

AIS SPORTS SUPPLEMENT FRAMEWORK

BEETROOT JUICE [Nitrates] GROUP A



Beetroot juice is a rich source of dietary nitrate, which is also found in other vegetables (particularly leafy greens), some fruits and processed meats. Dietary nitrate can be used to enhance the availability of nitric oxide, which plays an important role in the regulation of blood pressure, blood flow and muscle contraction. Increasing dietary nitrate intake has been shown to enhance exercise performance.

Beet IT Sport Shot (70mL)



- > Concentrated beetroot juice (98%)
- > 400 mg natural nitrate
- > 7 x more concentrated than beetroot juice
- > Convenient, reliable form
- > \$4 per shot
- > Batch-tested

Other Beetroot Products (e.g. juices, powders, gels)



- > Lower nitrate e.g. juice = 800 mg/L
- > Often unspecified nitrate content
- > Organic vegetable products lower in nitrate
- > Check other ingredients and batch-testing status
- > What is the cost per mg/nitrate?

BENEFITS OF NITRATES



VASODILATOR
(increase oxygen delivery to muscles & lowers blood pressure)



INCREASED EXERCISE CAPACITY
(reduced energy cost of exercise)



MUSCLE CONTRACTION & PERFORMANCE



IMMUNE HEALTH

WHEN TO CONSIDER ITS USE



Prolonged submaximal exercise eg. endurance events of 4-30 mins e.g. running, cycling



To support training for aerobic fitness



High-intensity intermittent events with short duration sprint efforts in individual and team sports

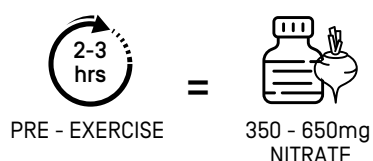


During exposure to hypoxic conditions e.g. altitude training

HOW TO USE IT

Research to date uses a variety of strategies and timing of supplementation, including single acute dose, top up acute dose, and chronic loading to obtain performance benefits.

Acute Dose:



Chronic Supplementation* [3-15 days]:



*May be useful for highly trained athletes where performance gains seem harder to obtain



Avoid using mouthwash or chewing gum with beetroot juice, as they interfere with its benefit.

E.g. For 3 days prior:
AM: 1 Beet IT Sport shot
PM: 1 Beet IT Sport shot

+ Race Day: (2.5 hrs pre-event)
2 x Beet IT Sport shots



BEETROOT JUICE [Nitrates]

FOOD FIRST PHILOSOPHY

The nitrate content of vegetables can vary considerably depending on soil quality, climate and time since harvest. Whilst encouraging a higher daily vegetable intake is likely to have numerous health benefits, including increasing nitrate intake, supplementation is more consistent and reliable when seeking a specific performance benefit.

Approximate amount of food equal to 1 x Beet IT Sports Shot (400 mg nitrate):



Beetroot
1 large (200 g)



Bok choy
1 medium (120 g)



Rocket lettuce
2 cups (150 g)



Parsley
2 cups (150 g)



Silverbeet spinach
150 g cooked (1 cup)



Baby spinach
2 cups (150 g)



Fresh beetroot juice
(500 mL)



Celery
2.5 cups (250 g)

While nitrate is present in processed meats as an added preservative, sourcing nitrate from processed meats is not encouraged. Consuming nitrate in its natural form is likely to protect against any potentially-harmful compounds.

CONCERNS & CONSIDERATIONS



Beetroot juice, particularly in concentrated form can cause mild gut discomfort. Practise in training first.



Aerobic fitness levels impact the performance benefit in highly trained endurance athletes (effect is reduced when $\dot{V}O_{2\max} > 65$).



Few studies have investigated the impact of nitrate supplementation on female athletes.



Mistaken use of nitrite or nitrite salts as supplements can be toxic. Stick to natural source of nitrates such as vegetables.



Beetroot juice may cause a temporary pink colour to urine and stools. This is a harmless side effect.



Chronic use of nitrate supplementation has not been studied long term.



All supplements have a doping risk of some kind. Some supplements are riskier than others. Athletes should only use batch-tested supplements. The Sport Integrity Australia app provides a list of more than 400 batch-tested products. (www.sportintegrity.gov.au/what-we-do/supplements-sport).

While batch-tested products have the lowest risk of a product containing prohibited substances, they cannot offer you a guarantee. Before engaging in supplement use, you should refer to the specific supplement policies of your sport or institute and seek professional advice from an accredited sports dietitian (www.sportsdietitians.com.au). Athletes are reminded that they are responsible for all substances that enter their body under the 'strict liability' rules of the World Anti-Doping Code.