

Lactic Ferment from Kimchi May Cure Bird Flu

A local animal feed manufacturer has shipped a feed additive to Indonesia that may be effective in treating bird flu amid growing international concern over the spread of the virus.

The additive sent by Celltech International was a bacteria called *leuconostoc citreum*, a type of lactobacillus found in kimchi, Korea's pickled cabbage dish. An official at the company said if it is proven effective in treating chickens, ducks, and other birds infected with bird flu virus, the company will sign formal export contracts with Indonesia and expand its export market into other



Asian countries grappling with bird flu outbreaks.



Bird Flu

Bird flu, also known as avian influenza, is a type of influenza virulent in birds. The bird flu virus can be transmitted from bird droppings. Bird flu cases have so far been concentrated in Asia, but Romania and Turkey have also reported outbreaks, increasing international concern. In this era of globalization, few countries would be safe from a flu epidemic.

The virus is unable to move easily among humans, but experts say it is only a matter of time before it

acquires the ability to pass directly from person to person, setting off a global flu epidemic. A widespread outbreak of a human variant of avian flu could kill millions.

No Bird Flu Victim in Korea?

The bird flu epidemic wreaked havoc on poultry farms in Asia in 2003. Korea was no exception. At that time, government officials were forced to destroy more than a million birds at poultry farms around the country over two months to prevent the virus from spreading. There were no human victims, though. Locals believe that the reason for this was kimchi, Korea's traditional and most representative side dish. The lactic fermentation found in the pickled cabbage dish has since been scientifically proven to be effective in preventing bird flu infection.

Lactobacillus

Lactobacillus refers to a group of bacteria that converts lactose and other simple sugars into lactic acid. Some of them are harmful to human bodies, but most are benign - indeed, necessary - inhabitants of the bodies of humans and other animals. *Lactobacillus*, *lactococcus lactis*, *bifidus*, etc. are cases in point. Research results show they are effective in controlling harmful bacteria in the intestines, decreasing cholesterol in blood, improving immunity and anti-cancer functioning, and preventing diarrhea or constipation.

Lactobacillus Contained in Kimchi

Kimchi is a traditional Korean dish of fermented hot peppers and vegetables, usually based on cabbage. *Lactobacillus* grows in the process of fermentation, giving kimchi an appropriate degree of acidity, unique flavors and tastes, and freshness. A well-fermented kimchi is said to be not only delicious, but also efficacious for health. The culinary and health-enhancing secret to kimchi lies in *lactobacillus*. Many Koreans believe that it is this staple dish that has kept them safe from SARS, bird flu, etc.

Efficacy of Kimchi (Lactobacillus)

Metabolic control	improving digestion and strengthening immunity
Prevention of diseases	anti-viral, anti-bacterial, anti-mutagenic, anti-carcinogenic effects
Health improvement	improving healing, lowering cholesterol in blood, managing biorhythms, and curbing aging

Kimchi Extracts Curing Bird Flu

Celltech International shipped to Indonesia the lactobacillus that had been extracted from kimchi by Seoul National University Professor Kang Sa-ouk and his team. The company and the team, headed by Professor Kang, have conducted a joint project to develop anti-viral and anti-bacterial animal feed additives, by using nine kinds of kimchi lactobacilli. Kimchi might hold the key to finding a magic bullet against bird flu.