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Outbreaks and control measures of PED in Japan

Kiyoyasu Ishikawa¹⁾

¹⁾Director of Animal Disease Control and Prevention Office, Animal Health Division, Ministry of Agriculture, Forestry and Fisheries

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1. Introduction

On October 1, 2013, outbreak of the Porcine Epidemic Diarrhea (PED) was confirmed in Okinawa prefecture for the first time in seven years in Japan. Following this outbreak, quite a number of outbreaks have occurred nationwide compared to past outbreaks that had occurred since 1980's in Japan.

In this session, I would like to give an outline of the situation of PED and the control measures of PED in Japan.

2. Status of PED in Japan

PED is considered to have been first introduced into Japan in early 1970's because there is a report that anti-PED antibody was detected in serum of imported pigs in the 1970's. In the 1980's, only a few cases occurred sporadically, however, relatively large outbreaks occurred mainly in south Kyusyu area (southern part of Japan) in the 1990's. In the response to the outbreaks, PED was designated as a notifiable infectious disease of "Act on Domestic Animal Infectious Diseases Control" in October, 1996. In addition, effective measures for PED including the strengthening of testing regime, and urgent

approval of live vaccine for lowering lost rate in weaning pigs had been adopted. Subsequently, the PED epidemic pattern was changed to sporadic.

However, on October 1, 2013, outbreak of PED was confirmed in Okinawa prefecture for the first time in seven years in Japan, and then the outbreaks expanded to the 37 prefectures including Ibaraki prefecture, Kagoshima prefecture and Miyazaki prefecture. Number of cases had increased rapidly since March, 2014. Eventually, over 100 new cases per week were reported in the second week of April, 2014. Although the strengthening of control measures and getting warmer weather led to decrease the number of cases temporarily, the outbreaks occurred in 38 prefectures and 817 cases in total, and caused death of 420 thousand weaning pigs from November 2013 to August 2014 ("2013 epidemic season"). After 2013 epidemic season, upsurge of PED cases has not been reported as in 2013 epidemic season, 233 and 30 cases are reported in 2014 epidemic season and 2015 (from September to the first week of December) respectively. Rate of dead pigs per sow in the PED affected farms was nearly halved, dropping from 1.34 in 2013 to 0.76 in 2014.

3. Control measures of PED in Japan

Prior to the outbreak in Japan on October 2013, MAFF informed all 47 prefectures on August 2013 of the epidemic status of PED in the US. In the response to the outbreak in Okinawa, MAFF also informed the summary of the outbreak and called for abidance by the standards of rearing hygiene management (biosecurity standards) on pig farmers. As the area of the outbreaks has been expanded and the number of cases has increased, MAFF noticed to call for strengthening of control measures and had the meeting with stakeholders. Vaccine related organizations including manufactures and distributors under MAFF instruction made efforts to ensure stable supplies of PED live vaccine in response to increasing demand.

On June 6, 2014, MAFF decided to implement new control measures for PED. As one of this decision, on June, 2014, the task forces which were comprised of academic experts and stakeholders were established to develop the PED

control guideline and to undertake epidemiological investigation of the infection route. The results of consideration were come out on October 24, 2014. MAFF also has promoted the researches concerning the investigation of infection route and development of new assay methods for preventing the spread of PED. To date, the researches revealed that PED virus strain prevalent in Japan was to be genetically similar to those in Asia and US.

The control measures for PED in Japan such as strengthening of hygiene management on farm, promotion of vaccination, sharing of related information and prevention of cross-contamination at livestock relating facilities have been implemented steadily through mutual cooperation among concerned parties. These control measures are working well, and consequently massive outbreaks have not occurred as in 2013 epidemic season.

However, control measures for PED should keep to be taken as the PED cases are still reported sporadically.