Established Performance Supplements (5 of 5)
(when used according to established protocols)

**NITRATE**
usually ingested in the form of beetroot juice

Reference: by Maughan et al. BJSM & IJSNEM 2018

**HOW DOES IT WORK?**

Dietary nitrate is a popular supplement that has been commonly investigated to assess any benefits:

A. For prolonged submaximal exercise
B. and high-intensity, intermittent, short-duration efforts

**VIA**

- An enhanced function of type II muscle fibres
- A reduced ATP cost of muscle force production
- An increased efficiency of mitochondrial respiration
- An increased blood flow to the muscle
- A decrease in blood flow to VO2 heterogeneities

**PERFORMANCE**

Supplementation has been associated with improvements of:

- 1%-3% in sport-specific performances lasting <40 min in duration
- 3%-5% of high-intensity, intermittent, team-sport exercise of 12-40 min in duration

Evidence is equivocal for any benefit to exercise tasks lasting <12min

**PROTOCOLS**

High nitrate-containing foods include leafy green & root vegetables, including spinach, rocket salad, celery & beetroot but nitrate supplementation is usually implemented by consuming beetroot juice.

**Acute strategy**

Acute performance benefits are generally seen within 2-3 hours following a bolus of 310-560 mg

**Chronic supplementation (>3 days)**

May be a positive strategy for highly trained athletes, where performance gains appear harder to obtain