

C06 - Farm-level optimization of land use systems in Indonesia under consideration of uncertainty and ecological effects

Stefan Moser¹, Oliver Mußhoff¹

¹University of Göttingen



DFG Deutsche Forschungsgemeinschaft

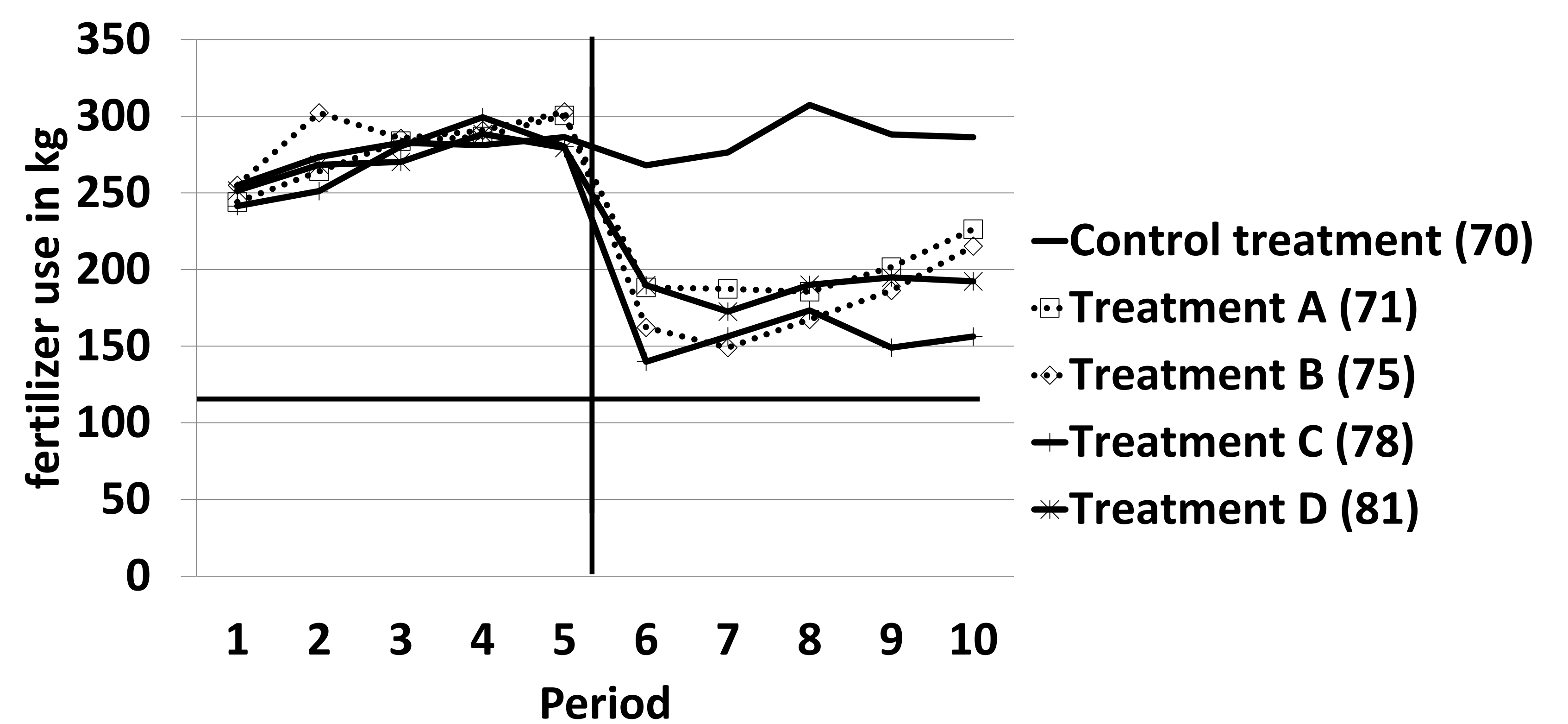
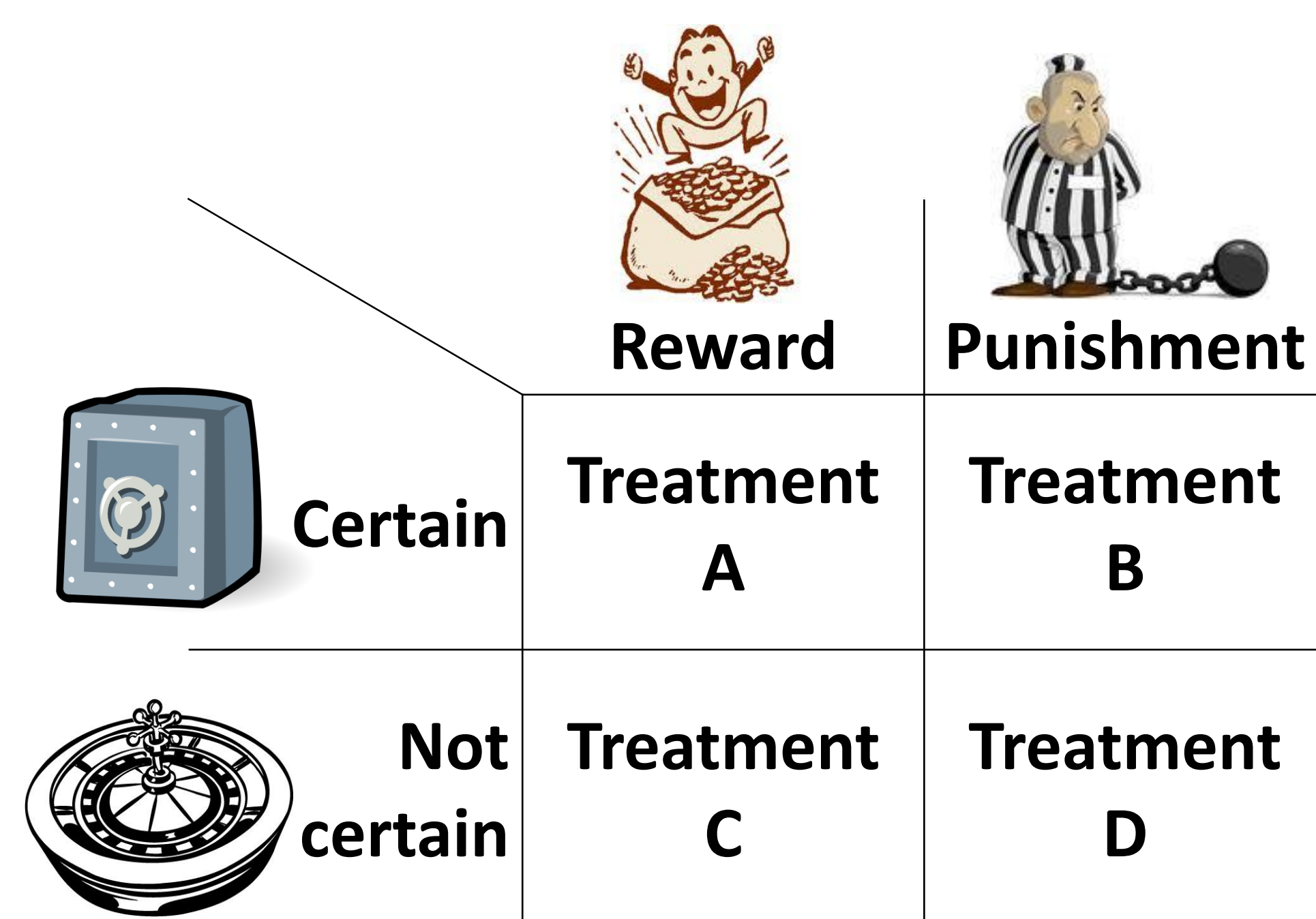
Contact: smoser@gwdg.de, oliver.musshoff@agr.uni-goettingen.de

Ex-ante testing of differently designed incentives on the reduction of fertilizer use

Intensive fertilizer application in oil palm plantations creates negative externalities. To restrict such externalities, effective policy measures are desirable.

Hypothesis: For the same effect on expected income, the effectiveness of an incentive is independent of its design.

We tested differently designed incentives (reward or punishment, certain or not certain) by applying an economic experiment.



- For a significant reduction in fertilizer use, a not certain reward is preferable
- For reducing fertilizer use at low cost, a certain reward is preferable

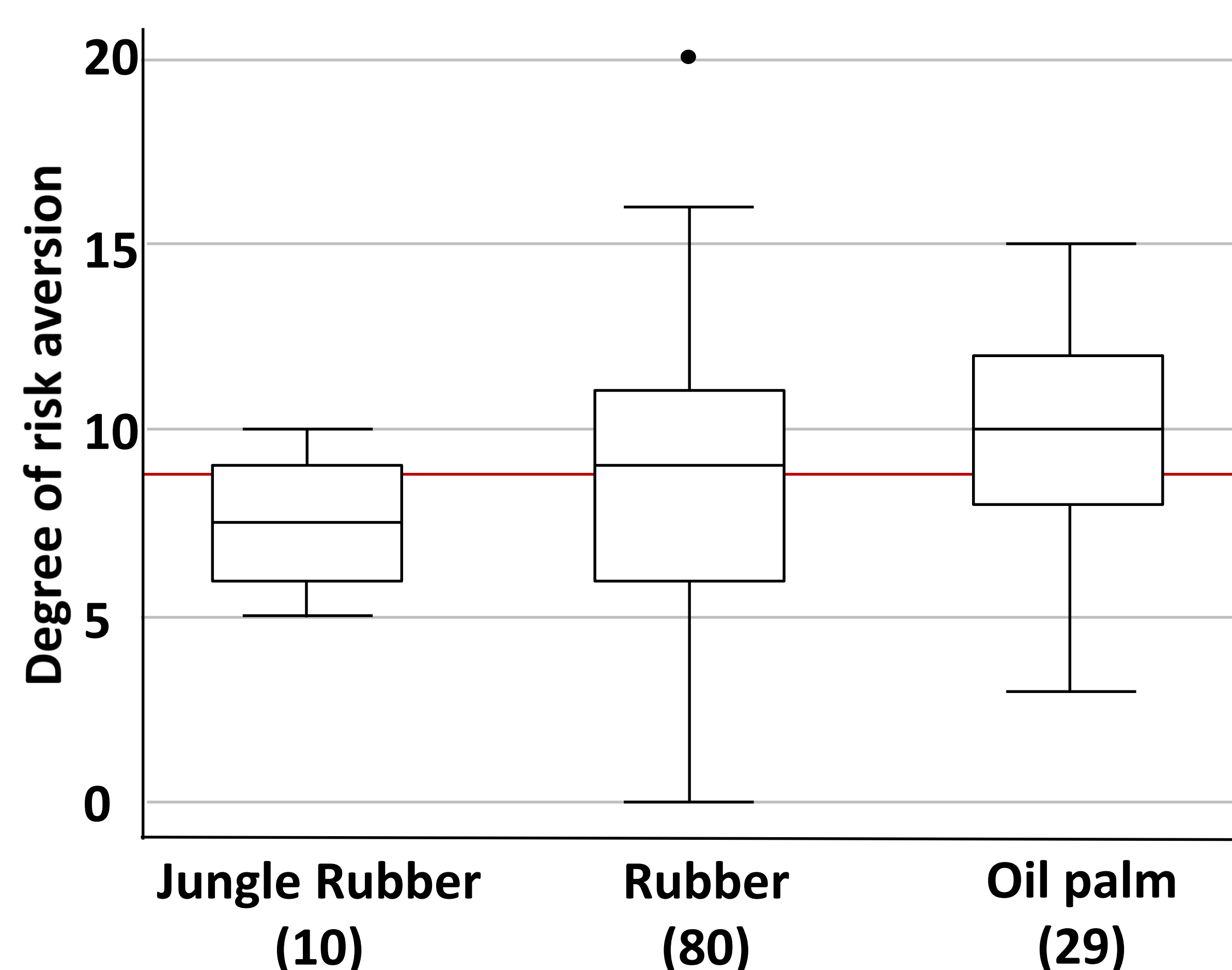
Reference: Moser S, Mußhoff O (2014) A framed field experiment about policy measures - Testing the effectiveness of rewards or punishments with different probabilities as incentives in palm oil production. EFForTS Discussion Paper 5, University of Goettingen

Farmers' risk attitudes according to their preferred land-use system

Considerations towards risk and, therefore, farmers' risk attitude can have a major influence on land use choices.

Hypothesis: Farmers who cultivate different land use systems differ in their risk attitudes

We tested farmers' risk attitudes with a Holt-and-Laury experiment.



- Oil palm farmers are more risk averse than farmers which cultivate jungle rubber
- Rubber farmers' risk aversion does not differ significantly from other farmers' risk aversion

Reference: Focus 1 paper: Assessment of ecological and socioeconomic functions, synergies and trade-offs across rainforest transformation systems (forthcoming)