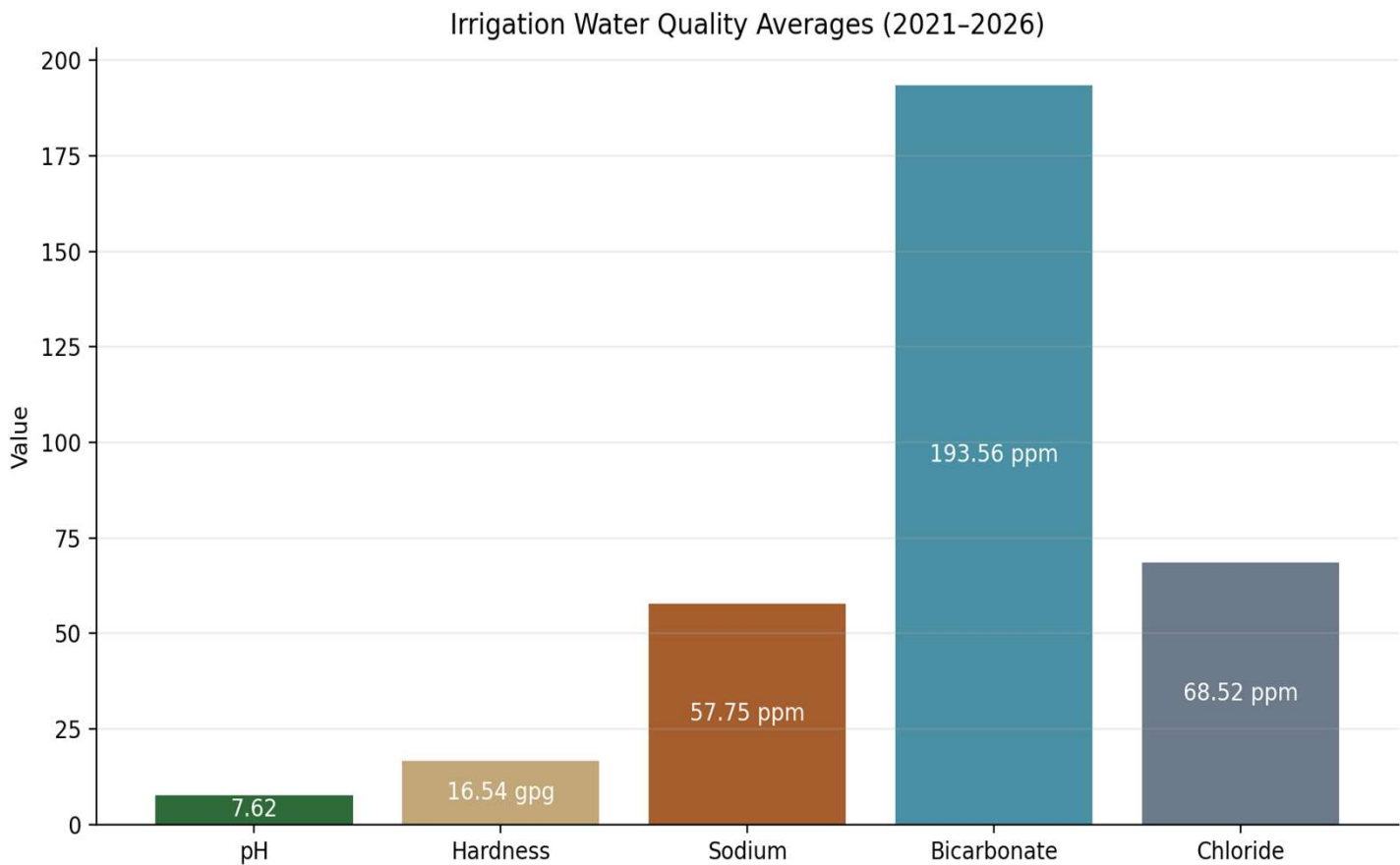


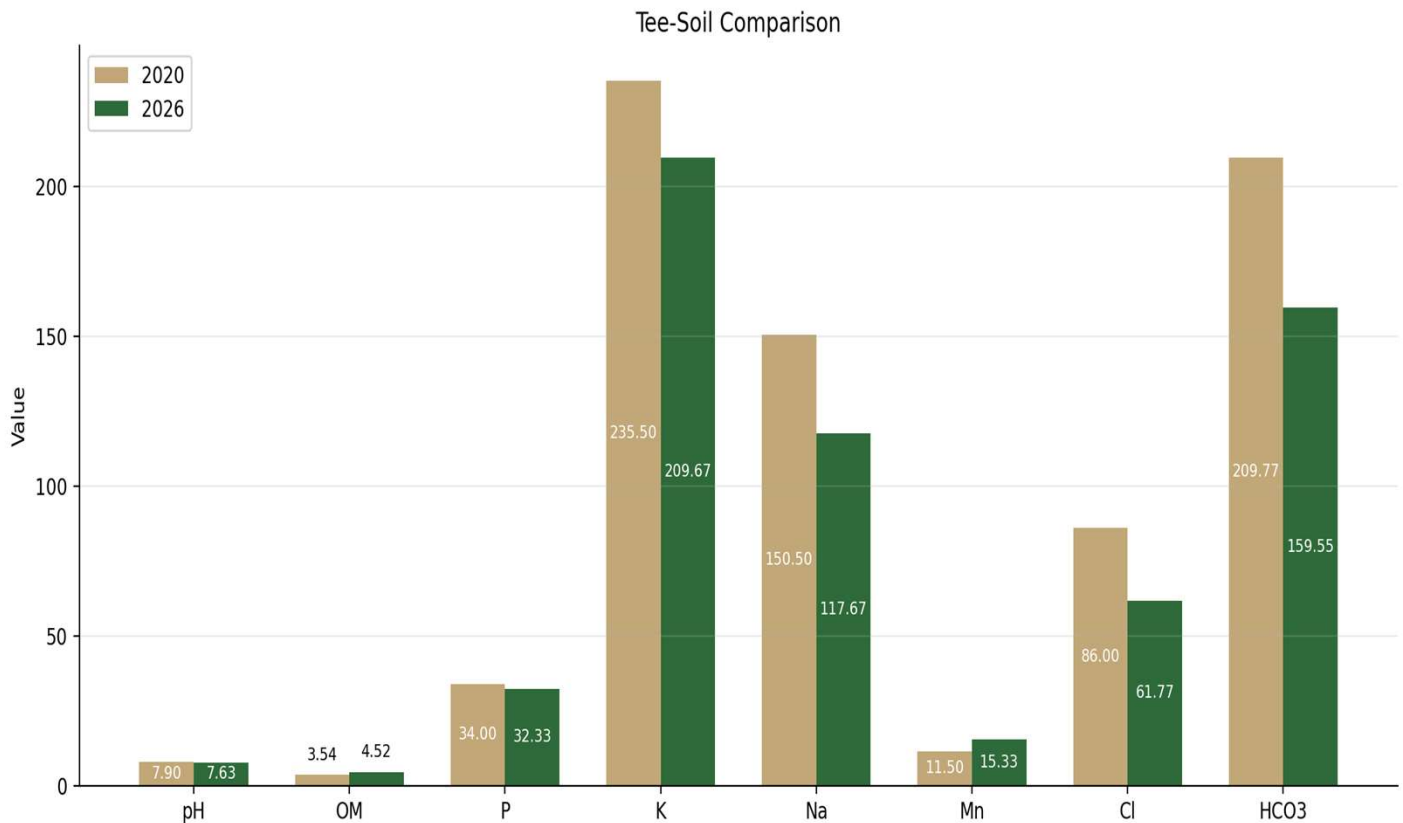


IRRIGATION WATER



- For Las Vegas golf courses, potable water is seen as one of the best water sources you can use to irrigate with. Although that is true, you do “layer” a significant amount of sodium and chloride, then bicarbonates come over the top and seal that together in the soil. The acceptable range for bicarbonate is to be below 120 parts per million. City water hovers between 175 PPM and 200 PPM. Although I don’t often recommend treating potable water, it does need to be mitigated in some way. Either through acid base sprays or other acidification, such as gypsum.
- Consider flushing the greens to start the growing season.





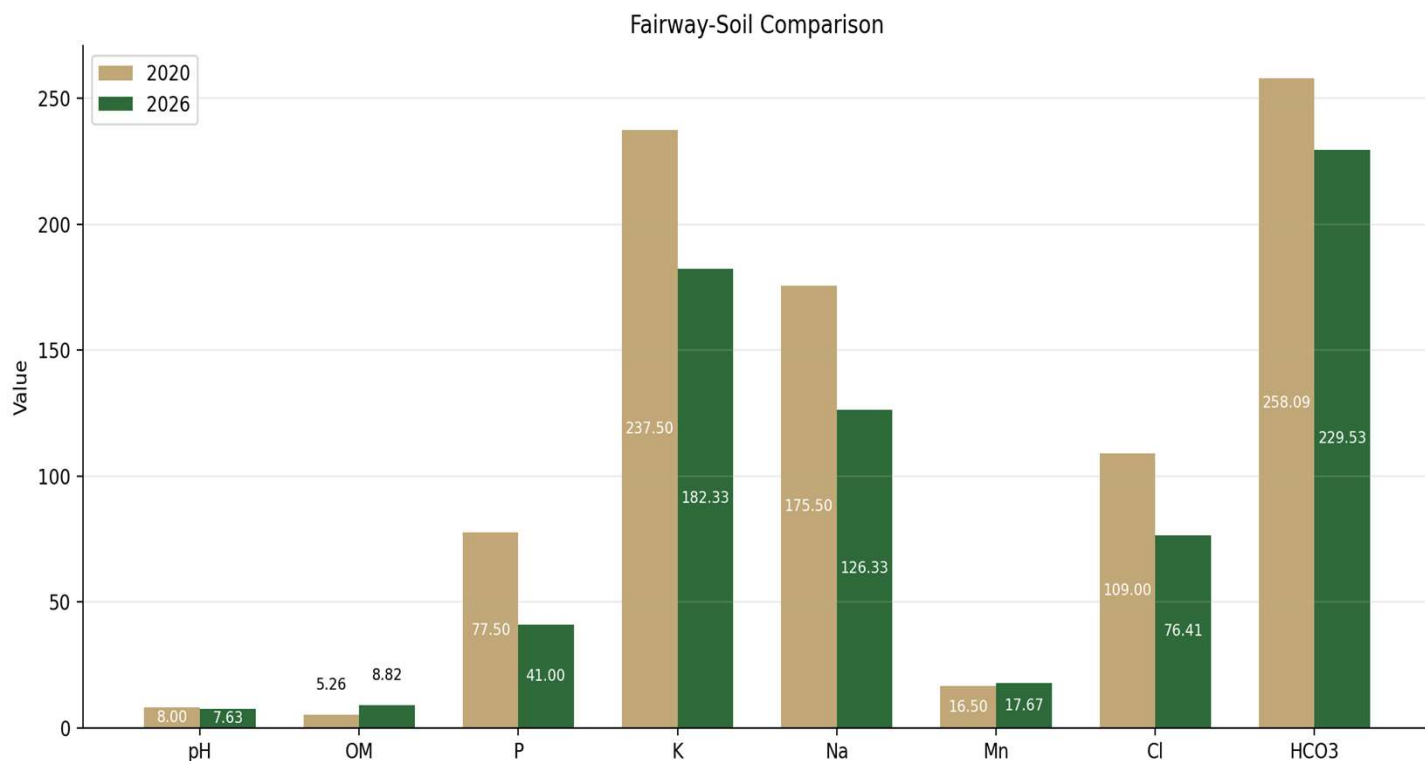
- This chart is representing a comparison of the same holes when I collected them in the spring of 2020. Something noticeable is the reduction in sodium, chloride and bicarbonate levels. Although there are factors specific to the day and time I collect samples, I believe the new irrigation system is a huge factor in these reductions. Better coverage and placement of the water really matters when you load cement into the aggregate, every time you water.

TURF NUTRIENT TARGETS	
NUTRIENTS	
Ca	≥ 500 ppm
Mg	≥ 100 ppm
K	≥ 75 ppm
Mn	≥ 50 ppm
NITROGEN	
NO ₃ -N	≤ 5 ppm Greens
NO ₃ -N	≤ 10 ppm Cool-season tees & fairways
NO ₃ -N	≤ 15 ppm Warm-season grass, tees & fairways
ppm = parts per million	





FAIRWAYS



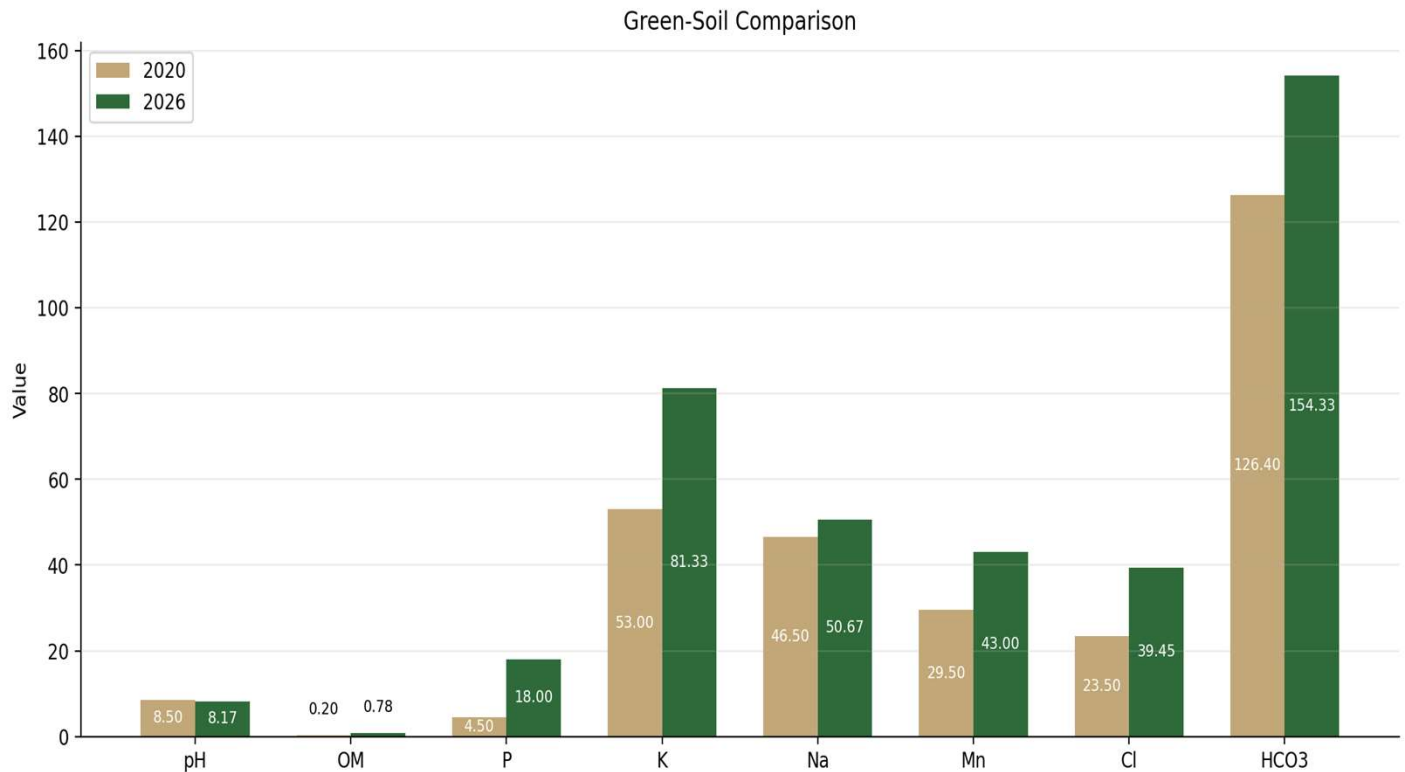
- You see the same reduction in sodium, chloride and bicarbonate levels in the fairways, but they are much harder to change. The increase in organic material over the last six years is noticeable. With over 8% it acts more like a sponge and is more likely to hold on to the negative salts.
- Fairway should be aerified at least two times during the summer. Although Canyon Gate's fairway soil is very rocky, working in the top few inches of the profile to remove that organic material will cut down on localized dry spots and will increase overall playability.

TURF NUTRIENT TARGETS	
NUTRIENTS	
Ca	≥ 500 ppm
Mg	≥ 100 ppm
K	≥ 75 ppm
Mn	≥ 50 ppm
NITROGEN	
NO ₃ -N	≤ 5 ppm Greens
NO ₃ -N	≤ 10 ppm Cool-season tees & fairways
NO ₃ -N	≤ 15 ppm Warm-season grass, tees & fairways
ppm = parts per million	





GREENS



- The spring of 2019 was the first time I collected samples on the new greens. We do not consider the greens new anymore, and it is proven by this comparison of the same holes 6 years apart. The OM% has tripled, and you can see where more of everything is being held by the greens than in 2020.
- The surface of each green is slightly different because of the way the greens were grown in. Although I don't have precisely accurate information, we do know that most greens were sodded but some only portions. There is Idaho sod and there maybe some Socal sod. I mention this because I think it's important that we compare the same holes in the same season to say if OM is getting out of hand.

TURF NUTRIENT TARGETS	
NUTRIENTS	
Ca	≥ 500 ppm
Mg	≥ 100 ppm
K	≥ 75 ppm
Mn	≥ 50 ppm
NITROGEN	
NO ₃ -N	≤ 5 ppm Greens
NO ₃ -N	≤ 10 ppm Cool-season tees & fairways
NO ₃ -N	≤ 15 ppm Warm-season grass, tees & fairways
ppm = parts per million	



SUMMARY

- ❑ Course presenting uniformly dry; conditions align closely with recent weather and limited effective moisture
- ❑ Turf exhibiting stress under high air temperatures (96°F) while soil temps (~60°F) continue to limit active growth and recovery.
- ❑ Surface firmness elevated across playing areas, reducing infiltration and contributing to localized dry conditions.
- ❑ Environmental disconnect between hot air and cool soils is slowing plant response, creating a drought-like appearance despite irrigation inputs.
- ❑ *Poa annua* presence on bentgrass greens has progressed beyond practical hand removal; ongoing PoaCure applications should be monitored to maintain bentgrass density.
- ❑ Incorporating seasonal flower beds in high-traffic areas would improve overall presentation; this remains an underutilized opportunity on property.



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