

---

# From Production to Consumption: On the Selection of Agricultural Plant Cultivars and Loss of Biodiversity by Export - Import Market Mechanisms –Focus tropical fruits

Gundolf Kohlmaier\*†<sup>1</sup>

<sup>1</sup>IAU (IAU) – Altenhöferallee 1 60438 Frankfurt/Main, Germany

## Abstract

Exports from fruit producing countries have led to a selection and reduction of a few agricultural cultivars, which suffer least from transport, which are known and appreciated by the consumer of the import country and which have a **high market value**, and which, however, as in case of bananas and pineapple are grown only **under heavy use of pesticides and fertilizers**. The export market is dominated by three International Fresh Fruit Companies, Chiquita, Del Monte and Dole, leaving at present only some room for **sustainable production and Fair Trade**. There are four reasons for the reduction in agro-biodiversity; 1) only few cultivars take up more agricultural land and are marketed for export, 2) the only export banana Cavendish is susceptible to the dangerous Black Sigatoka fungus, 3) about **40-50 airborne treatments** with the extremely **poisonous pesticide Paraquat** are necessary, affecting man and ecosystem biodiversity and 4) **Land use and land use change LULUC** of forests and original farmland to support **cash crops** reduce the original biodiversity.

**Future-a positive outlook:** Following the entire production-consumption chain, with the aid of Fair trade organization the **organic and fair trade produce is gaining momentum**; education of the consumer in biodiversity and sustainability is progressing, research on **crop wild relatives already was successful** for the banana resistant to the Black Sigatoka fungus, the **banana genome sequence of *Musa acuminata* has been decoded**, and gene technology on fungus resistant species was successful.

---

\*Speaker

†Corresponding author: G.Kohlmaier@chemie.uni-frankfurt.de