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LETTER TO THE EDITOR

BANANA FRUITS AFFECTED BY *FUSARIUM* POST-HARVEST DISEASE AS SOURCE OF HUMAN FUSARIOSIS

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Dear Editor,

Concerning the publication of Molnár et al. [1] from 2015 in Volume 62 and Issue 2 of Acta Microbiologica et Immunologica Hungarica, I would like to mention some additional observations of interest to the topic discussed in this publication.

Fusarium crown and fruit rot are important post-harvest diseases that occur when banana bunches are boxed for transport after being cut in banana-producing countries [2–5]. The first symptoms of infection, which occurs through colonization of the wounded tissue resulting from the harvesting, appear only a few days after shipping and the disease causes significant fruit losses in consuming countries [1, 2]. Despite the use of post-harvest fungicidal treatments to control disease, infected banana fruits can be found on consumer markets [2]. This was recently confirmed by Molnár et al. [1]. The *Fusarium* spp. most frequently found associated with banana crown and fruit rot are *Fusarium verticillioides* and *Fusarium musae* [1, 6]. Of interest is that *F. musae*, i.e., a species that has been classified since 2011 as a separate species from *F. verticillioides* [6], was found to be not only a banana pathogen, but also an opportunistic human pathogen [7]. Whereas the latter was already a long time well established for *F. verticillioides*, i.e., a species that has also a much broader plant host range (mostly found on maize), this was only recently reported for *F. musae* [7]. This in itself is not surprising, since the species was only classified in 2011. However, retrospective and clinical studies showed that human pathogenic *F. musae* infections, both superficial and invasive, may occur more frequently than we might think [7–10]. Because banana fruits are the only known natural habitat of *F. musae* and all

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presently reported cases of human infections associated with *F. musae* involve patients hospitalized in countries not producing bananas (EU and USA), it is therefore hypothesized that imported banana fruits carrying *F. musae* spores are the most likely source of human infection [10]. The same mode of transmission can also apply for *F. verticillioides* strains on banana fruits. In conclusion, banana fruits affected by *Fusarium* post-harvest disease are the cause of significant economic losses in banana fruit production, but are also of importance due to the fact that they can be the source of a human fusariosis. Better control measurements to avoid the development of *Fusarium* post-harvest disease on banana fruits are highly recommended.

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