Analysis of Assam Tea Processing in Small Scale Factories in the Highlands of Northern Thailand

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Background
Cultivation of local Assam Tea plant varieties in the sensitive highlands of Northern Thailand with processing units on-site as a more sustainable way of land use creating a sufficient income and maintaining natural resources.

Materials & Methods
Local tea processing factories were observed and samples were collected throughout the processing chain. The collected tea samples were analyzed for moisture content (MC), total polyphenolic content (TPC), total catechin content (TCC), individual catechin composition (ICC) and caffeine content (CF). Involved tea factory owners and tea farmers were interviewed.

Results and Discussion
Throughout the processing chain the variation of MC increased. Inaccuracy and intuitive management during processing led to increasing standard deviation and coefficient of variance. TCC and TPC were lower than expected indicating lower quality. After rolling process samples showed higher TCC, TPC and CF.

Conclusions and Outlook
Tea products were of local character as processing steps were implemented based on personal intuition rather than on technology. Production and derived products did not meet international market requirements. Black tea oxidation was inhibited through roasting process. Quality control from tea farmers and processing units was not executed.

In future, adaptation to international manufacturing and product quality standards would improve market access.

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