

**Publication****The effects of growing up on a farm on adult lung function and allergic phenotypes : an international population-based study****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 3771442**Author(s)** Campbell, B.; Raheison, C.; Lodge, C. J.; Lowe, A. J.; Gislason, T.; Heinrich, J.; Sunyer, J.; Gómez Real, F.; Norbäck, D.; Matheson, M. C.; Wjst, M.; Dratva, J.; de Marco, R.; Jarvis, D.; Schlünssen, V.; Janson, C.; Leynaert, B.; Svanes, C.; Dharmage, S. C.**Author(s) at UniBasel** [Dratva, Julia](#) ;**Year** 2017**Title** The effects of growing up on a farm on adult lung function and allergic phenotypes : an international population-based study**Journal** Thorax**Volume** 72**Number** 3**Pages / Article-Number** 236-244

Evidence has suggested that exposure to environmental or microbial biodiversity in early life may impact subsequent lung function and allergic disease risk.; To investigate the influence of childhood living environment and biodiversity indicators on atopy, asthma and lung function in adulthood.; The European Community Respiratory Health Survey II investigated ~10201 participants aged 26-54years from 14 countries, including participants' place of upbringing (farm, rural environment or inner city) before age 5years. A 'biodiversity score' was created based on childhood exposure to cats, dogs, day care, bedroom sharing and older siblings. Associations with lung function, bronchial hyper-responsiveness (BHR), allergic sensitisation, asthma and rhinitis were analysed.; As compared with a city upbringing, those with early-life farm exposure had less atopic sensitisation (adjusted OR 0.46, 95% CI 0.37 to 0.58), atopic BHR (0.54 (0.35 to 0.83)), atopic asthma (0.47 (0.28 to 0.81)) and atopic rhinitis (0.43 (0.32 to 0.57)), but not non-atopic outcomes. Less pronounced protective effects were observed for rural environment exposures. Women with a farm upbringing had higher FEV1 (adjusted difference 110mL (64 to 157)), independent of sensitisation and asthma. In an inner city environment, a higher biodiversity score was related to less allergic sensitisation.; This is the first study to report beneficial effects of growing up on a farm on adult FEV1. Our study confirmed the beneficial effects of early farm life on sensitisation, asthma and rhinitis, and found a similar association for BHR. In persons with an urban upbringing, a higher biodiversity score predicted less allergic sensitisation, but to a lesser magnitude than a childhood farm environment.

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