

Figure S1: Fat-soluble vitamin levels measured across different treatment groups. Subtle non-significant fluctuations were noted in Vitamin A (A) and Vitamin E (B) levels compared to the baseline B. (C) Significant decrease in Vitamin D3 levels were observed in the 5B group (12 months refrigeration followed by 6 months at ambient temperature – Black *) compared to the baseline-B. The dotted line corresponds to the NRC minimum requirements for the respective vitamins.

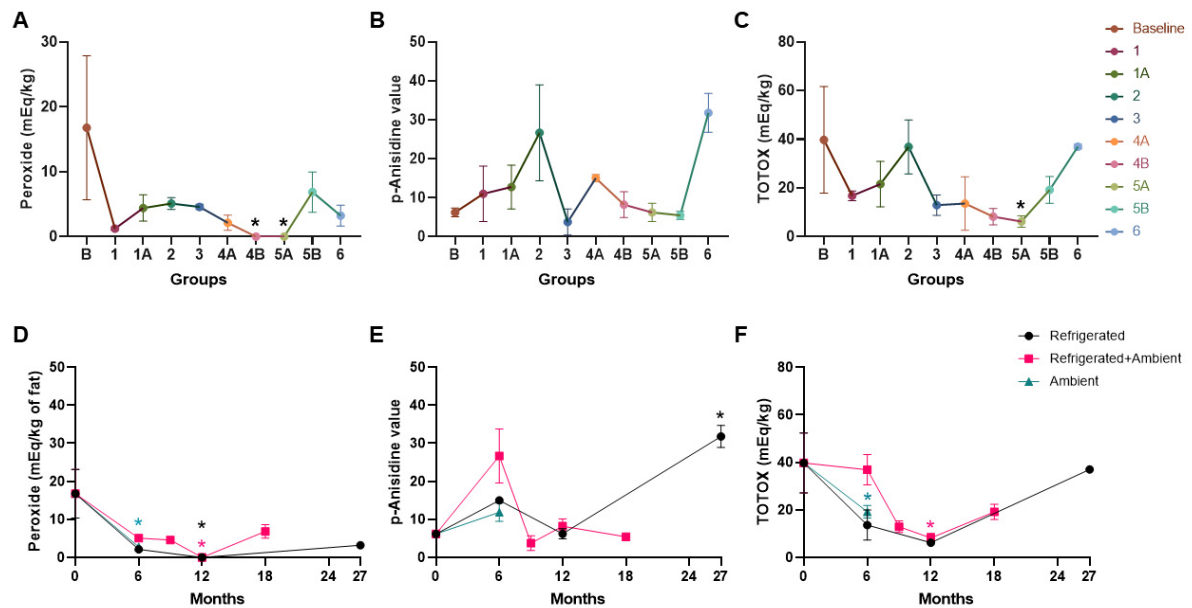


Figure S2. Lipid oxidation in NuRFBs. (A) A decreasing trend was observed in the peroxide levels across groups compared to the baseline, with significant decreases in groups 4B (6 months refrigeration followed by 6 months at ambient temperature, $p=0.0047$, Black *) and 5A (12-month refrigeration, $p=0.0047$, Black *) compared to the baseline-B. (B) Non-significant fluctuations in p-anisidine values were noted across all groups. (C) Fluctuations in TOTOX values were observed with a significant decrease in group 5A (12-month refrigeration, $p=0.0363$, Black *) compared to the baseline-B. (D) A significant decrease in peroxide levels was observed at the 6-month time point in ambient ($p=0.0238$, Teal *), and at the 12-month time point in refrigerated ($p=0.0062$, Black *) and refrigerated+ambient ($p=0.0074$, Pink *) storage conditions. (E) Significant increases in p-anisidine values were noted at the 27-month ($p=0.05$, – Black *) time point in refrigerated storage conditions. (F) Significant decreases in TOTOX values were observed at the 6-month time point in ambient ($p=0.0476$, Teal), and at the 12-month point in refrigerated+ambient ($p=0.0423$, Pink *) storage conditions.

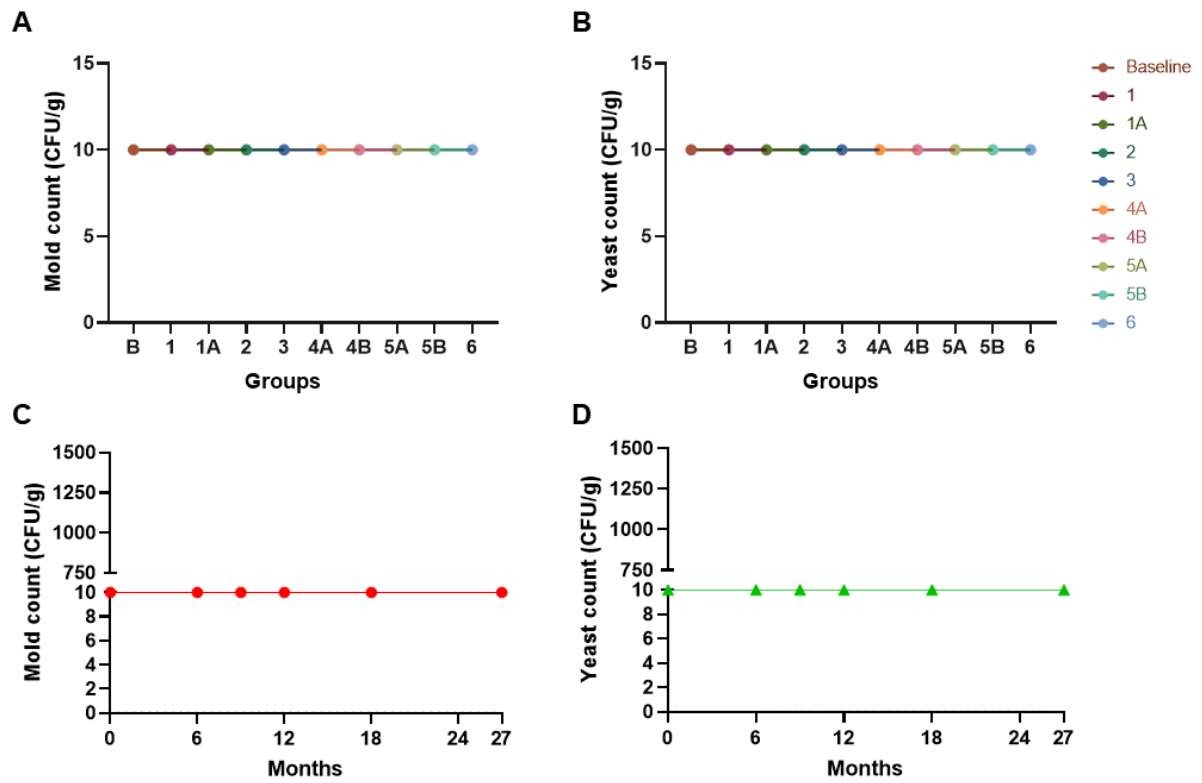


Figure S3: Yeast and mold counts in NuRFBs. No significant changes were observed in mold (A, C) and yeast (B, D) counts across the groups and over time.

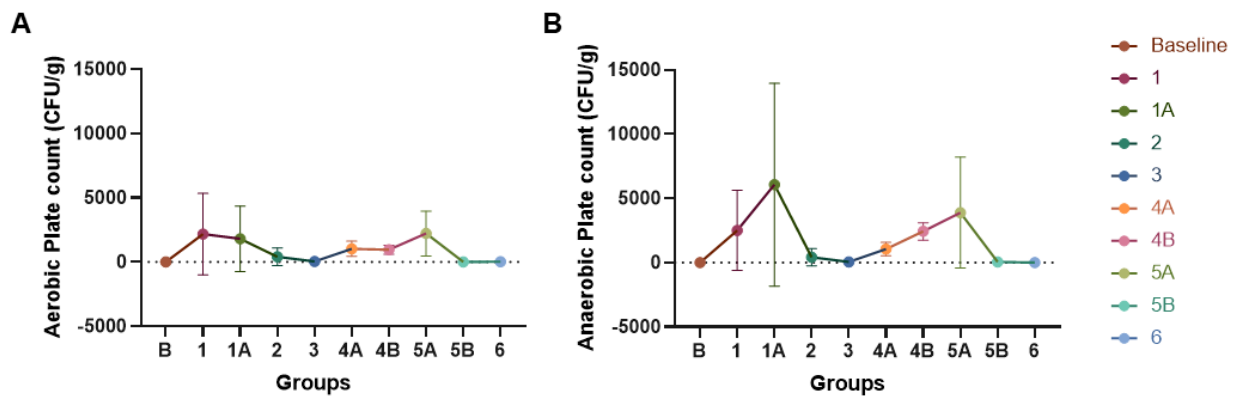


Figure S4: Microbial plate counts measured across different treatment groups. No significant changes were observed in aerobic (A) and anaerobic (B) plate counts across the groups.