

Letter to the Editor

Bromide contamination in rice, cancer risk for consumer

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Dear Editor,

Rice is the common food for people in Asian. The contamination in rice is reported and this becomes the great concern in global public health. There are many possible contaminants in rice. Pesticide residues are an important group of contaminants.^[1] According to the report of Caldas and Souza, bromide was the contaminant that can be identified in very high amount. Basically, bromide is use as a chemical agent for prevention of moth to destroy rice. However, there are several health problems due to bromide exposure.^[2] Focusing on cancer risk, it is accepted that bromide has a strong relationship to cancer. Prostate and stomach cancers are the two important cancers that have many reports on the relationship to bromide exposure.^[3,4] Hence, it is no doubt that the screening for bromide contaminant in rice product is required as a method for guarantee for consumer's safety. Many countries implement policies against imported bromide contaminated rice (the general threshold limit value [TLV] is 5 ppm). Here, the authors would like to present the observation on increased bromide contamination level in rice product. In Thailand, the previous report in 1998 showed the bromide contaminated level equal to 0.75 ppm, which is considered lower than the TLV level.^[5] However, in the 2013 report, the contamination level increased to as high as 7.42 ppm (BioThai Foundation-2013). It can be seen that about 10 times increased of level can be seen in 15 years period. It can also be seen that the latest report is higher than TLV. Since the general Thai daily intake rice, it is classified as a high user^[3] and the relative risk for cancer development,

based on Barry *et al.*'s report,^[3] is equal to 3.13. Since rice is important source of food for the Asian, the control of bromide contamination, which can like to the future cancer development, is strongly suggested. Focusing of high contamination, it might relate to the finding that the gastric cancer is high among the Asian who regularly intake rice comparing to the non-Asian.^[6]

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References

1. Caldas ED, Souza LC. Chronic dietary risk for pesticide residues in food in Brazil: An update. *Food Addit Contam* 2004;21:1057-64.
2. National Toxicology Program. NTP toxicology and carcinogenesis studies of methyl bromide (CAS: 74-83-9) in B6C3F1 mice (inhalation studies). *Natl Toxicol Program Tech Rep Ser* 1992;385:1-212.
3. Barry KH, Koutros S, Lubin JH, Coble JB, Barone-Adesi F, Beane Freeman LE, *et al.* Methyl bromide exposure and cancer risk in the Agricultural Health Study. *Cancer Causes Control* 2012;23:807-18.
4. Budnik LT, Kloth S, Velasco-Garrido M, Baur X. Prostate cancer and toxicity from critical use exemptions of methyl bromide: Environmental protection helps protect against human health risks. *Environ Health* 2012;11:5.
5. Sungwaranond B, Jongmeevasana P, Thoophom G. Gas chromatographic determination of inorganic bromide in rice and glutinous rice. *Bull Sci Dept* 1998;40:171-7.
6. Saika K, Sobue T. Cancer statistics in the world. *Gan To Kagaku Ryoho* 2013;40:2475-80.

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