

Spraying Liquids with a Density other than Water

Since all tabulations we have computed are based on spraying water, which weighs 8.34 lbs per USA gallon (1 kilogram per liter) conversion factors must be used when spraying liquids that are heavier or lighter than water. To determine the proper size nozzle for the liquid to be sprayed, first multiply the desired GPM or GPA of liquid by the water rate conversion factor. Then use the new converted GPM or GPA rate to select the proper size nozzle.

Example:

Desired application rate is 20 GPA of 28% N. Determine the correct nozzle size as follows:

GPA (liquid other than water) x Conversion Factor
= GPA

20 GPA (28%) x 1.13
= 22.6 GPA (water)

The applicator should choose a nozzle size that will supply 22.6 GPA of water at the desired pressure.

Weight of Solution	Specific Gravity	Conversion Factor
7.0 lbs/gal.	.84	.92
8.0 lbs/gal.	.96	.88
8.34 lbs/gal.	1.00 - WATER	1.00
9.0 lbs/gal.	1.08	1.04
10.0 lbs/gal.	1.20	1.10
10.65 lbs/gal.	1.28 - 28% nitrogen	1.13
11.0 lbs/gal.	1.32	1.15
12.0 lbs/gal.	1.44	1.20
14.0 lbs/gal.	1.68	1.30