

Technical Data & Reference Charts

CP offers Gallon Per Acre, Gallons Per Minute and Spray Classification charts for all its nozzles. Droplet spectrum, or spray quality, is a crucial component of successful applications. Droplets that are too small may not reach the target and may drift. Droplets that are too large may not give adequate coverage; however, ALWAYS follow the product label for proper droplet size and efficacy. Below are useful formulas for Spray Nozzle GPM (Gallons Per Minute) & GPA (Gallons Per Acre).

$$\text{GPM: Gallons Per Minute} \quad \text{GPA: Gallons Per Acre} \quad \text{MPH: Miles Per Hour}$$

$$\text{GPM (Per Nozzle)} = \frac{\text{GPA} \times \text{mph} \times \text{W}}{5,940} \quad \text{GPA} = \frac{5,940 \times \text{GPM (Per Nozzle)}}{\text{mph} \times \text{W}}$$

W: Nozzle spacing (in inches) for broadcast spraying

- Spray width (in inches) for single nozzle, band spraying or boomless spraying.
- Row spacing (in inches) divided by the number of nozzles per row for directed spraying.

Check the appropriate chart for flow rates of nozzle that is being used. Determine desired GPM, appropriate orifice/deflector, pressure, and speed for product label requirements and climatic conditions. Adjust orifice and deflector, pressure and boom height to give 100% overlaps at the target — either ground or crop canopy. **The CP Quick Calculator is a free tool for choosing which products and setups will work the best for the different jobs.** Below are some quick reference tables.

Weights & Measures Conversions

Weight

- 16 ounces = 1 pound = 453.6 grams
- 1 gallon water = 8.34 pounds = 3.78 liters

Liquid Measure

- 1 fluid ounce = 2 tablespoons = 29.57 milliliters
- 16 fluid ounces = 1 pint = 2 cups
- 8 pints = 4 quarts = 1 gallon
- 1 gallon = 128 fl oz = 8 pints = 4 quarts = 3.79 liters = 0.83 imperial gallon

Length

- 3 feet = 1 yard = 91.44 centimeters
- 16.5 feet = 1 rod
- 5280 feet = 1 mile = 1.61 kilometers = 1610 m
- 320 rods = 1 mile

Area

- 9 square feet = 1 square yard
- 43,560 square feet = 1 acre = 160 square rods
- 1 acre = 0.405 hectare
- 1 hectare = 2.471 Acres
- 640 acres = 1 square mile

Speed

- 88 feet per minute = 1 mph
- 1 mph = 1.61 kilometers per hour

Volume

- 27 cubic feet = 1 cubic yard
- 1 cubic foot = 1728 cubic inches = 7.48 gallons
- 1 gallon = 231 cubic inches
- 1 cubic foot = 0.028 cubic meters

Pressure

- 1 psi = 0.069 bar = 6.896 kilopascals

Tractor Speeds

Speed in MPH	Time Required in Seconds to Travel		
	100 ft	200 ft	300 ft.
1.0	68	136	205
1.5	45	91	136
2.0	34	68	102
2.5	27	55	82
3.0	23	45	68
3.5	20	39	58
4.0	17	34	51
4.5	15	30	45
5.0	14	27	41
5.5	12	25	37
6.0	11	23	34
6.5	10	21	31
7.0	9.7	19	29
7.5	9	18	27
8.0	8.5	17	26
8.5	8	16	24
9.0	7.6	15	23
10	6.8	13.6	20.5



www.GroundNozzles.com