS PAGE, REGARDLESS OF WHETHER SUCH PRODUCT IS USED ALONE OR WITH A COMBINATION OF ENGENIA™ HERBICIDE OR ANY WILGER PRODUCTS. BUYER AND ALL USERS ARE SOLELY RESPONSIBLE FOR ANY LACK OF PERFORMANCE, LOSS, OR DAMAGE IN CONNECTION WITH THE USE OR HANDLING OF ANY SUCH PRODUCT ALONE OR WITH ENGENIA HERBICIDE™. **ALWAYS REFER TO AND FOLLOW CHEMICAL LABEL**, SUPPLEMENTARY LABEL AND LOCAL LEGISLATION FOR ANY ADDITIONAL RESTRICTIONS OR REQUIREMENTS ON CHEMICAL APPLICATIONS.