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A Diagnostic Clinical Model as a Tool that Defines the Severity of Interactions Between PRRS and Classical Swine Fever (CSF) in Mexican Pig Farms

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One of the problems within pig diseases in Mexican farms is the PRRS and Classical Swine Fever (CSF) interaction. As CSF has practically been eliminated from North and Southeastern areas, during the mid-90's, new outbreaks of CSF and PRRS spread at Central area of the country, which brought a combined disease where other pathogens were involved giving a confused clinical picture.

The proposal of a Diagnostic Clinical Model, is based on the assumption of low and high pathogenic PRRS and CSF strains plus other bacterial and viral agents which as combined in field conditions hypothetically show the following:

Pathogenic strains		Parasitic pathogens		Clinical signs: general expected manifestations
CSF	PRRS	Bacterial	Viral	
Low	Low	Non or with medication	Non	Chronic manifestations, low mortality and morbidity
Low	Low	Present or without medication	Present	Clinical manifestations of pathogens controlled by medication against bacterial parasites
High	Low	Non or with medication	Non	Typical CSF
High	Low	Present or without medication	Present	Typical CSF plus pathogen parasitic signs, mortality and morbidity
Low	High	Non or with medication	Non	Septicemia with variable severity
Low	High	Present or without medication	Present	Predominance of clinical manifestations from parasitic pathogens, hard to control with medication
High	High	Non or with medication	Non	Severe and acute manifestations of CSF, impossible to control by medication
High	High	Present or without medication	Present	Severe and acute manifestations of CSF + parasitic pathogen reactions, impossible to control by medication

Low virulent CSF strains are more frequent, as PRRS strains also differ in virulence. Presence or absence of other pathogens can be a natural cause or derived from the use of preventive medication.

The symbiotic association of parasitic bacteria and/or virus is a biological phenomena within a pig host that persists causing no damage meanwhile there is homeostatic balance, as soon this is broken, the disease appears. Prevalent pathogens at central area of Mexico are: *Salmonella choleraesuis*, *Actinobacillus pleuropneumoniae*, *Pasteurella multocida*, *Pseudomonas aeruginosa*, *Mycoplasma hyopneumoniae*, *Haemophilus parasuis*, *Erysipelothrix rhusiopathiae*, *Streptococcus suis*, pseudorabies (Aujeszky), swine influenza virus, porcine parvovirus and rubulavirus (Blue Eye Disease).

Clinical manifestation factors related to bacteria and virus depend on: internal biosecurity, environmental protection, stress in management social disturbances due to the mixture of animals from different origin, innocuous food and use of medication. The presence of CSF and PRRS depend on: external biosecurity, introduction of vaccine strains, gilt acclimatization in PRRS and sow carrier appearance in CSF cases.

In dealing with interactions where CSF and PRRS coexist, the proposal diagnostic clinical model is a working tool that allows a better approach to handle with this complex problem.