Effects of teff, a new old grain, on glucose and insulin responses

Published: 06-04-2009
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To investigate glycemic and insulinemic index of teff bread relative to wheat bread in healthy individuals.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON33882

Source
ToetsingOnline

Brief title
Teff and GI

Condition

- Other condition

Synonym
glucose response, glycaemic index

Health condition

glucose en insuline respons op eten

Research involving
Human

Sponsors and support

Primary sponsor: Van Hall Larenstein
Source(s) of monetary or material Support: Van Hall Larenstein

Intervention

Keyword: glucose, grain, insulin, teff

Outcome measures

Primary outcome

The main study parameters will be glycemic and insulinemic index, calculated

from two-hour postprandial plasma glucose and serum insulin levels.

Secondary outcome

not applicable

Study description

Background summary

No scientific evidence is available regarding the glucose and insulin response of food products containing Eragrostis Tef (teff).

Study objective

To investigate glycemic and insulinemic index of teff bread relative to wheat bread in healthy individuals.

Study design

Three test foods and a control food will be consumed in a randomized crossover trial. The foods will be offered to each subject during five separate test days. Two-hour postprandial glucose and insulin will be measured.

Intervention

Per test day, subjects will receive a portion equivalent to 50 g of available carbohydrate, which they ingest within 10 -15 minutes. At 0, 15, 30, 45, 60, 90 and 120 minutes blood samples will be taken. The test foods are breads baked with different types of flour/meal developed by *Koopmans meel b.v.* (Leeuwarden). All ingredients of the products are suitable for human consumption and are microbiologically safe. The wheat flour will be exchanged for teff meal in 2 different dosages and for wheat meal. At the first and the

last measuring day white bread will be served as the control food. The other 3 days, 3 test foods will be served in a randomized order.

Study burden and risks

The intervention is non-therapeutic to the participant. The risk associated with participation is negligible and the burden can be considered as low. Subjects have to come to the research centre once for a screening visit during which several questionnaires are filled out and anthropometrics are measured. Then subjects have to come to the research centre 5 times for approximately 3 hours, during which a venous cannula is placed by an experienced research nurse and 7 blood samples are taken after ingestion of bread. All test foods are based on commercially available products and are safe to use for human consumption.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)

Elderly (65 years and older)

Inclusion criteria

Age: 18-50 year
BMI: 18-25 kg/m2
Healthy: as judged by the participant

Exclusion criteria

Diabetes, or any endocrine disorder
Hypersensitivity for gluten or bread products
Weight loss or weight gain of more than 5 kg during the last 2 months
Using an energy restricted diet during the last 2 months
Lack of appetite for any (unknown) reason
Previous problems with blood sampling (veins, fainting)

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	14-04-2009
Enrollment:	12
Type:	Actual

Ethics review

Approved WMO Date:	06-04-2009
Application type:	First submission
Review commission:	METC Wageningen Universiteit (Wageningen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL26033.081.08