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THREE YEARS OF FUNGAL CONTAMINATION FOLLOW-UP OF THE STORED BARLEY SAMPLED IN ENDEMIC AND NON ENDEMIC KBD AREAS, IN THE TIBETAN AUTONOMOUS REGION (TAR, CHINA)

Camille CHASSEUR¹, Pascal KANYANDEKWE¹, Georges LOGNAY², Carl SUETENS³, Rinchen LOBSANG⁴, Françoise MATHIEU⁴
¹Scientific Institute of Public Health, Section of Mycology, Brussels (BELGIUM), ²Gembloux Agricultural University, Dept. of Analytical Chemistry, Gembloux (BELGIUM), ³Scientific Institute of Public Health, Dept of Epidemiology, Brussels (BELGIUM), ⁴KBD Foundation asbl, Lhasa (TAR) (CHINA)

In the Tibetan Autonomous Region (TAR), previous works showed high Kashin-Beck Disease (KBD) prevalence in villages north of Brahmaputra, whereas south of the river, KBD was absent. In 2001, we conducted a mycological survey in 38 families from 6 counties, Nakartse, Gyantse and Rimpung in Non Endemic Area (NEA), and Nyemo, Neudong and Sangri in Endemic Area (EA). Mycological analyses of barley grain, by direct plating method, showed significant differences between EA and NEA. We extended this study during 3 years (2004-2005-2006) and we added 20 families selected in Lundrup and Meldrogonkar (situated in EA). The mean percentage of grains contaminated with *Alternaria* in 2001 was significantly higher in EA (29.6%) as compared to the NEA (1.9%) ($p < 0.01$). A significant difference ($p < 0.01$) was confirmed during the 3 years, with respectively in EA 11.9, 9.9 and 4.5%. Among the EA counties, we noted 2 distinct geographical areas for *Alternaria*. At Nyemo and Neudong, a significantly higher contamination (20.6-16.0-7.0%) was present during the 3 years ($p < 0.01$). On the opposite, at Lhundrup and Meldrogonkar, contamination was weak (1.7-1.6-1.7%) and not significantly different from the NEA. The only significant difference ($p < 0.05$) between affected (92%) and healthy families (79%) was only observed for total mould contamination in 2006. Higher barley grain contamination with *Alternaria* in endemic KBD areas was confirmed by our study although not in the same degree in all counties and throughout the years.