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LONGHORN

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Irrigation Design Information

Precipitation Rate

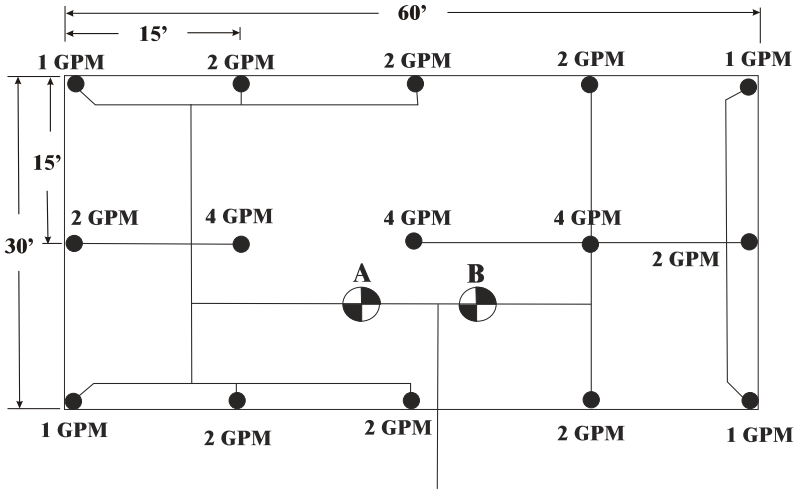
Precipitation Rate: The volume of water in inches per hour that the sprinkler emits.

$$P_R = \frac{GPMx96.3}{Area}$$

Where: G.P.M. = Gallons Per Minute discharge of sprinkler head (use full circle or total G.P.M. of total area)

Area = Head Spacing x Row Spacing or Total area of zone.

P_R = Precipitation Rate in inches per hour



In the above example there are 2 zones with 16 G.P.M. each for a total of 32 G.P.M. The total area is 60' x 30' or 1800 sq ft. The heads are spaces 15' x 15' or 225 sq ft.

Using the total area and g.p.m.: $$P_R = \frac{32x96.3}{1800} = \frac{3081.6}{1800} = 1.712''/hr$$

Using single head with head spacing x row spacing: $$P_R = \frac{4x96.3}{15x15} = \frac{385.2}{225} = 1.712''/hr$$

The Precipitation Rate is the same. When using a single sprinkler use the full circle equivalent.

By knowing the application rate of your zones you will be able to schedule the length of your watering times so the application will not exceed the infiltration rate of the soil. In the above example if you had a heavy soil with an infiltration rate of 0.50 inches per hour you would schedule your zone run time to around 15 - 17 minutes. This will keep run off to a minimum.