Water Test Report

Irrigation Water Test Report

OrganiCalc Pro for Water

Report name: Rancho Reinheimer
Test Date: 7/21/2020
Sample Location: City Water
Report Date: April 10, 2024
Email address: alice@growabundant.com
Your pdf will be sent to this address.

	Units	Value	Target Range		Warnings	Warning Levels
pH	(no units)	8.0	6.5	7.0	High	Low, Safe, High
Hardness	ppm	351	50	150	Very Hard	Soft, Moderate, Hard, Very Hard
Hardness	grains/ gallon (calculated)	20.5				
Conductivity	mmhos/cm	0.81	0	0.75	Concerning	Safe, Concerning, High, Severe
Sodium Adsorption Ratio	sqrt(mmole/L) (calculated)	0.52	See notes		Safe	Safe, Okay, Significant, High, Severe

	Value (ppm)	Value (meq/l)	Value (lbs/ac-in)	Target Range (ppm)		Warnings	Warning Levels
Calcium Ca	90.1	4.50	20.5	40	80	High	Low, Safe, High
Magnesium Mg	30.6	2.52	7.0	30	50	Safe	Low, Safe, High
Potassium K	2.8	0.07	0.6	1.5	10	Safe	Low, Safe, High
Sodium Na	22.4	0.97	5.1	0	50	Safe	Low, Safe, High
Iron Fe	< 0.1		0.0	0	0.1	**Safe**	Safe, High
Total cations (calculated)		8.06					
Total Alkalinity	252	5.04	57.3	120	180	**High**	Low, Safe, High
Carbonate	0	0.00	0.0	0	15	Safe	Safe, High
Bicarbonate	307	5.03	69.8	0	120	Severe	Safe, Moderate, Severe
Chloride	42	1.18	9.5	0	70	Safe	Safe, Low, Moderate, Severe
Sulfate	78	1.62	17.7	0	90	**Safe**	Low, Safe, High
Total anions (calculated)		7.84					
Salt Concentration	518.4	(calculated)	117.82	0	500	Low	Safe, Low, Moderate, Severe
Boron	0.04		0.01	0	0.5	Safe	Safe, Very Low, Low, Moderately Low, Moderately High, High, Severe

	Units	Value	Expected Range		Warnings	Warning Levels
Cation/Anion Ratio (calculated)		1.03	0.8	1.2		May be out of range if ion levels are low
Nitrate	ppm	0.80	0	5	Safe	Safe, High
P ppm	ppm	0.08	0	0.4	Safe	Safe, High
pHc	(no units, not used)					
Adj. SAR	sqrt(mmole/L) (calculated)	0.65	See notes. (This will not match LL values due to differences in calculation methods.)		Safe	Safe, Okay, Significant, High, Severe

Water Analysis Notes

Irrigation Water Analysis Notes - Rancho Reinheimer - City Water - 7/21/2020

Salinity Concerns

See reference

Some - may have detrimental effect on sensitive crops.

High salinity (a high quantity of dissolved minerals in the water) decreases the ability of plant roots to take up water. Plants may wilt even though the soil has plenty of moisture. Plant tolerance for salts varies by plant species.

Alkalinity Concerns (Usually Due to Bicarbonates)

See reference

Expect a detrimental impact to field crops if this irrigation water is the only source of water for the crop.

High alkalinity has a detrimental effect on seedlings and other plants in pots. In the extreme, it is a problem for field crops, especially in light soil where bicarbonates can build up and raise soil pH.

Water Infiltration Problems Due to High Sodium Adsorption Ratio

See reference

None.

Irrigation water with high sodium adsorption ratio and low conductivity can lead to a buildup of sodium in the soil, causing the soil to lose porosity and form a hard layer at the surface that water cannot penentrate.

Sodium Removal of Calcium and Magnesium

See reference

None.

High residual sodium carbonate (RSC) will tend to renove calcium and magnesium from the soil, increasing the percentage of sodium which in turn clogs air pores in clay soils. High RSC irrigation water should be treated with gypsum to supply additional calcium.

Boron Toxicity Concerns

See reference

None.

Boron at high levels can be toxic to plants.

Chloride Toxicity Concerns

See reference

None.

Chloride at high levels can be toxic to plants.

Iron Toxicity Concerns

See reference

None.

Iron at high levels can be toxic to plants. At lower levels it may cause staining and emitter plugging.

Overhead Watering Concerns - Leaf Burns and Stains

See reference

None.

Overhead watering with water high in sodium or chlorine can cause leaf burn. Water high in iron can cause staining.

Overhead Watering Concerns - Hard Water Spots

See reference

Water not suitable for overhead irrigation due to potential for white spots from hard water.

Hard water can cause white spots on foliage when overhead irrigation is used. White spots can be mitigated by irrigating at night or on cloudy days when evaporation is low.

Suitability for Foliar Spray Mixes

See reference

Excess biacarbonates. Do not use this water for a foliar spray.

The water used for foliar sprays should be quite pure and of slightly acid pH so as to not interfere with any of the spray active ingredients.

Drip Irrigation Emitter Plugging Concerns

See reference

Due to:

pH: Severe.

Soluble salts: Moderate.

Iron: None.

Calcium: severe

Alkalinity: moderate

Drip emitters can be plugged by lime deposits, excess iron and high alkalinity, as well as other causes not measured on an irrigation test such as particles and algae.

Corrosion Concerns

None.

See reference

Water with pH under 6.5 can corrode metal pipes and fittings.

Nutrients Supplied By Irrigation

>>> Enter irrigation amount in inches: 12

Calcium	246 lbs/acre
Magnesium	83 lbs/acre
Potassium	8 lbs/acre
Sulfate	213 lbs/acre
Iron	0 lbs/acre
Boron	0.11 lbs/acre
Carbonate	0 lbs/acre
Bicarbonate	837 lbs/acre
Chloride	115 lbs/acre
Nitrate - N	2 lbs/acre
Phosphorus	0.2 lbs/acre