

Publication**Airborne cultivable microflora and microbial transfer in farm buildings and rural dwellings****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 1022813**Author(s)** Normand, Anne-Cécile; Sudre, Bertrand; Vacheyrou, Mallory; Depner, Martin; Wouters, Inge M; Noss, Ilka; Heederik, Dick; Hyvärinen, Anne; Genuneit, Jon; Braun-Fahrländer, Charlotte; von Mutius, Erika; Piarroux, Renaud; GABRIEL-A Study Group**Author(s) at UniBasel** [Braun-Fahrländer, Charlotte](#) ;**Year** 2011**Title** Airborne cultivable microflora and microbial transfer in farm buildings and rural dwellings**Journal** Occupational and environmental medicine**Volume** 68**Number** 11**Pages / Article-Number** 849-55

Objectives Exposure to environments rich in microorganisms such as farms has been shown to protect against the development of childhood asthma and allergies. However, it remains unclear where, and how, farm and other rural children are exposed to microbes. Furthermore, the composition of the microbial flora is poorly characterised. We tested the hypothesis that farm children are exposed indoors to substantial levels of viable microbes originating from animal sheds and barns. We also expected that environmental microbial flora on farms and in farm homes would be more complex than in the homes of rural control children. **Methods** Dust samples were collected using passive samplers in the bedrooms of the following groups of children in rural Bavaria, Germany: (i) those living on farms (n=144), (ii) those regularly exposed to farm environments but not living on farms (n=149) and (iii) those never visiting farms (n=150). For farm children, additional samples were collected in animal sheds and barns. All samples were subjected to fungal and bacterial culturing. **Results** Detectable levels of microorganisms were more often found in samples taken from farm dwellings than from other homes. Farm dwellings also showed higher microbial levels. Microbial counts of farm dwelling samples correlated with the counts in corresponding animal sheds and barns. **Conclusions** Microorganisms are transported from animal sheds and barns into farm dwellings. Therefore, children living in these environments are exposed when indoors and when visiting animal sheds and barns. Indoor exposure may also contribute to the protective effect of the farm environment

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