Nutrient Budgeting for Nitrate in Irrigation Water

Analyze irrigation water quality periodically, and credit nitrates (NO3-N) in water to crop requirements. Nitrate test results can be calculated by simply multiplying parts per million (ppm) NO3-N by 2.7 lbs/AF (pounds per acre foot) times the amount of effective water applied (in feet) to the crop, to determine pounds of nitrogen (N) per acre applied in the irrigation water.

Check fields after irrigation to evaluate uniformity of irrigation water applications.

If assistance is needed, contact a qualified crop consultant or irrigation technician to help schedule irrigations and determine the application efficiency of the system.

Sample Calculation: Irrigation Water N Credit
30 inches of water applied containing 7 ppm NO3-N
7 ppm NO3-N x 2.7 N/AF x 30 inches applied/acre
12 inches/AF
= 47.25 lb N per acre

Water Applied by Surface Irrigation

Q = Flow (cfs) T = Time (hours)
A = Area (acres)
D = Depth (inches)

$AD = QT$

When You Know Divide By To Find
gallons 27,150 acre-inches
gallons 325,850 acre-feet