In addition to having an effective fertility management program, sows and gilts perform best when in good overall health and condition. Merck Animal Health provides efficacious and convenient health solutions – with options to optimize reproduction – offering all producers and breeding operations a comprehensive program for swine health.
OPTIMIZING FERTILITY HELPS MEET BREEDING TARGETS

Breeding management is a crucial segment of pork production. It’s also the most expensive, time-consuming, labor-intensive and unpredictable component of the operation. In fact, failure to meet breeding targets results in the biggest negative impact on total pigs weaned per week and pigs per sow per year.

UNPREDICTABLE GILT PERFORMANCE INFLUENCES POOR BREEDING TARGETS

Breeding targets often fall short because it can be difficult to ensure a well-defined pool of replacement gilts consistent with a high-performance breeding herd. Failure of gilts to successfully farrow can cost you hundreds of dollars per litter. In addition, variation in gilt performance impacts targets because of issues with predicting gilts’ reproductive abilities.

CONTROL BREEDING TARGETS BY CONTROLLING ESTRUS IN GILTS

Reducing variation in the number of gilts that farrow per week is essential to optimize cost and production. By using Matrix® (altrenogest 0.22% solution), you can synchronize estrus in sexually mature gilts, which will help reduce this variation.

Results from Merck Animal Health studies show that when MATRIX is fed for 14 days, more than 80 percent of treated gilts exhibited estrus, compared with only 18 percent of the controls, four to nine days after MATRIX was withdrawn from the feed, thus effectively synchronizing their estrus.¹

MATRIX provides several key economic benefits. Primarily, MATRIX helps producers more efficiently obtain the number of service-eligible gilts needed for each breeding. Individual operations must apply their economic evaluation based on their own inputs, but MATRIX can provide an excellent return on investment for producers. Additional benefits of MATRIX include the potential for decreased gilt inventory, reduced entry-to-service intervals, minimizing weekend mating and weaning, reduced need for heat detection, increased labor efficiency and improved farrowing rate.²

P.G. 600® (serum gonadotrophin and chorionic gonadotropin)

DECREASE NON-PRODUCTIVE DAYS

There are numerous factors that can impact the regularity of a sow or gilt’s estrous cycle, including seasonal changes, environmental conditions, management practice(s) and the number of previous litters.³ Despite the specific reason, inconsistent fertility decreases productivity and profitability. There are, however, options to reduce estrous cycle delay.

GILTS

Ten commercial farms in Illinois, Missouri and North Carolina reported P.G. 600® (serum gonadotropin and chorionic gonadotropin) induced fertile heat in pre-pubertal gilts. Treatment with P.G. 600 increased the number of in-heat gilts within seven or 28 days and decreased the interval to heat compared to control gilts – with no statistical difference in litter size.

SEVEN-DAY SOW CYCLE

Results from in-field research, supported by the Missouri Agricultural Experiment Station, showed 93 percent of sows treated with P.G. 600, express estrus seven days after weaning (see TABLE 1).⁴

TABLE 1: Sows expressing estrus, ovulating, and pregnant for anestrous sows treated with either P.G. 600 vs. saline seven days after weaning.

<table>
<thead>
<tr>
<th></th>
<th>CONTROL</th>
<th>P.G. 600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of animals</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Sows expressing estrus %</td>
<td>32%</td>
<td>93%</td>
</tr>
<tr>
<td>Sows ovulating %</td>
<td>11%</td>
<td>72%</td>
</tr>
</tbody>
</table>

¹ Hurtgen, 1986.
³ Hurtgen, 1986.
P.G. 600®
(sperm gonadotropin and chorionic gonadotropin)

Description: Indications normally reach puberty (begin experiencing normal estrous cycles and exhibiting regular estrus or heat) at any time between six and eight months of age, although some gilts will not have exhibited their first estrus at ten months of age. Age at first estrus is influenced by several factors including breed type, season of the year, environmental conditions, and management practice (Hurtgen, 1986).

Sows normally exhibit estrus three to seven days after weaning their litters; however, some otherwise healthy sows may not exhibit estrus for 30 days or more after weaning (Dial and Britt, 1989). The causes of delayed return to estrus in healthy sows are poorly understood, but probably include season of the year (so-called seasonal anestrus; Hurtgen, 1979), adverse environmental conditions, such as high ambient temperatures (Love, 1978), and the number of previous litters, because the condition is more prevalent after the first litter than after later litters (Hurtgen, 1986).

P.G. 600® is a combination of serum gonadotropin (Pregnant Mare Serum Gonadotropin or PMSG) and chorionic gonadotropin (Human Chorionic Gonadotropin or hCG) for use in prepuberal gilts. The combination of serum gonadotropin and chorionic gonadotropin in P.G. 600® induces estrus in all prepuberal gilts and sows three to seven days after administration. (Schilling and Cerve, 1972, Britt et al., 1986; Bates et al., 1991). The animals may then be mated, or in the case of gilts, after treatment.

The combination of serum gonadotropin and chorionic gonadotropin in P.G. 600® induces estrus in all prepuberal gilts and sows treated with a combination of Pregnant Mare’s Serum Gonadotropin and Human Chronic Gonadotropin (hCG), should be injected into the gilt or sow’s neck behind the ear. Prepuberal gilts should be injected when they are selected for addition to the breeding herd. Sows should be injected at estrus during periods of adverse environmental conditions, and sows mated under such conditions may farrow sooner than normal litters.

Dosage and Administration: One dose (5 mL) of reconstituted P.G. 600®, containing 400 I.U. serum gonadotropin (PMSG) and 200 IU chorionic gonadotropin (hCG), should be injected into the gilt or sow’s neck behind the ear. Prepuberal gilts should be injected when they are selected for addition to the breeding herd. Sows should be injected at estrus during periods of delayed return to estrus.

Directions for Use:

1. FIVE DOSE VIALS (under Code No. 021820)
2. One vial containing 400 I.U. chorionic dry powder and one vial containing sterile diluent. When reconstituted, the five vial dose (25 mL) of P.G. 600® contains:

<table>
<thead>
<tr>
<th>SERUM GONADOTROPIN (PMSG)</th>
<th>2.00 U/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHORIONIC GONADOTROPIN (hCG)</td>
<td>1.00 U/L</td>
</tr>
</tbody>
</table>

(equivalent to 1,000 USP Units chorionic gonadotropine)

Indications for Use: PREPUBERAL GILTS: P.G. 600® is indicated for induction of fertile estrus (heat) in healthy prepuberal (non-cycling) gilts over five and one-half months of age and weighing at least 85 kg (187 lb.). SOWS AT WEANING: P.G. 600® is indicated for induction of estrus in healthy weaned sows experiencing delayed return to estrus.

Cautions: Treatment will not induce estrus in gilts that have already reached puberty (began to cycle). Gilts that are less than five and one-half months of age or that weigh less than 85 kg (187 lb.) may not be mature enough to continue normal estrus cycles or maintain a normal pregnancy to full term after treatment.

Treatment will not induce estrus in sows that are returning to estrus normally three to seven days after weaning. Delayed return to estrus is most prevalent after the first litter; however, small numbers of gilts P.G. 600® has not been established after later litters. Delayed return to estrus often occurs during periods of adverse environmental conditions, and sows mated under such conditions may farrow sooner than normal litters.

Storage Precautions: Store at or below room temperature, 77°F (25°C). Once reconstituted, P.G. 600® should be used immediately. Unused solutions should be disposed of properly and not stored for future use.

Spent hypodermic needles and syringes generated as a result of the use of this product must be disposed of properly in accordance with applicable Federal, State and local regulations.

NOTE: P.G. 600® IS INTENDED AS A MANAGEMENT TOOL TO IMPROVE REPRODUCTIVE EFFICIENCY IN SWINE PRODUCTION OPERATIONS. TO OBTAIN MAXIMUM BENEFIT FROM THIS PRODUCT, ESTRUS DETECTION AND OTHER ASPECTS OF REPRODUCTIVE MANAGEMENT MUST BE ADEQUATE. IF YOU ARE IN DOUBT ABOUT THE ADEQUACY OF YOUR BREEDING PROGRAM, CONSULT YOUR VETERINARIAN.

P.G. 600® is available in 5 dose vials:

HUMAN: FEMALE: Skin irritation or ulceration, delayed return to estrus caused by excessive or continued use of a single syringe. Delayed return to estrus may be induced by overstimulation of the ovaries with prescribed doses.

Environmental Safety: Place empty drug containers and used syringes, protective gloves or other articles that come in contact with this product in a leak-resistant container for disposal in accordance with applicable Federal, state and local regulations.

Contraindications and Adverse Reactions: Underfeeding of MATRIX® may lead to the occurrence of coccidial cysts.

When Using This Product: A small percentage (less than 5%) of treated gilts may exhibit estrus (standing heat) during the 14-day treatment period. Gilts nearing estrus at the start of the 14-day treatment period may express estrus early in that period.

Skin Exposure: Wash Effects of Overexposure: There has been no human use of this specific product. The information contained in this section is extrapolated from data available on other products of the same pharmacological class that have been used in humans. Effects anticipated are due to the gastrointestinal activity of altrenogest. Acute effects after a single exposure are possible; however, continued daily exposure has the potential for untoward effects such as disruption of the menstrual cycle, uterine or abdominal cramping, increased or decreased uterine bleeding, prolongation of pregnancy and headaches. The oil base may also cause complications if swallowed. In addition, the list of people who should not handle this product is based upon the known effects of progestins used in humans on a chronic basis.

HUMAN FOOD SAFETY: Gilts must not be slaughtered for human consumption for 21 days after the last treatment.

Environmental Safety: Place empty drug containers and used syringes, protective gloves or other articles that come in contact with this product in a leak-resistant container for disposal in accordance with applicable Federal, state and local regulations.

Contraindications and Adverse Reactions: Underfeeding of MATRIX® may lead to the occurrence of coccidial cysts.

When Using This Product: A small percentage (less than 5%) of treated gilts may exhibit estrus (standing heat) during the 14-day treatment period. Gilts nearing estrus at the start of the 14-day treatment period may express estrus early in that period.

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