

## ***Interactive comment on “The quality of rainwater collected from roofs in the aspect of the possibility of their economic use” by Monika M. Zdeb et al.***

**Monika M. Zdeb et al.**

mzdeb@prz.edu.pl

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As in every topic - as many researchers as many opinions. Yes, statistically, rainwater is most often used for irrigation of crops, for cleaning works in bypasses or in industrial plants, and this is mainly due to the possibility of direct use of collected rainwater. But systems are being developed around the world to not only collect rainwater, but also to use it for drinking, washing dishes or doing laundry (Zhang *et al.*, 2009, Jones and Hunt, 2010, Rowe, 2011, Opare, 2012). This approach is dictated by problems in supplying water from underground intakes or surface waters, which also need to be treated. Crisis situations in which rainwater could even be used for drinking should also be taken into account. Rainwater was collected from roofs with an eastern orientation (mainly westerly winds). Only rainwater collected during rainfall above 4 mm / h, but not more

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than 50 mm / h was analyzed. (Soczyńska 1997). A rainfall classification scheme was also suggested on the Chomicz scale (Kotowski 2010). In the conducted research the so-called first trip, designated for moderate rainfall. Water samples were taken at certain periods of time, since the beginning of the rainfall and quality control determinations were made. The rain duration limit was set at 10 minutes because during the next minutes of rainfall the water quality was not significantly better. It was therefore considered that during the 10-minute rainfall, significant amounts of dirt deposited on the roof surfaces were rinsed off before the rain. Literature data also confirm the time of the first trip. Research team Lee et al. in their research they state in the methodology that the test samples were taken only after 10 minutes of rain, rejecting the so-called first trip. Regarding the charge of the scope of the research, it seems that physico-chemical determinations were carried out in a wide range (17 indicators). Regarding microbiological determinations, only selected factors indicating potential sanitary threat were determined. In the assumed research period (2 years) the number of rainy events of the assumed nature was limited. The number of results obtained seems to be too small database for reliable and advanced statistics. There is no data in Poland regarding physico-chemical quality (single information). However, about microbiological quality, our knowledge is practically zero. Also, the results presented may be the beginning of research on the quality of rainwater in this part of Europe. This may allow the development of unified technologies for the treatment of such water. Obtained water after treatment can be used for the purposes described earlier, and the extent of use can be decided by people who have access to information on the quality of rainwater.

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