

Drip Equations

Number of Emitters per Plant

Emitters per tree =
$$\frac{\text{canopy area (sq. ft.)} \times 0.75}{\text{wetted area per emitter (sq. ft.)}}$$

Soil Type	Wetted Area	
	Diameter (ft.)	Area (sq. ft.)
Sand	2 - 3	3 - 7
Sandy Loam	3 - 4.5	7 - 16
Loam	3 - 5	7 - 20
Clay-Loam	4 - 6	13 - 28
Clay	5 - 7	20 - 38

Flow per zone

Flow per zone (gpm) =
$$\frac{\text{Total number of drippers} \times \text{dripper flow rate (gph)}}{60 \text{ (minutes)}}$$

Precipitation Rate for Evenly Spaced Laterals and Emitters

Precipitation Rate for Drip Laterals (inches/hour)							
Emitter Flow	Emitter Spacing	Spacing Between Drip Laterals					
		6 in.	12 in.	18 in.	24 in.	30 in.	36 in.
0.53 gph	12 in.	1.62	0.81	0.54	0.40	0.32	0.27
0.53 gph	18 in.	1.08	0.54	0.36	0.27	0.22	0.18
0.53 gph	24 in.	0.81	0.40	0.27	0.20	0.16	0.13
1.02 gph	12 in.	3.11	1.56	1.04	0.78	0.62	0.52
1.02 gph	18 in.	2.07	1.04	0.69	0.52	0.41	0.35
1.02 gph	24 in.	1.56	0.78	0.52	0.39	0.31	0.26

Precipitation Rate Formula:

Precipitation Rate (in./hr.) =
$$\frac{231.1 \times \text{Emitter Flow (gph)}}{\text{Lateral Spacing (in.)} \times \text{Emitter Spacing (in.)}}$$

Note: This formula applies to evenly spaced drip irrigation laterals and emitters

Precipitation Rate for a Single Lateral

Precipitation Rate (in./hr) of a Single Row of Dripline In a Contained Landscape						
Emitter Flow	Emitter Spacing	Width of Contained Landscape				
		1 ft.	2 ft.	3 ft.	4 ft.	5 ft.
0.53 gph	12 in.	0.81	0.40	0.27	0.20	0.16
0.53 gph	18 in.	0.54	0.27	0.18	0.13	0.11
0.53 gph	24 in.	0.40	0.20	0.13	0.10	0.08
1.02 gph	12 in.	1.56	0.78	0.52	0.39	0.31
1.02 gph	18 in.	1.04	0.52	0.35	0.26	0.21
1.02 gph	24 in.	0.78	0.39	0.26	0.19	0.16

Precipitation Rate Formula:

Precipitation Rate (in./hr.) =
$$\frac{231.1 \times \text{Emitter Flow (gph)}}{\text{Width of Contained Area (in.)} \times \text{Emitter Spacing (in.)}}$$



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