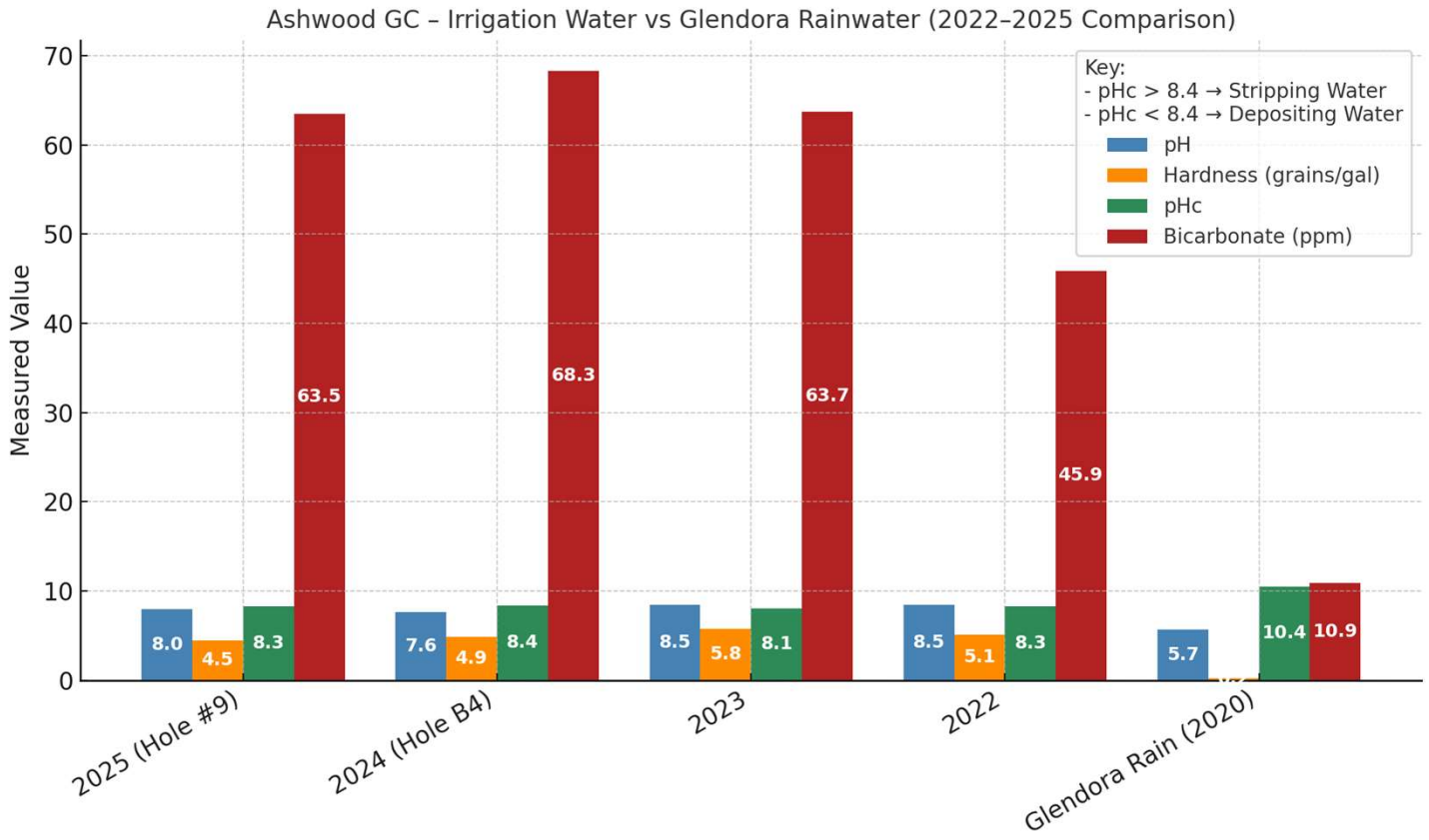
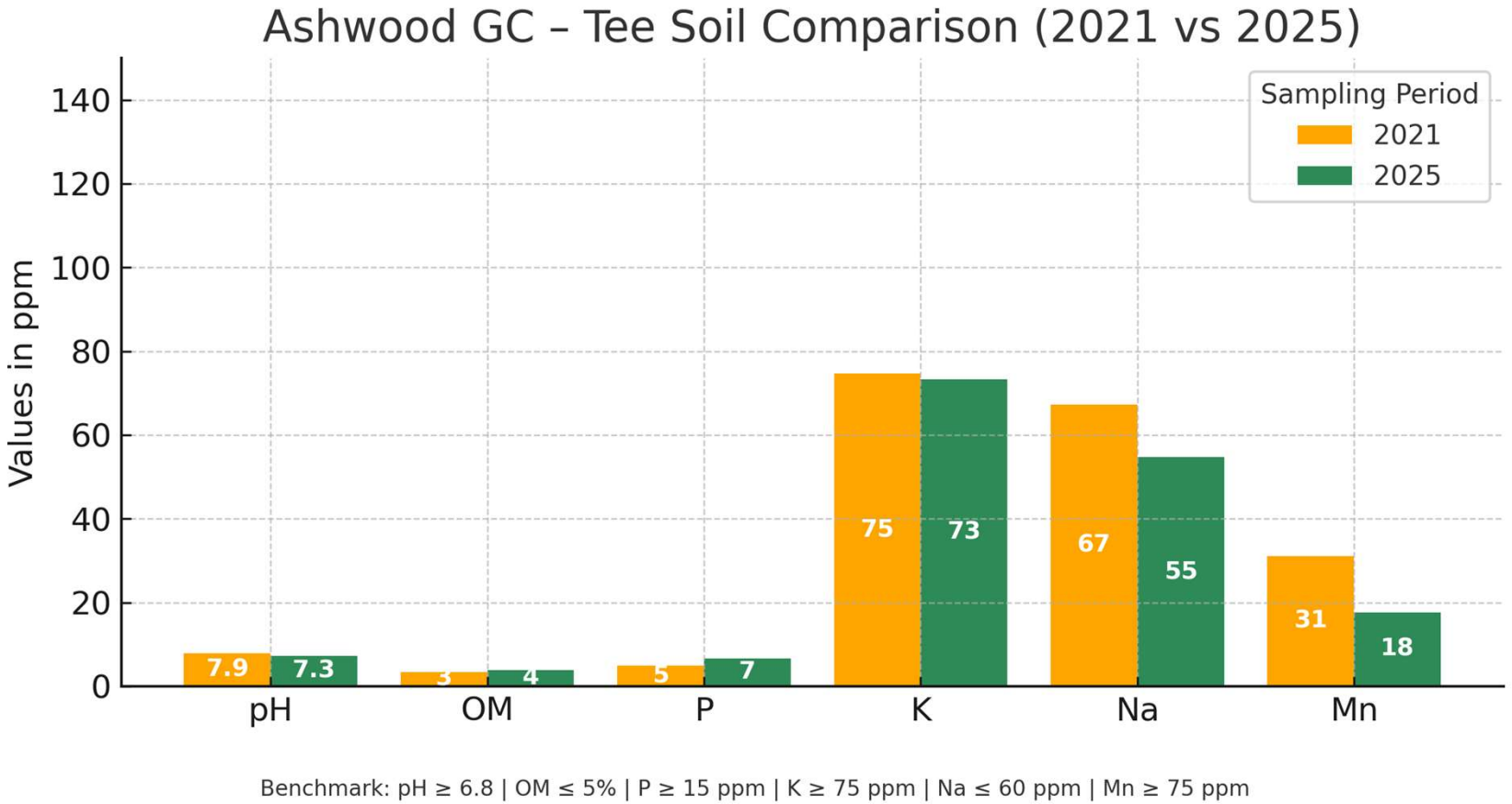
IRRIGATION WATER



- The best irrigation water any golf course can receive is rain. I have never thought there was a perfect irrigation water and therefore setting acceptable ranges is not quite accurate enough. As this sample is average for your water source, I have compared your water sample to rain from Glendora in 2020. I would love a sample closer to your area next time it rains, if you would like to collect it for me, I will pay for it.

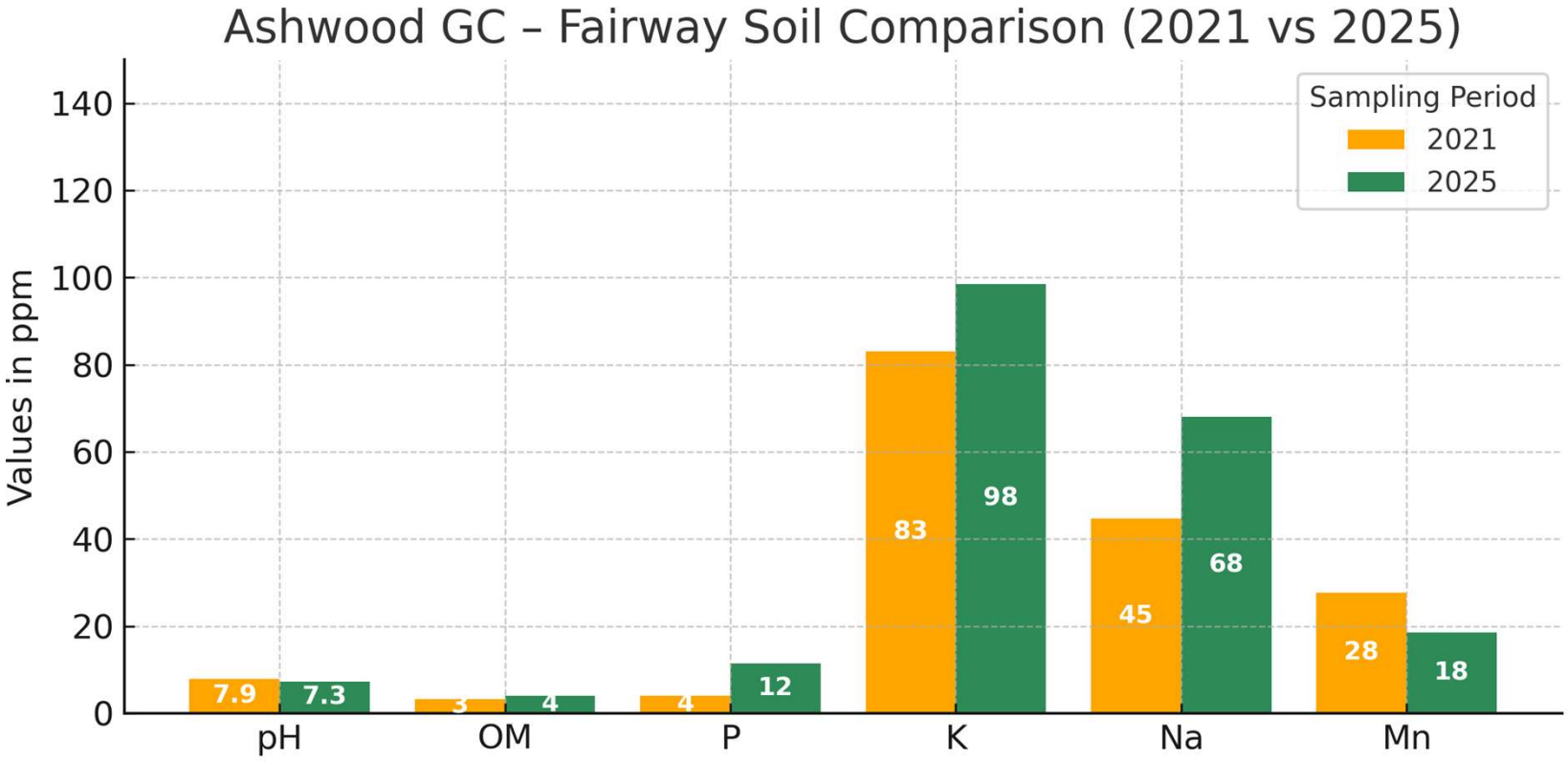
TEES



Benchmark: pH ≥ 6.8 | OM ≤ 5% | P ≥ 15 ppm | K ≥ 75 ppm | Na ≤ 60 ppm | Mn ≥ 75 ppm

- Organic matter rose slightly but remains within healthy range. Calcium and magnesium are abundant, ensuring strong soil structure. Potassium is steady, and sodium remains manageable with periodic leaching.

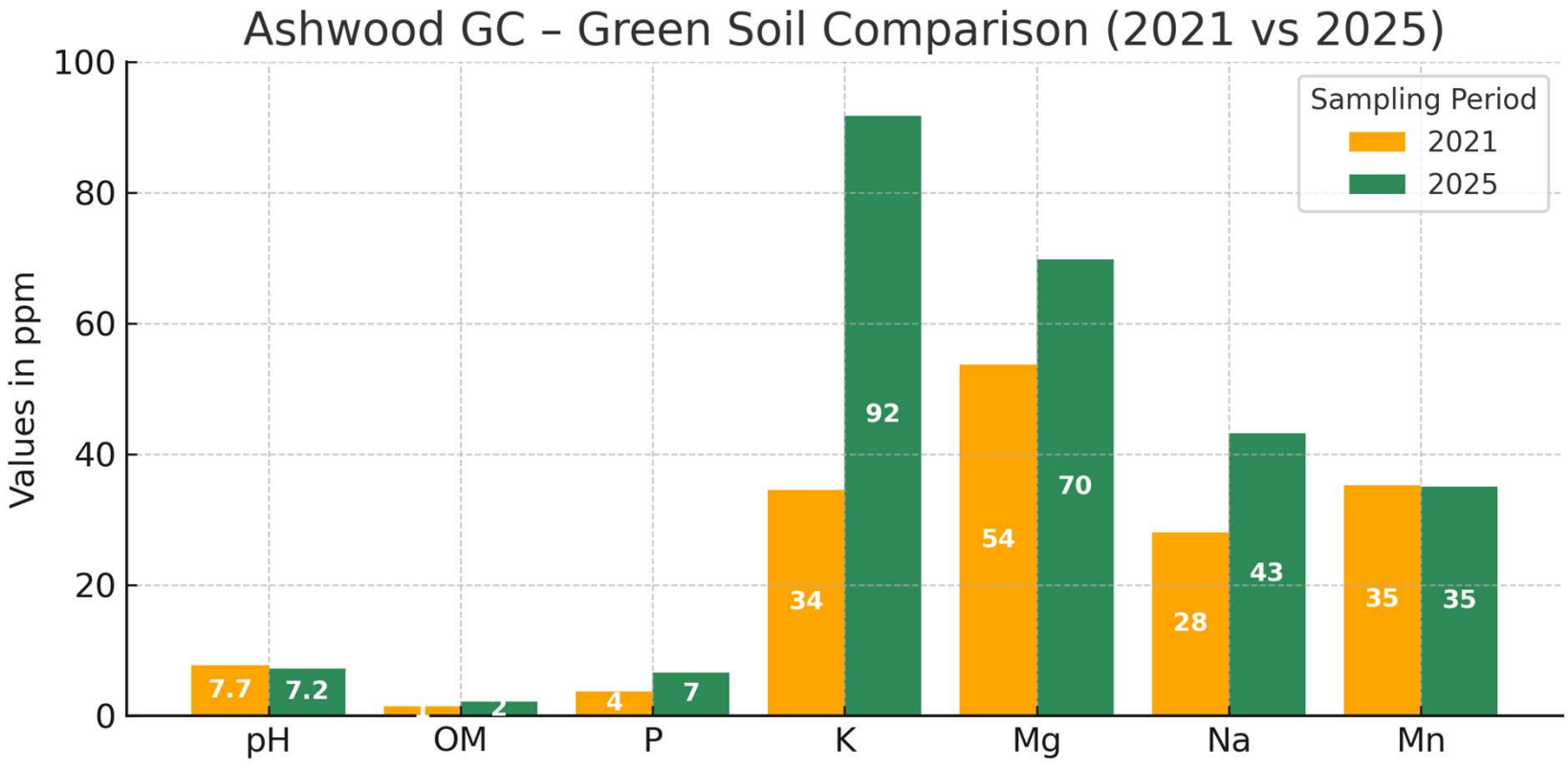
FAIRWAYS



Benchmark: pH ≥ 6.8 | OM ≤ 5% | P ≥ 15 ppm | K ≥ 75 ppm | Na ≤ 60 ppm | Mn ≥ 75 ppm

- pH slightly decreased into ideal range (~7.3). Organic matter improved modestly, supporting microbial activity. Phosphorus and potassium are balanced; sodium increased slightly but not excessive.

GREENS



Benchmark (Greens): pH ≥ 6.8 | OM ≤ 2% | P ≥ 15 ppm | K ≥ 75 ppm | Mg ≥ 50 ppm | Na ≤ 60 ppm | Mn ≥ 75 ppm

- All good increases in key nutrients since 2021. The decrease in pH is great and only Phosphorus and Manganese need work currently. Increase the number of aerifications each year, if possible.

SUMMARY

Ashwood Golf Club – Soil Health Summary (Fall 2025)

Tees:

- pH stable at 7.3–7.5, ideal for nutrient availability.
- Organic matter slightly elevated (~3–4%) but supports moisture retention under traffic.
- Phosphorus low to moderate; light supplementation recommended.
- Potassium levels remain strong (65–90 ppm), ensuring turf resilience.
- Sodium within acceptable range (<60 ppm); continue occasional flushing.
- Manganese moderate (15–25 ppm); supplement in spring to enhance color and stress tolerance.

Fairways:

- pH slightly declined from 7.7 (2021) to 7.3 (2025), closer to ideal for bentgrass and rye.
- Organic matter consistent (3.5–4.0%), indicating stable soil structure.
- Phosphorus improved slightly (10–15 ppm) but still benefits from regular input.
- Potassium levels solid (80–115 ppm); balanced with Mg and Ca.
- Sodium creeping upward (~70 ppm); leaching recommended after summer irrigation cycles.
- Manganese low to moderate (10–25 ppm); add Mn sulfate in fall feeding if desired.

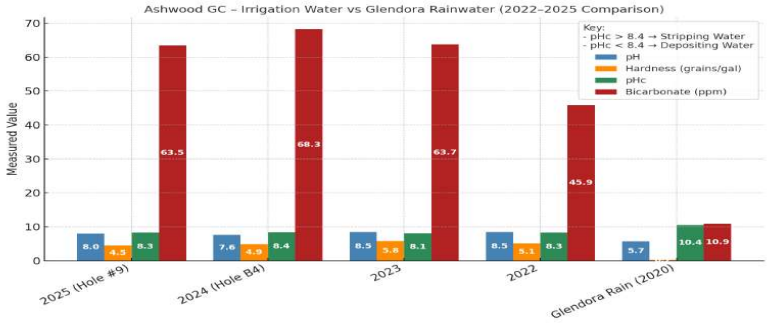
Greens:

- pH range 7.1–7.3; neutral and consistent with target range for sand-based greens.
- Organic matter ≤2.0% in most zones, meeting USGA recommendations.
- Phosphorus improved but remains slightly low (<15 ppm); spoon-feed as part of foliar nutrition.
- Potassium maintained near 90–110 ppm; continue balanced K applications.
- Magnesium stable (70–80 ppm) and beneficial for chlorophyll formation.
- Sodium manageable (~40–50 ppm); maintain flushing and acidification programs.
- Manganese moderate (25–40 ppm); supplementation optional for turf density support.

Overall Course Health:

- Soil chemistry across all surfaces shows strong balance and consistency from 2021 to 2025.
- Continued success depends on regular leaching, pH control, and balanced fertility inputs.
- No red flags observed — course is well positioned for 2026 growing season.

Ashwood Golf Club – Water Quality Summary (2022–2025)



Overview:
Ashwood's irrigation water shows consistent alkaline tendencies with pH near 8.0 and moderate hardness (~5 grains/gal). Bicarbonate levels between 45–70 ppm indicate light carbonate risk but manageable scaling potential. Glendora rainwater (2020) is acidic (pH 5.7), soft, and acts as a natural leaching agent — ideal for flushing salts and balancing soil chemistry.

Interpretation:
- pH and pHc suggest mild carbonate deposit risk in irrigation water.
- Bicarbonate below 75 ppm means scaling risk is limited but still monitor during high TDS months.
- Acid injection or gypsum maintenance every 4–6 weeks keeps infiltration rates stable.
- Rainwater is non-scaling and improves soil structure by reducing bicarbonate buildup.

Excess Thatch in Top 2 Inches – Cool-Season Fairways (California)

Overview:
Excess thatch in the top 2 inches of cool-season fairways acts as a water- and nutrient-suffocating sponge. It causes poor infiltration, localized dry spots, black layer formation, and distorted nutrient balance. K, NH■-N, and Fe often accumulate while Ca and Mg become immobile, giving misleading fertility readings.

Why It's Common in California:
- Mild winters slow natural thatch decomposition.
- Constant irrigation prevents desiccation and oxygen exchange.
- Sand-capped profiles restrict microbial oxidation of organic matter.
- High-pH and bicarbonate irrigation water suppress decomposer fungi.

Corrective Actions:
Physical: Core aerify 2–3× per year, topdress with sand (CU 2.5–3.5), and verticut in spring/fall.
Chemical/Biological: Maintain surface pH 6.2–6.8 with gypsum/acidification; rotate wetting agents every 3–4 weeks.
Nutritional: Limit N to ≤3 lb/1,000 ft²/year; avoid excessive soluble feeding; favor slow-release or foliar N-K.

Target: Maintain a firm, oxygen-rich surface with <3% organic matter in the top 2 inches and active sand dilution. When thatch exceeds 4–5%, thin and topdress aggressively before winter.

Corey Angelo | Owner

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