



## INTISARI

### **KAJIAN EPIDEMIOLOGI DAN ANALISIS VARIASI GENETIK VIRUS AFRICAN SWINE FEVER DI PROVINSI LAMPUNG**

Wabah *African Swine Fever* yang mematikan pada babi telah masuk ke Indonesia tahun 2019 dan dilaporkan masuk ke Provinsi Lampung pada Juni 2020. Penelitian ini bertujuan mengidentifikasi faktor risiko penyakit ASF, membuat peta persebaran penyakit, dan mengidentifikasi variasi genetik virus ASF di Lampung.

Penelitian ini menggunakan pendekatan kasus-kontrol dengan unit epidemiologi peternak dengan jumlah sampel kelompok kasus 18 sampel dan kontrol sebanyak 24. Faktor risiko diidentifikasi dengan kuisisioner dan dianalisis secara univariat dan bivariat. Lokasi kasus ditandai menggunakan GPS yang kemudian dipetakan menggunakan perangkat lunak QGIS. Sebanyak tujuh spesimen organ atau darah dari hewan kasus diidentifikasi molekuler menggunakan PCR konvensional dengan target gen p54, dilanjutkan *sequencing* dan analisis pohon filogenetik dengan metode *Maximum Likelihood*.

Hasil penelitian menunjukkan faktor risiko ASF di Provinsi Lampung yaitu tingkat pendidikan peternak selain SMA, jenis peternakan perbibitan, tidak adanya pagar pembatas area peternakan, adanya satwa liar dapat masuk ke area peternakan, tidak adanya tindakan disinfeksi kandang rutin, tidak adanya program pengendalian ektoparasit, tidak adanya tindakan pengobatan hewan sakit, adanya akses orang bebas keluar masuk area kandang dan adanya akses kendaraan pembeli untuk masuk area kandang. Peta persebaran penyakit menunjukkan kasus ASF secara kronologis yaitu di Kecamatan Sidomulyo, Palas, Candipuro dan Way Panji di Kabupaten Lampung Selatan, Kecamatan Braja Selehah di Kabupaten Lampung Timur dan Kecamatan Seputih Raman di Kabupaten Lampung Tengah. Virus ASF yang bersirkulasi di Provinsi Lampung periode 2020 hingga 2022 termasuk dalam kelompok genotipe II. Penelitian ini menjelaskan bahwa faktor biosekuriti peternakan termasuk alat transportasi berperan dalam penyebaran penyakit ASF di Provinsi Lampung.

Kata kunci: *african swine fever*, biosekuriti, gen p54, genotype II, Lampung



## ABSTRACT

### EPIDEMIOLOGICAL STUDY AND ANALYSIS OF GENETIC VARIATION OF AFRICAN SWINE FEVER VIRUS IN LAMPUNG PROVINCE

The deadly African Swine Fever outbreak in pigs entered Indonesia in 2019 and was reported to Lampung Province in June 2020. This study aims to identify risk factors for ASF disease, create a map of the spread of the disease, and identify genetic variations of the ASF virus in Lampung.

This study used a case-control approach with a farmer epidemiology unit with a total sample of 18 cases and 24 controls. Risk factors were identified using a questionnaire and analyzed univariately and bivariately. Case locations were tagged using GPS which was then mapped using QGIS software. A total of seven organ or blood specimens from case animals were identified molecularly using conventional PCR with the target gene p54, followed by sequencing and phylogenetic tree analysis using the Maximum Likelihood method.

The results showed that the risk factors for ASF in Lampung Province were the education level of the farmer other than high school, the type of breeding farm, the absence of a fence for the livestock area, the presence of wild animals that could enter the livestock area, the absence of routine cage disinfection measures, the absence of an ectoparasites control program, the absence of there is treatment for sick animals, there is free access for people to go in and out of the cage area and there is access for the buyer's vehicle to enter the cage area. The disease distribution map shows ASF cases chronologically in Sidomulyo, Palas, Candipuro and Way Panji sub-districts in South Lampung Regency, Braja Selehah District in East Lampung Regency and Seputih Raman District in Central Lampung Regency. The ASF virus circulating in Lampung Province from 2020 to 2022 is included in genotype II group. This study explains that livestock biosecurity factors including transportation play a role in the spread of ASF in Lampung Province.

**Keywords:** african swine fever, biosecurity, p54 gene, genotype II, Lampung