Efecto de la vacunación contra la enfermedad de los edemas sobre la mortalidad y los parámetros de crecimiento en cerdos de transición en una granja comercial positiva para la toxina Shiga 2e

Susana Mesonero-Escuredo, Joaquín Morales, Raúl C. Mainar-Jaime, Gonzalo Díaz, José L. Arnal, Carlos Casanovas, Sergio Barrabés, Joaquim Segalés

Referencias bibliográficas

1. Amezcua, R.; Friendship, R.M.; Dewey, C.E.; Gyles, C.; Fairbrother, J.M. Presentation of postweaning Escherichia coli diarrhea in southern Ontario, prevalence of hemolytic E. coli serogroups involved, and their antimicrobial resistance patterns. Can. J. Vet. Res. 2002, 66, 73–78.

2. Casewell, M.; Friis, C.; Marco, E.; McMullin, P.; Phillips, I. The European ban on growth-promoting antibiotics and emerging consequences for human and animal health. J. Antimicrob. Chemother. 2003, 52, 159–161.

3. Luppi, A.; Gibellini, A.M.; Gin, T.; Vangroenweghe, F.; Vandenbroucke, V.; Bauerfeind, R. Prevalence of virulence factors in enterotoxigenic Escherichia coli isolated from pigs with post-weaning diarrhoea in Europe. Porc. Health Manag. 2016, 2, 20.

4. Nagy, B.; Fekete, P.Z. Enterotoxigenic Escherichia coli in veterinary medicine. Int. J. Med. Microbiol. 2005, 295, 443–454.

5. Fairbrother, J.M.; Nadeau, E. Collibacillosis. In Diseases of Swine, 11th ed.; Zimmerman, J., Karriker, L.A., Ramirez, A., Schwartz, K.J., Stevenson, G.W., Zhang, J., Eds.; Wiley-Blackwell: Hoboken, NJ, USA, 2019; pp. 807–834.

6. Liu, Y.Y.; Wang, Y.; Walsh, T.R.; Yi, L.X.; Zhang, R.; Spencer, J.; Doi, Y.; Tian, G.; Dong, B.; Huang, X.; et al. Emergence of plasmid-mediated colistin resistance mechanism MCR-1 in animals and human beings in China: A microbiological and molecular biological study. Lancet Infect. Dis. 2016, 16, 161–168.

7. Bertschinger, H.U.; Eggenberger, E.; Jucker, H.; Pfirter, H.P. Evaluation of low nutrient, high fiber diets for the prevention of porcine Escherichia coli enterotoxaemia. Vet. Microbiol. 1979, 3, 281–290.

8. Bednorz, C.; Oelgeschläger, K.; Kinnemann, B.; Hartmann, S.; Neumann, K.; Pieper, R.; Bethe, A.; Semmler, T.; Tedin, K.; Schierack, P.; et al. The broader context of antibiotic resistance: Zinc feed supplementation of piglets increases the proportion of multi-resistant Escherichia coli in vivo. Int. J. Med. Microbiol. 2013, 303, 396–403.

9. Rensing, C.; Moodley, A.; Cavaco, L.M.; McDevitt, S.F. Resistance to metals used in agricultural production. In Antimicrobial Resistance in Bacteria from Livestock and Companion Animals; Schwarz, S., Cavaco, L.M., Shen, J., Eds.; American Society for Microbiology: Washington, DC, USA, 2018; Chapter 5; pp. 83–107.

10. Pollard, A.J.; Bijker, E.M. A guide to vaccinology: From basic principles to new developments. Nat. Rev. Immunol. 2021, 21, 129.

11. Netea, M.G.; Domínguez-Andrés, J.; Barreiro, L.B.; Chavakis, T.; Divangahi, M.; Fuchs, E.; Joosten, L.A.B.; van der Meer, J.W.M.; Mhlanga, M.M.; Mulder, W.J.M.; et al. Defining trained immunity and its role in health and disease. Nat. Rev. Immunol. 2020, 20, 375–388.

12. Fricke, R.; Bastert, O.; Gotter, V.; Brons, N.; Kamp, J.; Selbitz, H.J. Implementation of a vaccine against Shigatoxin 2e in a piglet producing farm with problems of Oedema disease: Case study. Porc. Health Manag. 2015, 1, 6.

13. Ecoporc SHIGA—European Medicines Agency—Europa EU. Disponible online: https://www.ema.europa.eu/en/documents/product-information/ecoporc-shiga-epar-product-information_en.pdf (acceso el 17 de mayo de 2021).

14. Principles of Epidemiology-Lesson 3-Section 2. Centers for Disease Control and Prevention. Available online: https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section2.html (acceso el 5 de abril de 2021).

15. Sachs, L.; Hedderich, J. Angewandte Statistik. Methodensammlung mit R, 12th ed.; Springer: Berlin/Heidelberg, Germany, 2006; pp. 367–417.

16. Cox, E. Immunoprophylactic Alternatives to Zinc Oxide. In Proceedings of the Zero Zinc Conference, Copenhagen, Denmark, 17–18 June 2019; Available online: https://svineproduktion.dk/Services/Plancher#zero-zinc-summit-2019 (acceso el 5 de abril de 2021).

17. Phillips, I.; Casewell, M.; Cox, T.; De Groot, B.; Friis, C.; Jones, R.; Nightingale, C.; Preston, R.; Waddell, J. Does the use of antibiotics in food animals pose a risk to human health? A critical review of published data. J. Antimicrob. Chemother. 2004, 53, 28–52.

18. Peng, H.; Yening, Z.; Zhongyu, H. Advances in aluminum hydroxide-based adjuvant research and its mechanism. Hum. Vaccin. Immunother. 2015, 11, 477–488.

19. Martineau, G.P.; Amenna-Bernard, N.; Waret-Szkuta, A. Enfermedad de los edemas: Cuadro clínico y lesional y fisiopatologia. Suis 2013, 97, 22–33.

20. Melin, L.; Katouli, M.; Jensen-Waern, M.; Wallgren, P. Influence of zinc oxide on faecal coliforms of piglets at weaning. In Digestive Physiology of Pigs; Lindberg, J.E., Ogle, B., Eds.; CAB International: Wallingford, UK, 2001; Chapter 82; pp. 294–296.

21. Lillie-Jaschniski, K.; Köchling, M.; Lindner, T. Erste Erfahrungen mit dem Einsatz von ECOPORC SHIGA, der neuen Vakzine gegen die Ödemkrankheit-Auswertungen aus Feldversuchen in Deuschland. Tierärztl. Umschau. 2013, 68, 377–382.

22. Jones, C.; Patience, J.F. Birth weight and post-weaning failure to thrive affect subsequent growth performance, but not nursery nutrient digestibility or carcass composition of pigs. In Animal Industry Report; AS 658, ASL R2733; Iowa State University Digital Press: Ames, IA, USA, 2012.

23. Muirhead, M.R.; Alexander, T.J.L. Managing health in the weaner, grower and finishing periods. In Managing Pig Health: A Reference for the Farm, 2nd ed.; Carr, J., Ed.; 5M Publishing: Nottingham, UK, 2013; Chapter 9; pp. 229–393.

24. Taylor, D.J. (Ed.) Oedema disease (bowel oedema). In Pig Diseases, 9th ed.; Wayment Print & Publishing Solutions Ltd.: Glasgow, UK, 2013; pp. 154–158.