

Information About Spray Pressure

Flow Rate

Nozzle flow rate varies with spraying pressure. In general, the relationship between GPM and pressure is as follows:

$$\frac{GPM_1}{GPM_2} = \frac{\sqrt{PSI_1}}{\sqrt{PSI_2}}$$

This equation is explained by the illustration to the right. Simply stated, in order to double the flow through a nozzle, the pressure must be increased four times.

Higher pressure not only increases the flow rate through a nozzle, but it also influences the droplet size and the rate of orifice wear. As pressure is increased, the droplet size decreases and the rate of orifice wear increases.

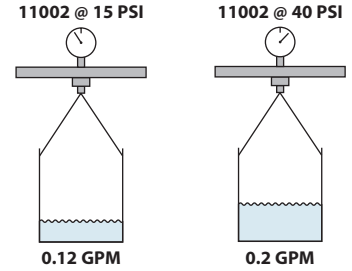
The values given in the tabulation sections of this catalog indicate the most commonly used pressure ranges for the associated spray tips. When information on the performance of spray tips outside of the pressure range given in this catalog is required, contact TeeJet Technologies or your local rep.

Spray Angle and Coverage

Depending on the nozzle type and size, the operating pressure can have a significant effect on spray angle and quality of spray distribution. As shown here for an 11002 flat spray tip, lowering the pressure results in a smaller spray angle and a significant reduction in spray coverage.

Tabulations for spray tips in this catalog are based on spraying water. Generally, liquids more viscous than water produce relatively smaller spray angles, while liquids with surface tensions lower than water will produce wider spray angles. In situations where the uniformity of spray distribution is important, be careful to operate your spray tips within the proper pressure range.

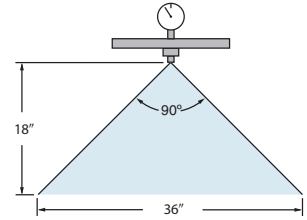
Note: Suggested minimum spray heights for broadcast spraying are based upon nozzles spraying water at the rated spray angle.



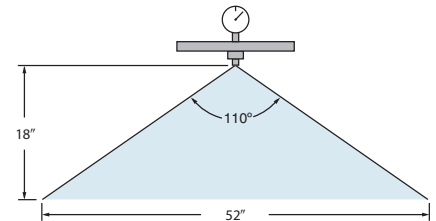
0.12 GPM

0.2 GPM

11002 @ 15 PSI



11002 @ 40 PSI



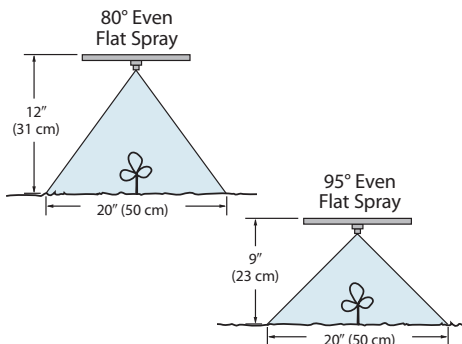
Pressure Drop Through Various Hose Sizes

FLOW IN GPM	PRESSURE DROP IN PSI (10' [3 m] LENGTH WITHOUT COUPLINGS)				
	¼" I.D.	3/8" I.D.	½" I.D.	¾" I.D.	1" I.D.
0.5	1.4	.2			
1.0		.7			
1.5		1.4	.4		
2.0		2.4	.6		
2.5		3.4	.9		
3.0			1.2		
4.0			2.0		
5.0			2.9	.4	
6.0			4.0	.6	
8.0				.9	.3
10.0				1.4	.4

Helpful Reminders for Band Spraying

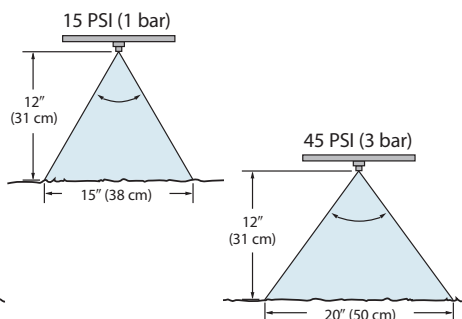
Wider angle spray tips allow the spray height to be lowered to minimize drift.

Example:



The spray angle of the nozzle and the resulting band width are directly influenced by the spraying pressure.

Example: 8002E Even Flat Spray



Use care when calculating:
Field Acres/Hectares vs. Treated Acres/Hectares

Field Acres/Hectares = Total Acres/Hectares of Planted Cropland

Treated Acres/Hectares =
Field Acres/Hectares X Band Width
Row Spacing

