BALLTECH ON DEMAND™

WATER QUALITY: PH & SODIUM ADSORPTION RATIO (SAR)

When water test results come back, there are specific parameters to consider.

Water pH

- While not as important a standalone factor as alkalinity, your water's pH (how acidic or basic it is) can serve as an indicator of water quality changes. This is one of those "a square is always a rectangle, but a rectangle is not always a square," situations.
- High alkalinity often correlates with higher water pH (generally above about 7.0) on a test report, but high pH alone does not necessarily indicate high alkalinity.
- It's critical to look at pH and alkalinity together to make fertilizer and other crop culture decisions. A good irrigation water test always includes both pH and alkalinity.

If you perform regular in-house pH and EC tests on your raw water, a sudden increase in pH can serve as a good indicator that your water quality is changing and a more in-depth test should be performed ASAP. Be sure to track these changes with your soil pH to inform crop management decisions, such as when to switch to a more acidic or more basic fertilizer blend.

Sodium Adsorption Ratio (SAR)

This characterizes the relationship of Na to total Ca + Mg in your water, and the risk of damage to crops due to sodium levels. This metric can be a good indicator of potential challenges if you are not familiar with acceptable Na levels in irrigation water.

- When your water's SAR is up to about 2.0 meq/L, Ca and Mg uptake are not likely to be affected. Limestone in your growing media and use of fertilizers with Ca and Mg (like a Cal-Mag fertilizer) are often enough to overcome potential suppression of uptake by Na.
- A SAR above 4.0 meq/L is generally regarded as the threshold of concern for greenhouse irrigation water in soilless production systems. Additional treatment of water or blending with a higher-purity water source before irrigating crops or adding fertilizer is advisable.
- A SAR of 8.0 meq/L or higher generally requires intensive water treatment such as reverse osmosis and without treatment is generally considered unacceptable for crop production.