

# Organic is best for the climate

FiBL Austria has conducted a carbon footprinting exercise for more than 100 foods. The results show that organic foods cause fewer greenhouse gas emissions than comparable conventional products.

Agriculture is responsible for around 10% of all greenhouse gas emissions. Including the emissions of the input industries (fertilizers, pesticides) and emissions from deforestation for the purpose of land clearance raises the figure to 17–30%.

The climate team at FiBL Austria calculated the greenhouse gas emissions of more than 100 organic products sold under the label “Zurück zum Ursprung”, which translates loosely as “tracing the origin” or “close to home” – a range of regional food products which was launched in Austria at the start of 2009. As part of the project the FiBL team developed a climate assessment model covering the entire value chain from production to retail outlet. The model is based on the international organic life cycle assessment standards ISO 14040 and 14044.

“What is new is that we also take account of effects such as humus enrichment and CO<sub>2</sub> storage in organic soils, or the destruction of tropical forests to grow soya for concentrated animal feed”, explains project manager Thomas Lindenthal. The emissions figures for the organic foods are then compared with those for similar conventional products.

Two different organic variants were calculated: the first meets the EU standards for organic farming, while the second goes further and meets the additional criteria of the “Zurück zum Ursprung” range. An important feature of these additional requirements is a blanket ban on soya from abroad, which prevents greenhouse gas emissions from clearance of tropical forests. Farmers also agree not to use readily soluble organic nitrogen fertilizers such as vinasse, hair meal, bone meal and

blood meal; they fertilize only with compost and legumes and thus cause relatively few nitrous oxide emissions.

## All down to the organic effect

All the organic products studied cause fewer greenhouse gas emissions both per hectare and per kilogram than comparable conventional products (see table). For organic eggs and chicken meat the savings were up to 50% of those of conventional poultry products, while for low-fat milk products the savings were up to 40%.

In all cases the lower greenhouse gas emissions are due in part to the “organic effect”, which represents the combined impact



Greenhouse gases reduced by a quarter: CO<sub>2</sub> label on bread from “Zurück zum Ursprung”.

## Greenhouse gas savings of organic products\* by comparison with conventional foods

(in % CO<sub>2</sub>-eq emissions per kg of product; conventional variant = 100%).

Product	GHG saving	Causes
Milk products (milk, plain yoghurt, various fruit yoghurts, cream, butter etc.)	10–21 %	Avoidance of imported soya in imported organic feed concentrate, organic effect**
Wheat bread	22–25%	Organic effect**
Bread rolls/baked goods	34–42%	Organic effect**; no doughpiece production (involving freezing and baking of pre-formed raw dough)
Outdoor vegetables (onions, carrots, potatoes, kohlrabi, peppers, tomatoes, lettuce etc., sometimes in polytunnels)	10–35%	Organic effect**, especially avoidance of mineral nitrogen fertilizers
Eggs and chicken meat	49–50%	Central European protein feed in place of imported soya

\* Combination of EU organic and organic “Zurück zum Ursprung” standards

\*\* Combined effect of avoiding mineral fertilizers and carbon binding through humus accumulation



*More organic equals less CO<sub>2</sub> – Thomas Lindenthal and Theresia Markut present their findings to the media in May 2009.*

of the avoidance of mineral nitrogen fertilizers and carbon binding in the soil through the accumulation of humus. The manufacture of mineral fertilizers requires large quantities of gas and oil and causes higher emissions of nitrous oxide than the use of organic fertilizers.

#### **Award-winning FiBL study**

“With this study FiBL Austria has made an important contribution to the public climate debate in Austria and has conducted the first comprehensive climate protection audit of an entire food range”, declares Thomas Lindenthal. But that is not all: in 2009 viewers of the Austrian television station ORF

and a panel of experts awarded the food company Hofer the Austrian climate protection prize for this project. *mt*

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