

Modified Medicated Early Weaning

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In the past, when a swine unit wanted to eradicate a certain disease such as Pseudorabies, costly depopulation/repopulation was the only viable solution. Depopulation, facility cleanup, and repopulation is not always successful because nearby herds with a lower health status may provide a source for reinfection. In 1980, Tom Alexander of Cambridge University developed a system for producing pigs free of certain diseases without costly depopulation.¹

The procedure, termed "Medicated Early Weaning" (MEW), involves isolating sows prior to farrowing, medicating sows and litters, and weaning piglets at five days of age. MEW has been proven effective in the elimination of *Actinobacillus pleuropneumoniae*, *Mycoplasma hyopneumoniae*, *Pasteurella multocida*, *Surpulina hyodysenteriae*, *Streptococcus suis*, *Hemophilus parasuis*, Pseudorabies, and TGE.⁸

Since the inception of the MEW program, many variations from the original program have been proposed. ISOWEAN, for example, is a registered trademark name for the Pig Improvement Company's MEW program. Most other programs that differ from the original MEW program fall into the category of "Modified Medicated Early Weaning" (MMEW) programs.

In the MMEW program, sows are not removed from the source herd and pigs are weaned at 10-21 days of age. Step one is to "super vaccinate" the sows so that they pass high levels of antibodies to their pigs in the colostrum. The vaccination programs are tailored to a particular farm and the disease problems that it seeks to eliminate. Sows are vaccinated a minimum of two times pre-farrowing and treated for parasites prior to farrowing. In addition to the vaccinations, sows are heavily medicated prior to or at farrowing to decrease bacterial shedding.

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Baby pigs are medicated from birth to weaning to decrease their bacterial load. A broad spectrum antibiotic, such as LA200 or Naxcel, is used for these procedures. Baby pigs also are treated for internal and external parasites before they are moved. Ivermectin works well in this situation.

Weaning can be done from 10 to 21 days depending on the particular disease for which eradication is desired. The goal is to get the pig away from the sow before colostral antibody protection is gone. For example, to eradicate pneumonia caused by *A. pleuropneumoniae* or atrophic rhinitis caused by *P. multocida* and *Bordetella bronchiseptica* pigs must be weaned by 10 days of age.³ On the other hand, to eradicate Pseudorabies virus, TGE, and swine dysentery; pigs can be weaned at 21 days. Barry Wiseman did research at the University of Minnesota to determine the optimal days to wean to eradicate a particular disease from a litter of pigs. He used fifteen source herds that were commingled after using MMEW technology. The program used in his research is shown in Figure 1. The pigs were slaughtered and cultured for pathogens after the nursery phase. *S. suis* was found in pigs weaned as young as 10 days and in pigs weaned later. *Pasteurella multocida*, *Hemophilus parasuis*, and *Bordetella bronchiseptica* were not recovered from pigs weaned at 10 days, but at 15 days and later the pathogens could be recovered. The conclusion that can be drawn from this work is that the earlier the weaning can be accomplished, the more diseases that can be eliminated.⁹

Isolation is an important key to any successful MEW or MMEW program. For true isolation, sites should be at least two miles apart and also two miles from any other swine herds.⁷ Breeding stock producers should utilize three production sites. Breeding, gestation, and farrowing are at site one; the nursery and growing are at site two; and finishing is at site three. Commercial producers can utilize MMEW with only two sites by putting the nursery, grower and finisher all on one site.

Figure 2 shows another successful

program as published in the June issue of Pork '90.⁶ Total medication cost in this program was estimated at \$28 to \$30 per litter. However, some of the medications would be used under traditional management systems. Therefore, the extra cost due to MMEW was calculated at about \$1.19 per weaned pig over the conventional system. At five months of age the MMEW pigs averaged 20 pounds heavier than their conventionally raised counterparts. Nursery to market feed conversion was 2.02 in MMEW pigs.⁶

Dr. D. L. Harris, veterinary director of PIC, believes that the added cost of ISOWEAN might be about \$1 per pig for a commercial operation. He claims that 60 pounds and 60 days is common of ISOWEAN pigs as compared to 38 pounds in the same time period for conventionally raised pigs.⁵

Dr. Paul Armbrrecht presented a case study at the 1991 AASP meeting in which he used Tylan injectable to control respiratory disease in an ISOWEAN program. In that case, he was able to increase the income of the farm by two to three dollars per pig.² The increase in profit was realized by reduced vaccine and medication use. Also, an increased number of full value pigs were marketed.

MMEW programs can be utilized by the producer to eliminate costly disease problems and increase the general health status of his/her herd. The programs provide a unique opportunity for the veterinarian to help the producer select vaccines, pharmaceuticals, and other products. The veterinarian is also best trained to test animals and do necropsies in order to monitor the effectiveness of the program. In conclusion, MMEW can be used by swine producers with the help of their veterinarian to eliminate specific disease and increase overall herd health.

Site 1 - source farms
vaccinated twice for
Bordetella, Pasteurella,
H. parasuis, A. pleuropneumoniae,
Clostridium spp., E. coli, M.
hyopneumoniae, Parvovirus,
erysipelas, and Leptospira spp..
PIGS: LA200 at 1, 5, 8, 11, 15,
and 18 days of age, or until
removed for the source farm. Also,
lincomycin for three consecutive
days prior to weaning and
ivermectin at weaning.
Site 2 - comingled nursery
Minimum of two miles from site one.
All-in/All-out.

Minimal medication needed.
Figure 1 MMEW protocol used by Barry
Wiseman to comingle pigs
from several farms.



Bev Levene

References

Site 1 - gestation/farrowing SOWS:
 vaccinate twice for H. parasuis, A. pleuropneumoniae, Bordetella spp., Pasteurella A and D, E. coli, Rotavirus, TGE, S. suis, Clostridium, and erysipelas. Ivermectin one week prior to farrowing. Twenty mL's of LA200 at farrowing.

Site 2 - nursery/grower
 Minimum of two miles from site one and three.
 All-in/All-out.
 Minimal medication needed.

Site 3 - finisher
 Minimum of two miles from site one and two.
 All-in/All-out.
 Minimal medication needed.

Figure 2 MMEW protocol

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