

# Immune Response and Production Performance in Piglets Vaccinated at 15 and 21 Days Old Against Circovirus Infection

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## Summary

The aim of this research was to determine the effect of vaccination on the amount of antibody titers specific for PCV2, and to determine the effect of vaccination on characteristics of pig production. The first group (A) was vaccinated at 15 days old, the second (B) at 21 days old while the third (C) was the control group. Group B piglets attained the best results, so the vaccination of piglets at 21 days old would have an advantage compared to vaccination at 15 days old, although we note that at 15 days old, there is a far greater influence of maternal antibodies on the creation and development of immune responses in the piglets after vaccination.

**Keywords:** PCV2, Immunity, Antibodies, Piglets, Vaccine

## Domuzlarda Circovirus Enfeksiyonuna Karşı 15 ve 21 Günlükken Aşı Olan Domuz Yavrularının Bağışıklık Yanıtı ve Üretim Performansı

### Özet

Bu incelemenin amacı, PCV2 Virüsüne özel antikor titresi seviyesine ve domuzların üretim özelliklerine aşılamanın etkisini belirlemektir. Birinci, A grubu, 15 günlükken aşı olmuştur, ikinci (B), 21 günlükken, üçüncü, C grubu ise, kontrol grubuydu. B grubu domuz yavrularında çok daha iyi sonuçlar alınmıştır. Dolayısıyla, domuz yavrularının 21 günlükken aşılmasının, 15 günlükken yapılan aşılardan daha başarılı olduğu anlaşılmıştır. Ancak, belirtmek gerekir ki maternal antikorların, 15 günlük olan domuz yavrularının kendi bağışıklık yanıtının gelişmesi ve oluşması üzerine etkisi çok daha büyüktür.

**Anahtar sözcükler:** PCV2, Bağışıklık, Antikorlar, Domuz yavrusu, Aşı

## INTRODUCTION

*Porcine circovirus type 2* (PCV2) is a widespread virus of domestic and wild pigs and is the primary cause of this pig disease group <sup>[1]</sup>. Increasing interest in circovirus infections began after the onset of the Post Weaning multisystemic wasting syndrome (PMWS) in Canada in 1991, and retrospective studies have demonstrated their presence in the late 1960s <sup>[2]</sup>. The group of circovirus diseases, in addition to PMWS, encompasses reproduction disorders, Porcine Dermatitis Nephropathy Syndrome (PDNS), and also a respiratory and enteric form of this disease <sup>[3]</sup>. The introduction of PCV2 vaccine significantly changed the

impact of circovirus on pig production at the global level <sup>[4,5]</sup>. Vaccination of sows and piglets increases PCV2 antibody titers in serum and colostrums and protects piglets from PMWS development <sup>[6,7]</sup>. High titers generally provide solid protection against PCV2 infection, whereas lower titers do not provide protection against these infections. Time of vaccination is often problematic, as the large number of papers indicating the possibility of interference of colostrum and vaccination antibodies indicates, and which is supported by the large difference in the time of the vaccine application suggested by the pharmaceutical companies <sup>[8]</sup>.



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