



# Private standards: do they make our coffee more sustainable?

## Voluntary certification

### What?

- promotes sustainable supply chains where legislation still lacks
- focus on environmental, economic and social aspects
- 40% of global coffee production, 12% of coffee exports (ICO, 2013)

### How?

- labels to distinguish products
- compliant producers receive premiums from certifying entity
- consumers pay premium for sustainable coffee



reduce poverty



better farming better future



good agricultural & management practices



ecofriendly no chemicals



protecting ecosystems



## But what are the real impacts of these standards?

➤ case study Mt. Elgon, Uganda:

**Agronomic, socio-economic & environmental impacts studied in an interdisciplinary way!**

### 1. Cross-sectional household survey:

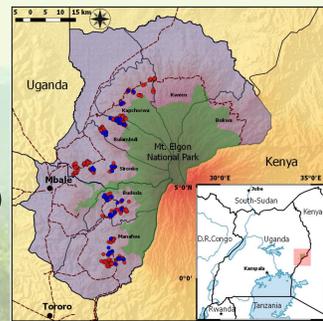
1183 coffee gardens, 600 farm-households:

- 170 Fairtrade Organic (FT-O)
- 130 UTZ Rainforest Alliance 4C (Utz-RA-4C)
- 300 Non Certified Control

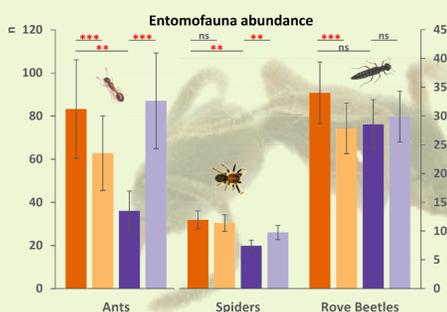
### 2. Field-level inventory:

- 74 gardens, pair-wise matched subsample

### 3. Soil-, biomass- carbon stock assessment, tree- and entomofauna-biodiversity study. Instrumental variable regressions, mixed modelling



Mt. Elgon region, Eastern Uganda. Districts highlighted (purple); homesteads of 600 farm-households sampled for socio-economic survey (red and blue dots); 74 coffee fields sampled for field inventory (blue dots)

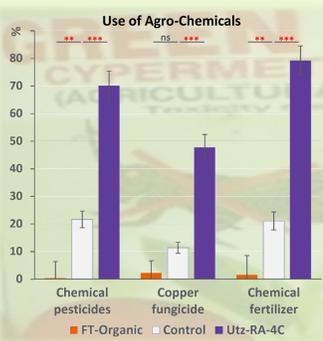


Invertebrates are fast and sensitive indicators for environmental change and biodiversity conservation potential.

FT-Org certification leads to **higher** ant and rove beetle abundances.

Utz-RA-4C certification leads to **lower** spider and ant abundances

Effect of certification on invertebrate abundance (ns not significant, \* P<0.1; \*\* P<0.05; \*\*\* P<0.01). Least-square means for certified and non-certified plots estimated from field inventory data. Estimated effects are obtained from generalized mixed linear models (n=74).

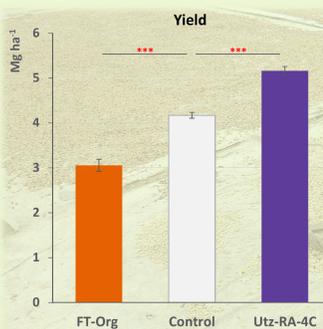


Impacts on reported use of **agro-chemicals** and consequently on biodiversity.

Utz-RA-4C **increases** use of agro-chemicals

FT-Org **reduces** use of agrochemicals

Least-square means and estimated effects are obtained from maximum likelihood instrumental variable estimation at the field level (n=1,183). (ns not significant, \* P<0.1; \*\* P<0.05; \*\*\* P<0.01)



Socio-economic impact highly depends on coffee yields.

Coffee yields on **Utz-RA-4C** fields are **24% higher**

FT-Org certification **reduces** coffee yield with 1.1 ton per hectare

Least-square means and estimated effects are obtained from maximum likelihood instrumental variable estimation at the field level (n=1,183). (ns not significant, \* P<0.1; \*\* P<0.05; \*\*\* P<0.01)

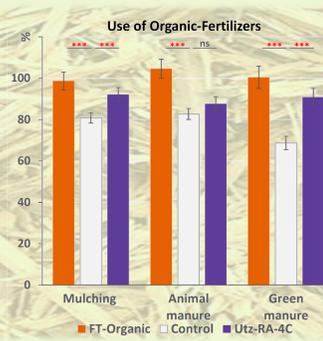
### Utz, Rainforest Alliance, 4C certification:

➤ **productivity gains at the expense of the environment**

Certification has a positive impact on environmentally sustainable agronomic practices.

Utz-RA-4C **increases** the use of mulch and green manure

FT-O **increases** the use of all organic practices



Least-square means and estimated effects are obtained from maximum likelihood instrumental variable estimation at the field level (n=1,183). (ns not significant, \* P<0.1; \*\* P<0.05; \*\*\* P<0.01)

Impact on poverty.

Utz-RA-4C certification **reduces** poverty with 13.8%

FT-Org certification tends to **increase** poverty with 16.6%



Least-square means and estimated effects are obtained from maximum likelihood instrumental variable estimation at farm-household level (n=595). (ns not significant, \* P<0.1; \*\* P<0.05; \*\*\* P<0.01)

### Fair Trade, Organic certification:

➤ **lower yields are not offset by current price premium**

Private sustainability standards reduce trade-offs between economic and ecological benefits.

They can play an important role in advancing sustainable development goals.

Not all claims are realised in the field. Further developments are needed!

### Our advice for:

#### Consumers and producers

- keep buying and producing certified coffee, the general impact on the ground is positive, but be critical and compare different schemes

#### Certifying bodies and donors

- **harmonization** instead of combining standards with varying focus and different requirements
- **differentiation** of standards to local agro-ecological and economic conditions
- better **control and enforcement** mechanisms + more **effective requirements** and **feedback system**

