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# Controlled Breeding of Swine

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# Controlled Breeding of Swine

*Dr. Jake Fortenberry\**

**D**URING the last two or three years there has been an increasing trend developing in the hog belt among farmers, working with their veterinarians, to control and concentrate the breeding time of their sows. This is being accomplished with the use of the equine gonadotropin or pregnant mare serum.

Various types of gonadotropic hormones are available under a wide variety of trade names, but essentially there are three main types on the market. They vary somewhat in the source from which they are obtained, and the physiological action is also somewhat different. They are:

1. Chorionic gonadotropin. This product is considered to be predominantly luteinizing (LH) in its action and is obtained from the urine of pregnant women.
2. Equine gonadotropin (PMS). It contains both follicle stimulating hormone (FSH) and luteinizing hormone (LH). This product is obtained from the serum of pregnant mares.
3. Anterior pituitary gonadotropin. To date this product has not been definitely standardized as to its physiological action, but is generally conceded to contain both follicle stimulating hormone (FSH) and luteinizing hormone (LH). It is obtained from the pituitary glands of slaughtered animals.

\* Ed. note: Dr. Fortenberry received his D.V.M. degree from Kansas State College in 1949 and is now employed with the Cutter Laboratories.

This paper will deal primarily with the equine gonadotropin (PMS), for it has been most widely used in swine breeding and has produced very consistent results. It has been found that a 10 cc. dose (500 rat units) of this hormone injected either subcutaneously or intramuscularly will cause a sow to show signs of heat or estrus generally within three to five days. Pregnant mare serum not only causes estrus, but stimulates the ovary to multiple production and release of ova as well, thereby permitting conception if bred during the heat period immediately following the treatment. With this in mind the farmer may benefit by concentrating the farrowing period at a desired time, thus producing a pig crop of uniform age and size. Field reports indicate that litter size is increased. (We have examined many swine raisers' records to establish this fact.)

Even though sows may be nursing pigs, they may be induced to breed and conceive if injected with pregnant mare serum. Some veterinarians are routinely injecting PMS at 21 days following farrowing and obtaining a high percentage of conceptions. However, we know that a higher percentage of conceptions will be obtained if the sows are treated on the thirty-eighth to fortieth day or later after farrowing.

When practical the ideal way to use this hormone on a herd basis is to inject the boar with 15 cc. (750 units) about two weeks prior to and again at the time the sows are treated. This will prepare

the boar to serve more sows than he normally would. For example, if six sows were treated and the farmer had only one boar, we would usually expect to see one sow bred the third day, two to four on the fourth day, and the rest on the fifth day. Therefore, the fourth or fifth day could be a busy one, and if the boar isn't treated, in all probability some of the sows may not be bred. We also believe after watching many droves treated that the boar or boars should be turned with the sows when the sows are treated or not later than the third day following treatment.

Some veterinarians never treat the boars but exercise judgment by not overloading them. It would appear that for maximum results about six sows to a boar is enough. Of course, there are many exceptions to this, for a great deal depends on individual differences or age of the boar, condition of the drove, and the type of swine husbandry that the farmer practices. Speaking of the condition of the drove, we know that it is impossible

to obtain maximum results from swine that are in a poor state of nutrition or are generally run down as a result of harboring an excessive parasite load or as a result of chronic mixed infections, etc.

We all realize, of course, that there is a lot about this type of hormone therapy yet unknown, but it now appears that controlled breeding of normal swine has definitely established itself in the industry. It is both practical and economical.

In 1947, 429 carcasses of cattle were condemned for anaplasmosis; in 1949, 428 and in 1950, 529 carcasses were condemned. These figures should show the importance in emphasizing control and placing less emphasis on treatment.

In England the "Docking and Nicking of Horses Act" makes it illegal to dock or nick horses unless it is officially certified that the "operation is necessary for the health of the horse because of disease or injury to the tail."

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