

Impacts of a Novel Non-Stimulant-Based Ergogenic Supplement Blend on Maximal Oxygen Uptake and Time to Fatigue: A Pilot Study

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ABSTRACT

CrossFit athletes are frequently subjected to high-intensity training sessions that demand commensurately robust muscular and cardiovascular endurance capacities. Despite the propensity of research investigating the role of aerobically-associated ergogenic aids, few have elucidated their combination in highly trained athletic populations. **PURPOSE:** to evaluate the preliminary efficacy of a novel supplement comprising several empirically-supported ingredients and their potential ability to impact the aerobic performance in experienced CrossFit athletes. **METHODS:** Six experienced CrossFit athletes (3M/3F; aged 41±13y; training 5±1 times/week) ingested 2.0mL daily of a novel supplement proprietary formulation (Flow, Cerus, Vero Bleach, FL) containing *Beetroot (Beta Vulgaris)*, *Ashwagandha (Withania Somnifera)*, *Arjuna (Terminalia Arjuna)*, *Rhodiola (Rhodiola Rosea)*, as well as *Cayenne (Capsicum Annuum)* for 28 days between a baseline and post-supplementation maximal oxygen consumption (VO_{2MAX}) assessment. Participants were asked not to change their exercise habits and consumed the aforementioned supplement 30 minutes prior to each training session and/or during the morning on rest days. A 4.0mL supplement dose was additionally administered 30 minutes prior to the post-supplementation aerobic capacity assessment. Both the treadmill VO_{2MAX} and test time-to-fatigue (elapsed finish-start time) were analyzed using separate paired-samples t-tests at a significance level of p<.05. **RESULTS:** Although VO_{2MAX} did not significantly increase (p=.146; Hedge's G=.737), the participants' treadmill assessment TTE demonstrated a statistically significant improvement (p=.012, Hedge's G=.726) from pre- to post-supplementation (10.67 to 12.11 minutes [13.55%], respectively). Notably, the 2/6 participants that experienced pre- to post-supplementation VO_{2MAX} decrements tested positive for COVID-19 during their supplementation period. **CONCLUSION:** The present pilot study showcases the potential of a novel aerobically-associated ergogenic supplement. Nevertheless, future research should more rigorously evaluate these data by employing a randomized, double-blinded, and placebo-controlled design, as well as a larger sample size before any definitive conclusions may be inferred.