

Kimchi goes to space, along with first Korean astronaut

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SEOUL — Koreans say they must eat kimchi wherever they are. When South Korea dispatched troops to the Vietnam War in the 1960s, tearful mothers sent off their sons with clay pots containing homemade kimchi. Soon troopships were filled with the pungent smell of the fermenting cabbage slathered with pepper and garlic.

So it was only natural for Koreans to think that their first astronaut must have the beloved national dish when he goes on his historic space mission in April. Three top government research institutes went to work. Their mission: to create "space kimchi."

"If a Korean goes to space, kimchi must go there, too," said Kim Sung Soo, a Korea Food Research Institute scientist. "Without kimchi, Koreans feel flabby. Kimchi first came to our mind when we began discussing what Korean food should go into space."

Ko San, a 30-year-old computer science engineer who beat 36,000 contestants to become the first South Korean space traveler, will blast off April 8 on board a Russian-made Soyuz rocket, together with two Russian cosmonauts. He will stay in the International Space Station for 10 days conducting scientific experiments.

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Ko's trip will be an occasion for national celebration. Since 1961, 34 countries, including Vietnam, Mongolia and Afghanistan, have sent more than 470 astronauts into space, but none of them was Korean - something South Koreans have found humiliating, given their country's economic stature. So when their government finally decided to finance Ko's trip, they wanted him well prepared for his momentous journey. Which means he must take kimchi with him.

After millions of dollars and years of research, South Korean scientists successfully engineered kimchi and nine other Korean recipes fit for space travel. When the Russian space authorities this month approved them for Ko's trip, the South Korean food companies that participated in the research took out full-page newspaper ads.

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The other space food Koreans created include the national instant noodle called ramyeon, hot pepper paste, fermented soybean soup and sticky rice.

But kimchi - a must-have side dish at every Korean meal - was the toughest to turn into space food.

"The key was how to make a bacteria-free kimchi while retaining its unique taste, color and texture," said Lee Ju Woon at the Korean Atomic Energy Research Institute, who began working on the newfangled kimchi in 2003 with samples provided by his mother.

Ordinary kimchi is teeming with microbes, like lactic acid bacteria, which help fermentation. On Earth they are harmless, but scientists fear they could turn dangerous in space if cosmic rays cause them to mutate. Another problem is that kimchi has a short shelf life, especially when temperatures fluctuate rapidly, as they do in space.

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"Imagine if a bag of kimchi starts fermenting and bubbling out of control and bursts all over the sensitive equipment of the spaceship," Lee said.

Lee's team found a way to kill the bacteria with radiation while retaining 90 percent of the original taste. Lee's space kimchi comes in cans, whereas the Korea Food Research Institute's version, developed by Kim's team using a different technology to control the fermentation process, comes in a plastic package.

"This will greatly help my mission. When you're working in space-like conditions and aren't feeling too well, you miss Korean food," Ko, who is training in Russia, said in a statement transmitted through the Korea Aerospace Research Institute, which is overseeing his mission. "Since I am taking kimchi with me, this will help cultural exchanges in space."

Ko plans to be host of a Korean dinner in the space station on April 12 to celebrate the 47th anniversary of the day the Soviet cosmonaut Yuri Gagarin became the first human in space. The dinner will conclude with Korean ginseng and green tea.

What about kimchi's strong aroma, which often keeps non-Koreans from trying it?

"We managed to reduce the smell by one-third or by half," Kim said. "So the other astronauts will feel comfortable trying our space kimchi."

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