

# Abstract

An evaluation of the components of medicated early weaning

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The purpose of this study was to determine which, if any, of five medicated early weaning (MEW) methods would prevent the transmission of various pathogens from dams to pigs. All animals in the study were taken from a source herd from which numerous pathogens were identified directly or by serologic tests. We randomly assigned 60 pregnant dams to one of six groups: dams in groups 1 and 2 received multiple vaccines 5 and 3 weeks preparturition, dams in groups 3, 5, and 6 received the conventional vaccines used by the farm 5 and 3 weeks preparturition, and dams in group 4 received the conventional on-farm vaccines 5 and 3 weeks preparturition plus oral medication 1 week preparturition and 1 week postparturition. Their offspring were randomly assigned to one of three subgroups: a subgroup (10 pigs) that was weaned at 7 days old, a subgroup (10 pigs) that was weaned at 14 days old, and a subgroup (10 pigs) that was weaned at 21 days old. All pigs were processed (i.e., received IM injections of iron dextran and procaine penicillin G, tails and canine teeth were clipped, and males were castrated) within 24 hours of birth. Each subgroup included one pig from each of the 10 dams randomized to that group. All pigs but those in group 6 were housed in isolation facilities. Pigs in group 1 and group 3 received multiple medications before and after weaning. Pigs in group 4 received oral medications before and after weaning. Pigs in groups 2, 5, and 6 were not medicated. We formed three additional subgroups of barrows, two from each of the litters in groups 1, 4, and 5. These retained barrows were weaned at 7 days and placed in isolation for further testing. Except for group 6 pigs and the retained barrow subgroups, all pigs were euthanized and necropsied after 10 days in isolation rooms. Pigs from group 6 were necropsied 3 rather than 10 days after weaning. Whatever the treatment or age at weaning, *Streptococcus suis* was isolated from pigs in all groups. *Haemophilus parasuis* was not detected in the respiratory tracts of pigs in group 1 weaned at 7 and 14 days and pigs in group 3 weaned at 7 and 21 days. *Bordetella bronchiseptica*, a nontoxigenic *Pasteurella multocida*, and *Mycoplasma hyopneumoniae* were detected in the respiratory system of one pig, each from a different treatment and age group. Pseudorabies virus was not detected. Porcine reproductive and respiratory syndrome virus was isolated from serum of the barrows or the barrows had seroconverted in 2 of 3 groups at 42 or 64 days. In pigs subjected to medicated early weaning procedures a majority of pathogens were not transmitted. Isolating pigs was as effective (except for *H. parasuis*) as medication and vaccination protocols in controlling the transmission of pathogens we investigated.

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