

Poster presentation

## The effects of a nutritionally enriched coffee drink on repeated flying 40-yd sprint performance

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### Background

A double-blind, placebo controlled, randomized trial was performed to evaluate the effects of a nutritionally enriched coffee (NEC) drink compared to decaffeinated coffee (DC) on repeated flying 40-yard sprint performance.

### Methods

Physically active male and female volunteers ( $n = 13$ ) completed  $24 \times 50$  yard sprints following NEC and DC (counterbalanced). Sprints were completed in 2 halves (12 sprints per half) with 2 minutes recovery between each sprint and a 10-minute recovery period between halves. Acute-RPE (A-RPE) (0–10 omni scale) was recorded after every sprint and Session RPE (S-RPE) was recorded 20 min after completing each trial. Blood lactate ([LA]) was recorded at baseline and following sprints, 6, 12, 18, and 24. Additionally, a fatigue index (FI) was calculated as a percentage difference between mean sprint time and fastest sprint time.

### Results

A  $2$  (trial)  $\times$   $2$  (treatment) repeated measures ANOVA revealed significantly ( $p = 0.03$ ) faster (main effect) sprint time for NEC. Post-hoc analyses revealed significantly faster times ( $p \leq 0.05$ ) for sprints 1, 3, 4, 6, 8, and 17, while approaching significance at sprints 10 ( $p = 0.07$ ) and 15 ( $p = 0.08$ ). No main effect for A-RPE ( $p = 0.28$ ) or [LA] ( $p = 0.15$ ) was found. Results from a paired t-test

revealed a significantly improved FI ( $p = 0.04$ ) with NEC but no significant impact on S-RPE ( $p = 0.72$ ).

### Conclusion

Results indicate that caffeine administered in a NEC drink can enhance repeated bouts of acute sprint performance possibly through delayed fatigue as evidenced in a dampened perceived exertion response (faster sprints with similar RPE).

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