# Review of: "Cooling Beer With a Wet Paper Towel"

Tanathep Leungtongkum

Potential competing interests: No potential competing interests to declare.

The idea of the paper is interesting.

There are some suggestions that may improve this paper.

- Although it aims to propose an affordable experimental protocol, the comparison with well-planned experiment is still necessary to investigate the influence of advection level and wet towel presence on cooling time of the beer. To investigate 3 levels of advection in the same cabin simultaneously may be more affordable, but it casts doubt on the accuracy.
    - For the configuration with no advection, putting the bottles in the closed bin can block the airflow, but it also insulates the heat transfer from cold air outside the bin and it may increase the cooling time.
    - For configuration with low advection by placing the bottles far from the fan but, according to Fig. 1, it was close to the bin and since there is no air velocity measurement, the assumption that it is the position with low advection may not be accurate.
    - It would be better if the authors compare these results with 3 other configurations: no operating fan (no advection), low fan speed (low advection) and high fan speed (high advection). These comparisons could strengthen the current finding.
- The placement (vertical, horizontal) of the bottle significantly impacts the convection. From Fig.1, the bottles were place vertically, but in Fig.2, it seemed to horizontally place in the cabin.
- It is true that the properties of wet towel can be assumed as liquid water, but since water evaporates during cooling, it could be better to take into account the evaporation of these towels too. Because when a significant amount of water losses from the paper, the properties of towel can be changed.

Regarding the supplementary document, here are some suggestions.

- In Fig.2, the normalized temperature should not have unit.
- In Section II, since wood can absorb water, the evaporative cooling is less effective. Using the plastic slab may give closer results to the beer bottle.
- In Section III, the comparison of each model to predict temperature should be made to confirm that the 0D model could be used.