

Determining The Amount of Nitrogen in Irrigation Water

Irrigation water can be collected and analyzed for nitrate by a laboratory to determine the amount of nitrate (NO₃) or nitrate-nitrogen (NO₃-N) in water. The concentration of nitrate can then be extrapolated to determine the pounds of nitrogen per acre foot of water.

How to convert between NO₃ and NO₃-N:

To convert Nitrate (NO₃) to Nitrate-Nitrogen (NO₃-N), multiply by 0.2259.

To convert Nitrate-nitrogen (NO₃-N) to Nitrate (NO₃), multiply by 4.4268.

How to convert to pounds N per acre foot:

Water Content Of:	Multiply By:	To Determine:
PPM NO ₃	0.052	Pounds N/acre inch
PPM NO ₃	0.62	Pounds N/acre foot
PPM NO ₃ -N	0.23	Pounds N/acre inch
PPM NO ₃ -N	2.74	Pounds N/acre foot

*water analyses from most labs report NO₃ in units of ppm, but it is very important to pay attention to which units the results are reported.

How to determine Pounds Nitrogen from Pounds N/acre foot:

Multiply the Pounds N/acre foot (or inches) by the amount of acre/foot (or inches) water applied.

Amount of Nitrogen per Area:	Multiply By:	To Determine
Pounds N/acre inch	Acre inch irrigation water	Pounds Nitrogen
Pounds N/acre foot	Acre foot irrigation water	Pounds Nitrogen

Converting Total Applied Fertilizer Amounts to Pounds of Nitrogen Applied for Common Products

(see your fertilizer manufacturer for exact conversions)

Nitrogen fertilizers have three numbers on the label such as 10-20-10 or 10-10-10 and these numbers represent the percentage of the three major nutrients, nitrogen-phosphorus-potassium (N-P-K). Below is a table of examples of how to determine the amount of pounds of nitrogen in different fertilizer products.

Product / Product Unit:	Multiply By:	To Determine
UN32 / Gallons	3.539	Pounds Nitrogen
Ammonium Sulfate / Pounds	0.21	Pounds Nitrogen
Potassium Nitrate / Pounds	0.15	Pounds Nitrogen
Calcium Nitrate	0.15	Pounds Nitrogen
15/15/15	0.15	Pounds Nitrogen