This is a provisional English translation of an excerpt from the original full report.

Risk Assessment Report

Calcium halofuginone polystyrenesulfonate

(Antimicrobial-resistant bacteria)

Food Safety Commission of Japan (FSCJ)
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ABSTRACT

Calcium halofuginone polystyrenesulfonate (HPS) is an antibiotic designated as a feed additive in Japan. Based on the Assessment Guideline for the Effect of Food on Human Health Regarding Antimicrobial-Resistant Bacteria Selected by Antimicrobial Use in Food Animals (Food Safety Commission of Japan, September 30, 2004), FSCJ identified some hazards associated with selection of antimicrobial-resistant bacteria developed by the use of HPS in livestock animals.

HPS is designated only as a feed additive for chicken in Japan. Moreover, the active substance of HPS, halofuginone, is considered to exert antimicrobial activity after being dissociated *in vivo*, and use of halofuginone as a medicinal product neither in animals nor in humans has been approved in Japan.

There are no human antibiotics with a chemical structure similar to halofuginone, so that potential of halofuginone to cause the cross resistance is low. In addition, any cross resistance between halofuginone and other antimicrobials has not been reported so far.
In regard with halofuginone resistance and the antimicrobial resistance determinants in bacteria, no finding has been reported. Bacteria have prokaryotic prolyl-tRNA synthetase (ProRS) that is uninhibited by halofuginone in general, but some of bacteria that have eukaryotic ProRS were halofuginone sensitive. Thus, growth of such holofuginone sensitive bacteria seemed to be inhibited by halofuginone owing to its ProRS inhibiting activity.

The result of hazard identification indicates that the use of HPS in chicken could cause the selection of resistant bacteria against halofuginone. However, the resistant bacteria would not pose human health hazards via food consumption, because halofuginone is not used in human medicines, and no cross resistance to human antibiotics has been reported. Thus, FSCJ concludes that the risk to human health via food consumption arisen from the antimicrobial-resistant bacteria selected through the use of HPS in chicken is negligible.
Since information regarding antimicrobial-resistant bacteria is not sufficient, FSCJ considers that the Ministry of Agriculture, Forestry and Fisheries, a risk management organization, should continue to collect further information.