

## Why farm life is good for kids: Chores, fresh air, sunshine, and a wide range of microbes for a healthy immune system

Wednesday, December 06, 2017 by: Isabelle Z.



Growing up on a farm can be a wonderful experience for children. All the hard work that can be involved in maintaining a farm is balanced by the opportunity to marvel at nature in action on a daily basis and spend time outdoors. However, the benefits don't stop at fresh air and sunshine; a new study has found that the microbes children are exposed to on farms can set the stage for a healthy immune system throughout their life.

About a third of kids around the world have allergies today, and allergies and asthma alike have been rising in industrialized countries. There is one exception to this rule, however, and that is among children who live on farms. The connection is made even clearer by the fact that kids who are living in the same village but not on a farm develop allergies and asthma at faster rates than their farm-living neighbors.

This is because farms expose kids to a broad range of microbes that can protect them by allowing their immune systems to develop naturally without overreacting to substances that are harmless, as is the case with allergies.

Now, scientists have illustrated that it's not just the microbes but the farm animals themselves that help strengthen young immune systems and stave off asthma and allergies. The study, which was published in the *Journal of Allergy and Clinical Immunology*, singled out a substance common in vertebrates known as sialic acid as being responsible for this protective effect.

It's not present in humans naturally, but the form Neu5Gc can be absorbed by them by contacting animals or eating food that has animal origins, where it then integrates into the person's glycoproteins.

Once humans have come into contact with Neu5Gc, their bodies create antibodies. After measuring the concentrations of these antibodies in serum samples that were taken from children who were part of a pair of epidemiological studies, the researchers were able to make the correlation with asthma incidence. Farm children had many more antibodies against the Neu5Gc substance, and they also had significantly less asthma.

More than 1,000 children were studied to reach this conclusion. A mouse model drove the point home, as mice who consumed the Neu5Gc molecules in food noted improved pulmonary functions.

## **Farm life benefits kids in lots of ways**

A study from Australia's *University of Melbourne* reached a similar conclusion. After studying the life experiences of a total of 10,000 adults across 14 countries, they discovered that kids who lived on the farm from birth through age five had a 54 percent lower likelihood of developing asthma than children from cities. Farm kids also had a 57 percent lower likelihood of symptoms of nasal allergies. The findings were consistent across the countries studied, which were situated in Europe and Australia.

An even bigger study into how farm living affects children's immunity was carried out by the *Asthma and Allergy Research Group of Munich University*. That study looked at the parents of around 80,000 European kids, nearly 10,000 of whom had been raised on farms. The farm-raised kids had significantly less asthma, hay fever and allergies than those who visited farms occasionally or never.

Growing up on a farm is a great way to set up a child for a healthy life. Farms situated away from industrialized areas have lots of fresh air that is far less polluted than city air, and spending time in the sun is great for boosting your body's Vitamin D production – something that can prevent a host of diseases including cancer. The life lessons learned by observing animals and plants in their natural environment are extremely valuable, and having a healthy immune system is just the icing on the cake.