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## SDEC Partners Research Update

### Project Update: Epidemiological factors associated to the spread of porcine epidemic diarrhea in Japan

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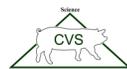
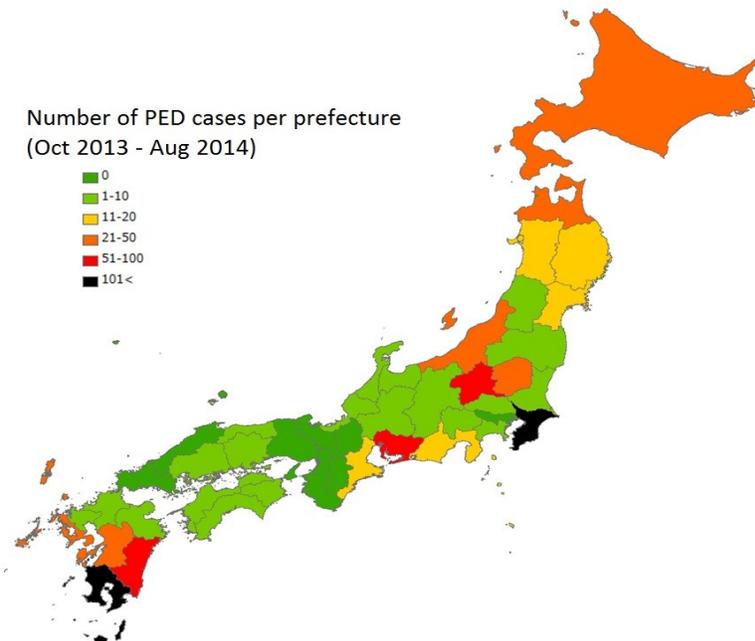
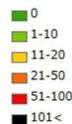
#### Background

- The first case of PED in recent years in Japan was reported in October 2013 and 817 farms (with 414,389 dead pigs) were affected by the end of August, 2014. In the second season, from September until now (April 2015), 220 (new and re-infected) farms were PED-infected with 54,116 dead pigs.
- We hypothesize that risk factors for PED will be different for “locally exposed farms” (farms located within a 5 km buffer from a PED-infected farms) compared to “non-locally exposed farms” (farms located at >5 km from PED-infected farms).

#### Objective

To identify and compare risk factors associated with PED infection in locally and non-locally PED-exposed farms in Japan.

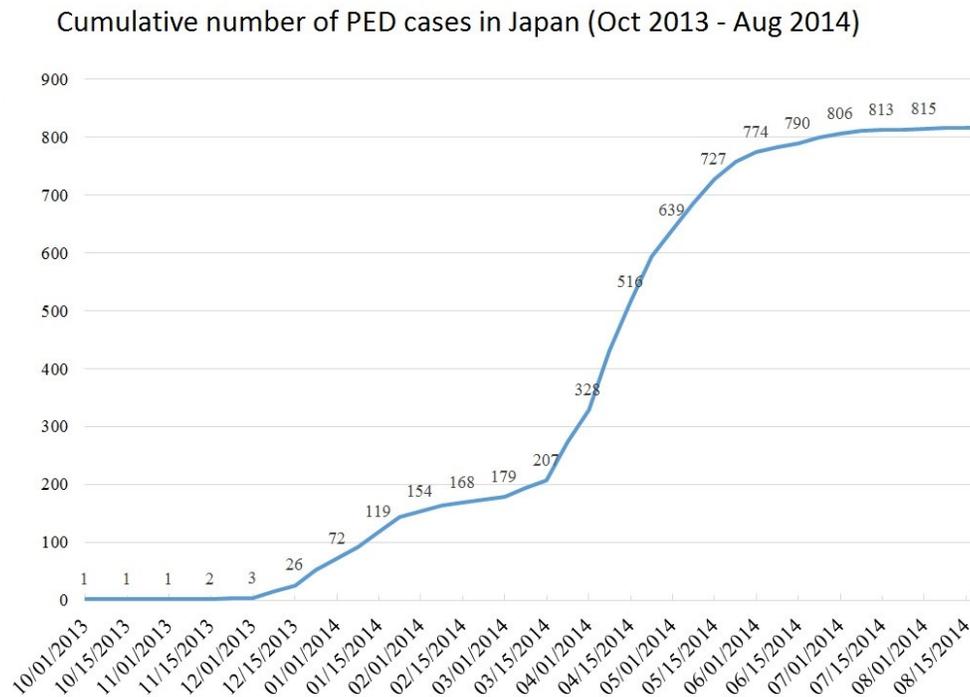
Number of PED cases per prefecture  
(Oct 2013 - Aug 2014)



## Results

Risk for PED significantly ( $P < 0.05$ ) increased, on average, for:

- Locally-exposed farms:
  - 1) 2.7% for each increase of 100 pigs in farm size;
  - 2) 12 times for farms located within 100 meters compared to farms located at least 1 km apart from the nearest infected farm;
  - 3) 3 times for farms that did not allow the disinfectant for a contact time longer than 20 minutes;
- Non-locally exposed farms:
  - 1) 16% per increase in the number of feed truck visits to the farm
  - 2) 3 times for farms that did not allow the disinfectant for a contact time longer than 20 minutes;
  - 3) decreased 3 times if a veterinarian visited the farm 2 weeks before the first outbreak in the region.



**Results demonstrate that factors promoting and preventing PED were different in locally-exposed compared to non-locally exposed farms. Our interpretation on the biological foundations of the associations is available upon request.**