In vitro Model of Brazilian Craft Beers in Comparison to Large-scale Beers
Antioxidant Properties

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INTRODUCTION: The Brazilian’s craft beer market has been growing annually, currently earning 0.5% of the national market. In addition to the organoleptic qualities superior to the large-scale commercial beers, it becomes necessary to identify parameters that can distinguish these products for tax purposes. Hops are responsible for 100% of the antioxidant properties in final product due to the presence of flavonoids as xantohumol and isoxantohumol in its composition. We evaluated the antioxidant non-enzymatic potential protection \textit{in vitro} of craft beers compared to large-scale beers easily found in the market.

MATERIAL AND METHODS: Samples of 04 different craft beers produced by Anner brewery, with known recipe, were compared with 04 large-scale beer and a system using TRAP assay, as well as craft beers and their respective concentrations of ethanol (tripel= 11\%, Imperial Red Ale= 8\%, ESB= 6\% and blonde= 5\%) and hops extract (tripel = 1.80 g hops/L; Red Ale= 2.80 g/L; ESB= 3g/L and blonde = 1.08 g/L). Possible differences were evaluated using the area under the curve (AUC) with \textit{P value} <0.0001.

RESULTS AND DISCUSSION: We observed that craft beers have a protective ability significantly higher than that presented by the large-scale beers tested, possibly by the greatest amount of hops used in recipes. The standard American lager style produced by commercial breweries is similar to the blonde in hops composition, but craft beer still showed significantly higher protection than commercial ones. All beers differed significantly in relation to the system. Red Ale presented the higher antioxidant protection. Large-scale beers were not different from each other in antioxidant non-enzymatic potential. The ethanol concentrations showed no difference compared to the system. All hop extracts differed in relation to the system, except the blonde ale.

CONCLUSIONS: These data suggests that craft beers have higher capacity of antioxidant capacity than large-scale beers.

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