

IRRIGATION WATER QUALITY GUIDELINES

Guidelines from Water Quality in Irrigation F.A.O. and other sources

PARAMETER:		Unit of Measurement		Problems Unlikely	Increasing Problems	Severe Problems
Electrical Conductivity	(salinity)	mmhos/cm		<0.75	0.75 - 3.0	>3.0
Sodium Absorption Ratio	(SAR)			<3.0	3.0 - 9.0	>9.0
Chloride	(Cl)	ppm		<70	70 - 300	>300
Boron	(B)	ppm		<0.75	0.75 - 2.0	>2.0
Bicarbonate	(HCO ₃)	ppm		<120	120 - 180	>180
Sodium	(Na)	ppm		<70	70 - 180	>180
Calcium	(Ca)	ppm		<100	100 - 200	>200
Magnesium	(Mg)	ppm		<30	30 - 60	>60
pH NORMAL RANGE: 6.5 - 8.4						

PLANT NUTRIENT AVAILABILITY

PARAMETER:		Unit of Measurement	Low	Normal	High	Very High
Calcium	(Ca)	ppm	<20	20 - 60	60 - 80	>80
Magnesium	(Mg)	ppm	<10	10 - 25	25 - 35	>35
Potassium	(K)	ppm	<5	5 - 20	20 - 30	>30
Phosphorus	(P)	ppm	<0.1	0.1 - 0.4	0.5 - 0.8	>0.8
Nitrogen	(N)	ppm	<1	1 - 10	10 - 20	>20
Nitrate	(NO ₃)	ppm	<5	5 - 50	50 - 100	>100
Sulfate	(SO ₄)	ppm	<30	30 - 90	90 - 180	>180
Sulfur	(S)	ppm	<10	10 - 30	30 - 60	>60

< = less than > = greater than

ppm = parts per million

ppm x 0.23 = pounds/acre Inch

1 acre foot = 325,000 gallons

450 gallons/min. = 1 acre-inch/hour

1 gallon of water weighs 8.345 pounds

1 cu/ft. of water weighs 62.43 pounds