PERFORMANCE OF INGELVAC CIROCFLEX® VACCINATED PIGS IN A SUBCLINICAL PCVAD HERD

Malachy Young[1], Gail Cunningham[2], Ernest Sanford[2]
[1]Gowans Consulting, Wainwright, Alberta, Canada, [2]Boehringer Ingelheim Canada Ltd, Vetmedica Division, Burlington, Ontario, Canada.
esanford@bur.boehringer-ingelheim.com

Introduction

Porcine circovirus type 2 (PCV2) vaccines have had a dramatic impact on losses associated with clinical cases of PCVAD (1). However, virtually all herds worldwide are infected with PCV2, yet in many infected herds there is no clinical evidence of PCVAD. The purpose of this study was to determine the impact of a one-dose PCV2 vaccine, Ingelvac CircoFLEX®, in growing pigs in a subclinical PCVAD herd.

Material and Methods

Pigs for this study were sourced from a high health, 2850-sow, multi-site system without clinical signs of PCVAD. A total of 1056 pigs, consisting of an equal number of barrows and gilts, were injected with either 1 mL of Ingelvac CircoFLEX® or a placebo at weaning (3 weeks of age) and moved into a finisher barn at 54 days of age (after 33 days in the nursery). Sows were allotted to treatment by parity and pigs were individually tagged at birth and were blocked by treatment, gender, and weight on entry into the finisher barn. Pens of pigs were weighed and feed intake measured bi-weekly thereafter until marketing. Pigs were also weighed individually on days 2 and 88. The mixed model procedure of SAS statistical software (SAS Institute Inc., Cary, NC) was used to analyze the data.

Results

Vaccinated pigs weighed on average 107.3 kg vs 104.8 kg (P <0.01) for the unvaccinated control pigs at the end of the study period. Likewise, feed intake was greater (P <0.01) for the vaccinated vs the unvaccinated pigs. A 30% decrease in growth rate (Fig 1) ensued between days 57 and 70 when an ileitis outbreak occurred. This was also the time of peak mortality for the unvaccinated pigs, consisting of 2.4% vs 0.4% for the vaccinates during the ileitis outbreak. Mortality was greater (P<0.05) for controls vs vaccinates by 4.5% (7.2% vs 2.7%). Vaccinated pigs also gained weight faster than the unvaccinated controls (Fig 2) resulting in fewer vaccinated pigs (9.8% vs 16.7%) weighing <95 kg and more vaccinates (19.6% vs 12.9%) weighing >115 kg on day 88 (Fig 2). At first pull (between day 89 and 96) more vaccinated pigs were shipped than unvaccinated controls (7.5% vs 3%). Carcass weight, lean percent and index were greater (P<0.05) for the vaccinated pigs. Loin depth was 1.8 mm greater (P <0.05) for the vaccinates compared with the controls even after adjusting for the difference in carcass weight.

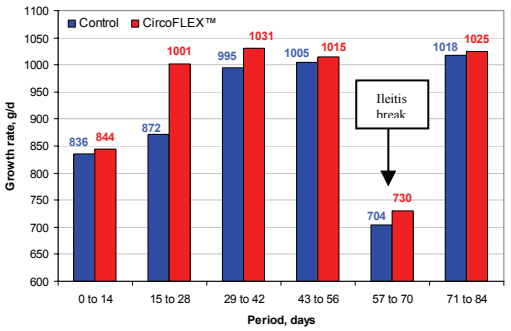

Fig 1. Bi-weekly growth rate in finishing barn.

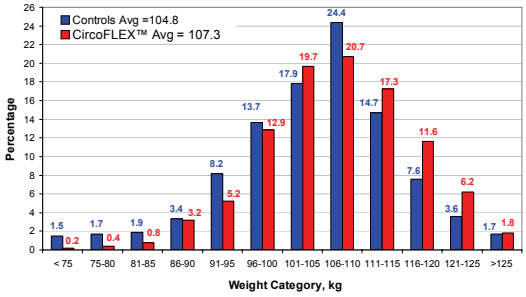

Fig 2. Pig weights on day 88 in finisher barn.

Discussion

Prior to this trial the mortality rate in the pigs studied ranged from 2 to 6% in finishing. PCVAD was ruled out as the cause of the losses since clinical signs, lesions and autopsy results were not compatible with a PCVAD diagnosis. Nevertheless pigs vaccinated once with Ingelvac CircoFLEX® had a greater growth rate (+30 g/d) and lower mortality (-4.5%) than the unvaccinated pigs. This indicates that in the absence of obvious clinical PCVAD signs, the virus still induced a detrimental effect on growth and mortality. The larger loin depth and better overall carcass qualities agree with previous research that immune system activation can negatively impact loin depth and lean percent (2). This aspect bears further investigation.

References

1. Desrosiers R, et al. 2007. AASV 38 : 143-145.
2. Stahly, T., 1996. Banff Pork Seminar. Pp. 45-50.