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# **Czech J. Food Sci.**

**Hudecová A., Valík L.,  
Liptáková L.,**

**Pelikanova J., Ciznar  
M.:**

## **Effect of temperature and lactic acid bacteria on the surface growth of *Geotrichum candidum***

Czech J. Food Sci., 29 (2011): S61-S68

The surface growth of *Geotrichum candidum* isolated from ewes' lump cheese was studied on pure agar medium and that inoculated with *Lactobacillus rhamnosus* GG and *L. paracasei* subsp. *paracasei* CCM 1753. The colony growth rates of fungus calculated from the growth curves were modelled in relation to temperature by the cardinal temperature model with inflection (CTMI). The following cardinal values resulted from the secondary model:  $T_{\min} = -3^{\circ} \text{C}$ ,  $T_{\text{opt}} = 27.6^{\circ} \text{C}$ , and  $T_{\max} = 35.4^{\circ} \text{C}$  and optimal colony growth rate  $\mu_{\text{opt}} = 5.34$  mm/day. A quantitative study also

showed that the simultaneous growth of *L. rhamnosus* GG and *L. paracasei* subsp. *paracasei* CCM 1753 had either no or only a slight effect on the fungal growth rates, respectively. These results pointed out that other intrinsic or extrinsic factors should be applied for the protection of fresh cheeses against the undesirable growth of *G. candidum*.

**Keywords:**

*Geotrichum candidum*; surface growth; CTMI model; lactic acid bacteria

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