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## Healthy and efficient nutrition for a growing world population

According to a United Nations estimate, the world's population is growing by about 80 million annually. How will all these people be adequately fed in the future? How will the increasing demand for meat, for example, be satisfied? Evonik offers one solution in the form of amino acids as animal feed supplements. This not only ensures balanced animal nutrition but also protects the environment and conserves valuable resources.

By 2050 it will be necessary to feed 9 billion people, 70 percent of whom will live in cities. With increasing affluence and urbanization, dietary habits will move in the direction of more meat, fish, dairy products, and eggs. "We want to delink increasing meat consumption from resource consumption," says Dr. Reiner Beste, Head of Evonik's Health & Nutrition Business Unit. "Only in this way can a growing world population be assured of a healthy diet over the long term."

In the "What if..." brochure, Evonik shows how this can be done. The brochure examines in detail various aspects of the nutrition question, including ecological footprint, overfishing, biodiversity, and land use. A study of the various possible scenarios clearly indicates that future meat requirements can be met sustainably—that is, in an environmentally, economically, and socially compatible way—only by the use of improved technologies in meat production.

Evonik's solution is based on the composition of animal feeds. To be able to produce vital proteins, the organism requires amino acids in a certain ratio. If a particular component is missing the animal cannot use the food optimally. For example, corn, wheat, and soy meal as feeds for poultry and pigs are short of the amino acids methionine, lysine, and threonine. If these are selectively added to the feed, factors such as emission of ammonia, nitrate, and greenhouse gases during meat production can be drastically

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reduced. Evonik has confirmed this by means of a life cycle assessment.

Evonik is the only company in the world to manufacture and sell all four essential amino acids for modern animal feed: Biolys® (a source of L-lysine), MetAMINO® (DL-methionine), ThreAMINO® (L-threonine), and TrypAMINO® (L-tryptophan).

The “What if...” brochure is available in English and can be ordered at the following e-mail address: [feed-additives@evonik.com](mailto:feed-additives@evonik.com)

#### **Company information**

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Profitable growth and a sustained increase in the value of the company form the heart of Evonik’s corporate strategy. Its activities focus on the key megatrends health, nutrition, resource efficiency and globalization. Evonik benefits specifically from its innovative prowess and integrated technology platforms.

Evonik is active in over 100 countries around the world. In fiscal 2012 more than 33,000 employees generated sales of around €13.4 billion and an operating profit (adjusted EBITDA) of about €2.4 billion (excluding Real Estate in both cases).

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