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Prenatal exposure to a farm environment modifies atopic sensitization at birth

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There is an ongoing debate on whether allergy protection can occur in the womb. Surveys have previously suggested that a pregnant woman exposed to a farm environment could be receiving protection from allergies for her baby, a protective effect that lasts until the child is of school age. The PASTURE (Protection against Allergy Study in Rural Environments) Study group is examining the role of indoor and outdoor allergen exposure to various microbial products in the development of childhood allergies and asthma across Europe. In an upcoming issue of the *Journal of Allergy and Clinical Immunology*, Markus Johannes Ege and colleagues, in a preliminary analysis of data from the PASTURE study, evaluate the influences of exposure to a farm environment during pregnancy on a potential allergic disposition of newborn babies. The researchers compared women living on farms with women not living on farms, but in the same rural areas, for factors such as exposure to hay lofts and animal sheds and consumption of farm milk during pregnancy. They then tested the newborn's IgE antibodies that indicate a sensitization to allergens. The authors found that prenatal exposure to animal sheds and particularly hay strongly reduced sensitization to seasonal inhalant allergens such as grass pollen. Protective effects on sensitization to perennial inhalant allergens (such as dust mites) or food allergens were not found. This "farming effect" may protect many children from becoming allergic to pollen. Developing a protection against specific allergens may

depend on the amount of time and extent of the exposure, as well as on the exposure occurring in the presence of certain barnyard bacteria. The PASTURE group will follow these study babies to school age to evaluate the “farming effect” on the maturation of their immunities and development of allergic disease.