On November 16, 2016, South Korea reported an outbreak of the Highly Pathogenic Avian Influenza (HPAI) H5N6 that has since continued to spread rapidly. One case of H5N8, which is the strain of virus that had been found in Korea in the past, was also confirmed on December 18, 2016. On December 16, 2016, the South Korean government raised the crisis warning level to “serious,” the highest level on this scale. This is the first time that the Korean government has raised the warning level to “serious.” This designation invokes a more intense government response. As a result, the government will begin monitoring all roads across the country to prevent the transportation of poultry; more preemptive disinfections will occur; and the Ministry of Agriculture, Food and Rural Affairs (MAFRA) will have more authority to close poultry farms, slaughter plants and feed factories. As of the night of December 18, Korean farmers had reported 92 cases of HPAI, resulting in the culling of over 16.7 million birds on 344 farms.
General Information:
Magnitude of the Outbreak

As of December 18, 2016, HPAI was confirmed positive on 204 farms, and an additional 37 farms were still being tested. South Korean farmers had reported 92 of these cases of HPAI (H5N6), of which, authorities have confirmed 76 cases. The remainder of the 204 confirmed HPAI cases was confirmed through surveillance measures taken by the Ministry of Agriculture, Food and Rural Affairs (MAFRA).

Depending on the circumstances, Korean policy is to cull all poultry within a 500 meter, 3 kilometer, or 10 kilometer radius of affected farms. This has resulted in the culling and burial of more than 16.7 million birds on 344 farms, with plans to additionally cull 2.4 million on 22 farms.

The breakout of HPAI positive farms is as follows: 78 duck farms, 79 layer chicken farms, 22 duck parental stock farm, 12 native chicken farms, four layer parental stock farms, four broiler parental stock farms, one broiler farm, two quail farms, one layer duck farm, and one Korean Ogol chicken farm.

The outbreak has largely impacted layer hens, although ducks and quail have also been affected. There have been some reports that egg prices are already rising. As of December 18, the number of birds slaughtered included:

- **Chicken:** 14.2 million (9.1% of total chicken stock)
  - Layers: 12.4 million (17.8% of total layers)
  - Layer Parental Stock: 0.33 million (38.6% of total layer breeding stock)
  - Broilers: 0.61 million (0.8% of total broilers)
  - Other Chicken: 0.77 million
- **Ducks:** 1.77 million (20.1% of total ducks)
- **Quail:** 0.77 million (5.1% of total quails)

A decreasing quantity of layer breeding stock can impact the future supply and price of table eggs. Media sources have suggested that groceries and bakeries are already facing decreased egg supplies and raised prices for eggs as a result of the current outbreak.
According to genotyping results, there are currently five genotypes of H5N6 and one genotype of H5N8 circulating in South Korea. These cases have been confirmed in six of the nine South Korean provinces.

Quarantine authorities said that migratory birds are the source of the outbreak. They are presuming that infected migratory birds extensively contaminated the west coast of the peninsula, and then the HPAI virus was introduced into the poultry farms in the contaminated areas via people, vehicles, and resident birds, etc. At this point, the virus has not been confirmed in two out of the three eastern provinces, indicating that the source is likely migratory birds on a specific western flight path. However, one case of H5N6 has now been confirmed in the eastern city of Busan.

To date, no human infections have been associated with the current H5N6 outbreak.

**Control Measures**

On December 16, 2016, the South Korean government raised the crisis warning level to “serious,” the highest level on this scale. This is the first time that the Korean government has raised the warning level to “serious.” This designation invokes a more intense government response. As a result, the government will begin monitoring all roads across the country to prevent the transportation of poultry; more preemptive disinfections will occur; and the Ministry of Agriculture, Food and Rural Affairs (MAFRA) will have more authority to close poultry farms, slaughter plants and feed factories. As of the night of December 18, Korean farmers had reported 92 cases of HPAI, resulting in the culling of over 16.7 million birds on 344 farms.

The Korean government has taken steps to slow the spread of the virus, implementing a standstill policy on three separate occasions that prohibited the movement of people, transportation, and materials in the poultry sector. With the increase in the crisis warning to a serious level, the government has imposed the following measures; 1) Workers should minimize entering into the poultry farm and when inevitable, they should take strict precautionary measures, such as wearing disposable protective clothing, etc. 2) The culling of the poultry at the farm where the HPAI has occurred shall be conducted within 24 hours from the time that the H5 type has
been confirmed. 3) Feed trucks, table egg transportation trucks and artificial inseminator shall be allowed to visit one farm per day up to December 30. 4) Table egg transportation trucks shall be subject to disinfection and must receive certificate of such disinfection.

The Korean government has also imposed a two-day standstill policy on three separate occasions since the November outbreak. This policy prevents the movement of people, transportation, and materials in the poultry industry, with the goal of preventing further spread of HPAI within and between infected regions. The most recent nationwide “standstill” affected 53,000 poultry farms, 48 poultry slaughterhouses, 249 feed factories and 36,000 vehicles used for poultry transportation. The government has also urged farms to decrease their stock density of poultry from December 2016 through April 2017.

Finally, opposition parties strongly requested that the Acting President of Korea introduce various practical measurements, including vaccination, to contain the spreading HPAI. There is no official announcement for the introduction of vaccination for HPAI outbreak yet.

APHIS has been closely watching the situation, monitoring the information provided by the MAFRA throughout this outbreak as well as media reports. APHIS and MAFRA also discussed the issue during a meeting held in Washington, DC, on December 9, 2016.

**History**

Although this is not the first time South Korea has been afflicted with HPAI, this is the first time that this strain of HPAI (H5N6) has occurred in the country. The first outbreak of HPAI in South Korea occurred in 2003, and it has since been a nearly annual occurrence. In 2014, during what was South Korea’s largest previous HPAI outbreak, nearly 14 million poultry were culled.