

# Effects of teff, a new old grain, on satiety

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To investigate the effects on satiety parameters of teff bread relative to wheat bread in healthy individuals. The secondary objectives are to study the effects of teff energy intake and on fermentation in the large bowel.

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	Other condition
<b>Study type</b>	Interventional

## Summary

### ID

NL-OMON33861

### Source

ToetsingOnline

### Brief title

Teff and satiety

### Condition

- Other condition

### Synonym

energy intake, satiety

### Health condition

indicatoren voor energie inname

### Research involving

Human

### Sponsors and support

**Primary sponsor:** Van Hall Larenstein

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

## Intervention

**Keyword:** energy intake, grain, satiety, teff

## Outcome measures

### Primary outcome

The main study parameter is subjective satiety after a test breakfast.

### Secondary outcome

Secondary parameters are total energy intake after 4.5 hours and carbohydrate fermentation.

## Study description

### Background summary

No scientific evidence is available regarding the effects on satiety of food products containing *Eragrostis Tef* (teff).

### Study objective

To investigate the effects on satiety parameters of teff bread relative to wheat bread in healthy individuals. The secondary objectives are to study the effects of teff energy intake and on fermentation in the large bowel.

### Study design

Three test foods will be consumed in a randomized crossover trial. The foods will be offered to each subject during three separate test days. 4.5-hour postprandial satiety and breath hydrogen will be measured, followed by an ad libitum meal.

### Intervention

Per test day, subjects will receive a 100 g portion of test foods, which they ingest within 10 -15 minutes. 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. Of the wheat flour 35% will be exchanged for wheat

meal, and teff meal. Every 30 minutes for the following 4.5 hours satiety parameters will be measured at a visual analogue scale and hydrogen will be measured by means of a breath sample. After 4.5 hours an ad libitum meal will be consumed.

### **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. In the trial subjects have to come to the research centre once for a screening visit during which several questionnaires are filled out and anthropometrics are measured. In the trial, subjects have to come to the research centre 3 times for approximately 5 hours, during which the effect on satiety will be measured for 4.5 hours, breath samples will be taken and an ad libitum test meal will be eaten. 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/m<sup>2</sup>

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

Restrained eater

Frequent and high intensity physical active

## 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):	10-02-2009
Enrollment:	32
Type:	Actual

## Ethics review

Approved WMO

Date: 27-01-2009

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	NL26020.081.08