Methods: In a double blind cross over trial, healthy adults (n = 13) randomly received a F&V concentrate (emulating the base within 3.5 F&V serves/meal) or placebo at breakfast, lunch and dinner for three days each, with diet standardized throughout. Measurements of 24 hour (24-hr) pH, NAE, and spot-tests were taken throughout. Regression analysis determined relationships between pH and NAE while T-tests and ANOVAs elucidated the concentrate’s influence on samples.

Results: The 24-hr pH indexed 24-hr NAE (r² = 82.5%) yet first morning, second morning and last evening spot-tests poorly indexed 24-hr NAE (r² = 10.9%, 3.5% and 30.8% respectively). Following supplementation, 24-hr NAE and 24-hr pH changed by -25.8 mEq (95%CI: -44.3, -7.4, p = 0.01, d = 0.94) and +0.51 (95%CI: 0.25, 0.79, p = 0.002, d = 1.3) respectively. Conversely, no significant changes occurred in the first or second morning spot-tests yet, a treatment effect occurred in the last evening spot-test by +0.31 (95%CI: 0.06, 0.56, p = 0.02, partial r² = 0.55).

Conclusions: Urine pH spot-tests do not index NAE and inconsistently detected the F&V concentrate which clearly modulated 24-hr pH and NAE. This inconsistency would likely increase if participants consumed a non-standardized diet. Spot-tests are not recommended.

Funding source(s): N/A

**ASSESSMENT OF DIETARY BEHAVIOURS BY SPOT-TESTING URINE pH**

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Background/Aims: Dietary biomarkers which are non-invasive, rapid and accurate may be useful to objectively assess dietary behaviours. The bases within fruits and vegetables (F&V) largely modulate net acid excretion (NAE); a laboratory intensive biomarker related to urine pH. As spot-testing pH is simple, we aimed to assess if spot-tests could index NAE while also exploring the influence of a F&V concentrate on these variables.