




SPORTS PERFORMANCE

beet4perf™ 

MARKET

Athletes are looking for new, natural solutions to increase their physical performance.

Three parameters are important during effort:

- Energy intake
- Waste elimination
- Hydration

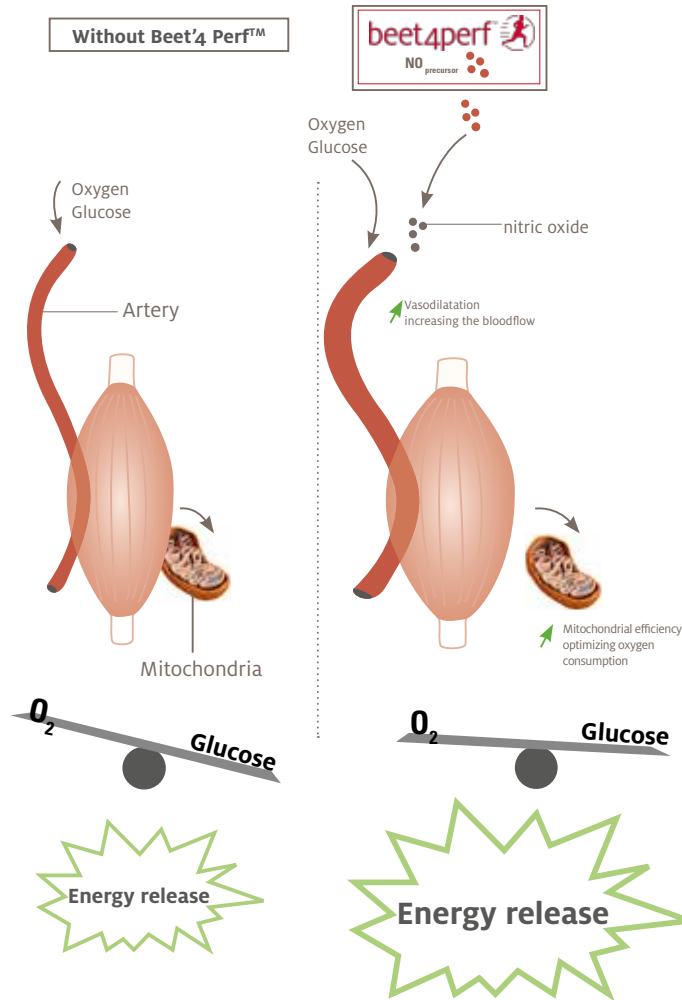
HISTORY

Recently, more and more evidences have highlighted the effect of some vegetables including red beet, on nutrition and athletic performance²⁻³, through the beneficial effects of natural nitric oxide (NO) precursor supplementation¹.

OUR SOLUTION

For over the last 20 years **Diana Food** has been the specialist in the production of beetroot concentrates and dry extracts. **Diana Food** is now offering a specific beetroot ingredient. This new natural solution allows sportsmen users to increase their physical performance through blood pressure reduction and muscle efficiency improvement.

WHAT ARE THE EFFECTS ON YOUR MUSCLE ?



NATURAL BOOSTER OF ENDURANCE AND PERFORMANCE

REDUCE BLOOD PRESSURE DURING EFFORT

Study design: human study² on 9 subjects. They do an exercise during 6 minutes with three conditions:

- **Placebo**
- **Beetroot**: in hypoxia condition with red beet juice supplementation

Subjects were allocated in a double blind, counter balanced, randomized order.

BEETROOT JUICE REDUCES SIGNIFICANTLY BLOOD PRESSURE DURING EFFORT.

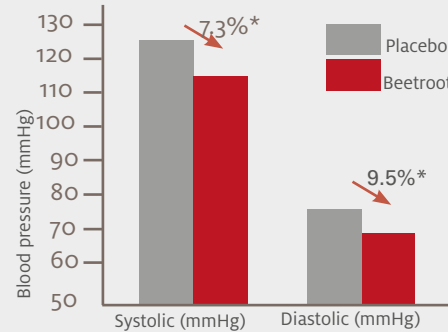
DECREASE PULMONARY OXYGEN UPTAKE (VO₂) DURING SUB MAXIMAL EXERCISE BOOST ENDURANCE AND PERFORMANCE

Study design: Human study³ on 13 trained cyclists. Supplementation during 6 days with beetroot juice (500 ml / day in liquid form). Analysis of VO₂ during submaximal cycling exercise at 45 % and 65 % maximal power.

Beetroot juice improves skeletal muscle mitochondrial efficiency. During exercise, balance between O₂ and glucose allow a better amount of ATP produced per oxygen consumed. Thus, beetroot juice increases endurance and performance. As glycolyse activity is improved, less toxins are synthesized so recovery time is decreased.

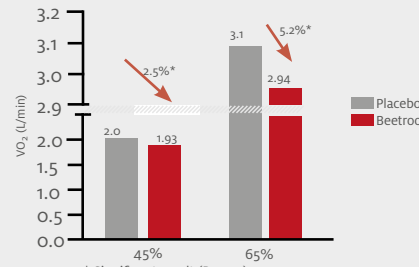
Beetroot juice significantly reduces VO₂ during submaximal exercise, and also helps recover after sport.

Time to complete the 10 km trial was lower with beetroot juice supplementation. Cyclist with beetroot juice supplementation have a higher power output.



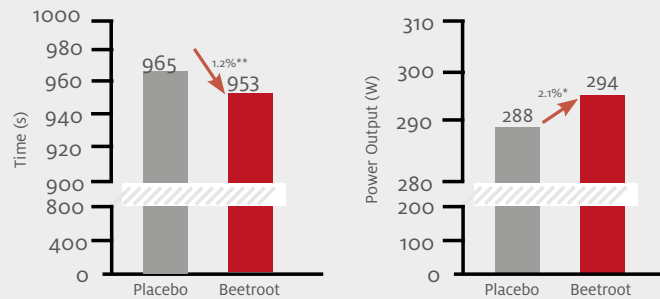
* Significant result (P<0.05)

Reduction of VO₂ during submaximal cycling exercise at 45% and 65% maximal power (W_{max}):



* Significant result (P<0.05)

10-km time-trial performance



*Significant Result (P <0,05)

**Significant Result (P <0,005)

KEY FEATURES

- Naturally occurring NO precursor
- Enhance muscle efficiency
- Reduce blood pressure
- Help recovery after sport
- Availability in Powder (dose: 40 g) & in concentrate (dose: 25 g)



¹ Archer D 2002 Evidence that ingested Nitrate and Nitrite are beneficial to health J Food Protection 65(s) 872-875 / ² Vanhatalo et al 2011 dietary nitrate reduces muscle metabolic perturbation and improves exercise tolerance in hypoxia J Physiol 589 5517-5528 / ³ Cermak N et al. 2012 Nitrate supplementation's improvement of 10km time trial performance in trained cyclists Int J sport Nutr Exerc Metab 22(1), 64-7

FREQUENTLY ASKED QUESTIONS

What is Beet'4 Perf™?

Beet'4 Perf™ is a standardized beetroot ingredient concentrated in Natural Nitric Oxide precursor.

Where is Beet'4 Perf™ produced?

Beet'4 Perf™ is produced in France in a IFSSC 22000 certified facility.

How Beet'4 Perf™ helps improve endurance and performance during exercise?

Human studies show two main effect of **Beet'4 Perf™** during exercise.

- First **Beet'4 Perf™** decreases blood pressure. Thus there is more blood around muscle. More nutriments (water, energy ...) are available for muscle activity and toxin elimination is higher. So performance increase and recovery is better after sport exercise.
- Then **Beet'4 Perf™** allows improving skeletal muscle mitochondrial efficiency. Mitochondria manage glycolyse reactions and **Beet'4 Perf™** could increase the yield. Thus endurance, performance and recovery are improved.

Who should take Beet'4 Perf™?

Beet'4 Perf™ is recommended for actively exercizing people who are looking to increase their sport performance and endurance.

What is daily dosage of Beet'4 Perf™ recommended?

The scientific studies have highlighted an effective dosage of 40g of **Beet'4 Perf™** powder and 25g of **Beet'4 Perf™** concentrate.

TECHNICAL DOSSIER ON REQUEST

WELL-BEING BY NATURE



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