



EQUIFACTS

Heat Detection and Teasing Systems for Mares

*Doyle G. Meadows, Professor, Animal Science
Fred M. Hopkins, Professor, and John E. Henton, Professor,
Department of Large Animal Clinical Sciences, College of Veterinary Medicine*

The process of heat detection, which is determining the sexual readiness of a mare, is critical in the breeding process. Heat detection using the mare's response to a stallion is known as **teasing**. The teasing process is necessary because mares do not predictably show signs of heat, either alone or with a group of mares, as do other domestic livestock. Heat detection is essential for artificial as well as natural breeding.

The mare has a **seasonally polyestrous** type of estrous or reproductive cycle. This means the mare will have several reproductive cycles during specific times of the year. The mare's normal cycling period is from approximately March through September. During this period, the open and lactating mare undergoes a series of cycles, each approximately 22 days in length. The estrous cycle is divided into two physiological parts: estrus and diestrus.

Estrus, or heat, is three to seven days in length and is the time when a mare is receptive to the stallion. The estrus portion of the cycle must be accurately determined because it is the period during which the mare must be bred in order to conceive. Ovulation (release of the egg for fertilization) usually occurs 24 to 48 hours before the end of estrus. Conception rates are highest when the mare is bred 36 hours before and up to ovulation.

Diestrus is the portion of the estrous cycle when the mare is not receptive to the stallion. The mare enters diestrus following ovulation and the end of estrus. The purpose of teasing is to determine the presence or absence of heat.

Teasing is practiced at virtually every breeding farm. However, there are certain factors that are important in heat detection and subsequently contribute to a sound, successful breeding program. Factors discussed in this fact sheet include management, teaser animals, teasing systems, teasing score system and special problems to consider while teasing.

Management

The person in charge of teasing is important to a successful heat detection program. This person must have a thorough understanding of the mare's estrous cycle. In addition, this individual should have knowledge in sexual or estrus behavior in horses, know factors that affect behavior, be patient, and possess a well-developed power of observation to detect subtle behavioral changes and differences in mares.

Teasing is a difficult, time-consuming job that requires, in some situations, constant attention and observation of the mares. Some horse breeding farms leave teasing to one of the lowest-paid, least-qualified employees at

the farm. When this occurs, conception rates generally decline. The people in charge of teasing need to be conscientious about the job because they play a key role in the success of the breeding season.

The breeding manager at successful breeding farms should be involved in heat detection. The breeding manager's role in heat detection varies from one of actually doing the teasing to one of supervising another employee. Either way, the breeding manager is ultimately responsible for heat detection.

Observing and reporting the sexual behavior of the mares are critical to successful heat detection. All farm employees, from trainers to stall cleaners, should report any normal or abnormal sexual behavior that is observed throughout the work day to the teasing manager. For example, a trainer, while riding a horse beside a paddock of mares, may observe sexual receptivity toward the horse being ridden from one or more mares. Any signs of heat should be reported to the proper person so the specific mares can receive proper attention on the next teasing day. Everyone on the farm should be aware of the importance and should play a role in heat detection.

Teaser Animals

The animal used as the teaser may well be the most valuable animal on the breeding farm. The teaser should be aggressive, vocal and enthusiastic. However, the teaser stallion must not be so aggressive as to be out of control or unmanageable. The teaser should tease without excessive roughness such as kicking or biting the mare.

The breeding stallion, in addition to the breeding chores, may also double as the teaser in most small breeding operations. Overuse of the breeding stallion as a teaser should be avoided to reduce the possibility of injury or lack of sexual desire. If breeding stallions are used as teasers, they should be rotated and never physically abused for their sexual advances toward the mares.

Large breeding farms usually maintain a stallion to use exclusively for teasing. These teasing stallions may develop "frustration-induced" behavior changes, such as complete loss of interest in the mares. It is desirable to have more than one teaser and alternate them. Also, allowing a teaser stallion to breed

occasionally helps maintain interest in the mares.

A pony stallion can also be used as teaser. The pony stallion is obviously small, easy to handle and typically very sexually aggressive. However, some mares do not respond as well to pony stallions as they do horse stallions.

Geldings given testosterone every 10 to 21 days have been used with some success as teasers. Also, vasectomized stallions, fitted with a marking harness, have been used for estrus detection in free-running mares. This method, however, has received only limited attention and success. The intact, active stallion is still the most desirable animal to use for heat detection in mares.

Teasing Records

An accurate record keeping system to evaluate or score the mare's response to a teasing stallion is extremely important for a successful breeding season. For a mare to become pregnant, breeding must occur at the proper time during estrus. A scoring system should be utilized so sexual behavior changes can be recorded as the mare progresses through the estrous cycle. One commonly used teasing score system to record estrus behavior is presented below.

| Teasing Score | Behavior |
|---------------|---|
| 1 | Diestrus — obvious hostility to the stallion; ears back, striking, biting and squealing |
| 2 | Indifference, passive behavior |
| 3 | Slight interest in teaser, may urinate with winking |
| 4 | Obvious interest in teaser, urination and winking |
| 5 | Strong interest in teaser, frequent urination, winking and squatting |

A normal, expected response of a mare showing signs of estrus to a teaser stallion includes things such as obvious interest in the stallion, vulval winking (frequent opening of the vulva), squatting, tail raising and urination. Behavior associated with not being in heat (diestrus) include kicking, biting, striking, laying the ear back and an overall hostile attitude toward the stallion. The mare that winks, squats, urinates and does not kick the teaser stallion is a likely breeding candidate.

It is important to remember that heat behavior varies considerably from mare to mare. Being aware and recording the changes that

Figure 1. Teasing Record for Mares

Mare Record

Mare _____ Color _____ Age _____ Farm Number _____
 in 19 _____ Booked to _____ Mare Owner _____
 Results of last year's breeding _____

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Dec. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feb. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mar. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Apr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Tease Code

- 1 - resistance
- 2 - indifferent
- 3 - interested
- 4 - winks vulva, urinates
- 5 - profuse urination and vulvular activity

occur in a particular mare are critical. Mares are best teased every day but can be carefully teased every other day and still provide adequate information for breeding. Those mare receiving a teasing score of three or more are checked by rectal palpation or ultrasound to further identify their breeding status. Heat detection, in combination with palpation or ultrasound, will provide important information for the breeding manager to determine whether to breed the mare that day.

Mares vary widely in their response to the teaser. The best indicator that a mare is in heat is when she acts the same as she did during her previous estrus cycle. To accurately assess the behavioral patterns of the mare, it is necessary to begin teasing one month prior to breeding season. This allows adequate time for the mare to become comfortable with the teaser and teasing system. During this time, the teasing manager can become familiar with the mare's response at various times in the estrous cycle.

Teasing System

Teasing systems vary widely from farm to farm. The best teasing system for a farm will be determined by availability and quality of labor, number of mares, type and condition of facilities, managerial preference, safety to horses and handlers, and above all, accuracy of heat detection.

There are two broad classifications of teasing techniques: individual or group. There are advantages and disadvantages to both.

Pasture teasing is not a widely practiced teasing method at breeding farms today. With the pasture teasing system, a handler simply leads a teaser stallion throughout the mares in a pasture. Behavior will be noted as the stallion approaches or is approached by the mares. Labor costs are very low with pasture teasing. However, injury to both handler and horses can be a problem. In addition, timid mares may not approach and may even flee from the stallion and handler. Generally, the teasing stallion is fitted with an apron so that he cannot successfully breed a mare if he escapes from the handler.

Pen teasing can be accomplished in various ways. The stallion may be free to move along the fence line of a group of mares or a handler may lead a stallion up to the fence of the mares. Pen teasing requires a safe, well built pen separating the mare and stallion. As the mares come into heat, they will seek out the stallion. Labor costs are reasonably low; however, injury, due to attempted breeding through the fence, may be a problem. Even though she may not approach the stallion, complete observation of the mare is still necessary. The mare may be in heat but too timid to approach the stallion (Figure 2).

Paddock teasing is a common procedure for teasing mares. This group method

allows teasing of a large number of mares at one time. In this teasing situation, a stallion is placed in an adjacent pen or in a well-built pen in the middle of a paddock of mares. Mares will approach the stallion and can be scored according to their stage of estrus (Figure 3).

This is a very natural, easy way to tease mares. It has low labor requirements, but mares must be observed constantly. As with other group teasing methods, mares that do not approach the stallion still have to be observed.

Stall-door teasing places the mares in box stalls — generally with Dutch doors. The stallion is led from one stall to another. At each stall, the behavior of the mare is recorded. Many breeding farms have this type facility for individual teasing, and it is a very effective way to tease mares. It is recommended that a person accompany the handler to record the activities and to help observe the sexual behavior of the individual mare. Otherwise, accuracy of heat detection may be lowered due to difficulties in observing the mare. Obviously, the facility costs of having each mare in a box stall or the labor and time costs of putting a mare into a box stall for each teasing are extremely high. Stall door teasing is basically accurate and relatively safe.

Teasing rails (trying boards) are frequently used to individually tease mares. A solid, sturdy partition about 4 feet high and 8 feet long is needed to separate mare and teaser. Occasionally, a single rail separates the mare and stallion (Figure 4). In this method, mares are led individually to the teaser and allowed, initially, to make head-to-head contact. The mare's behavior is moni-

Figure 3. Teasing operation in which several mares can be teased simultaneously. A teaser stallion is placed in the center of the paddock or pen.

Source: Evans, J. Warren. *Horses*. Second Edition, 1989.

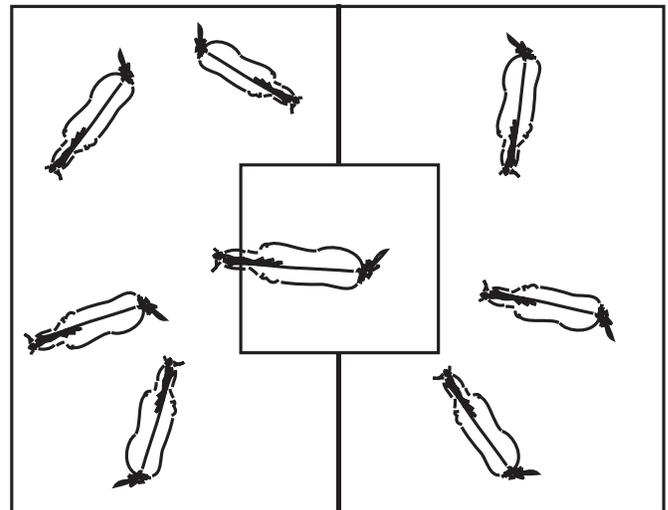
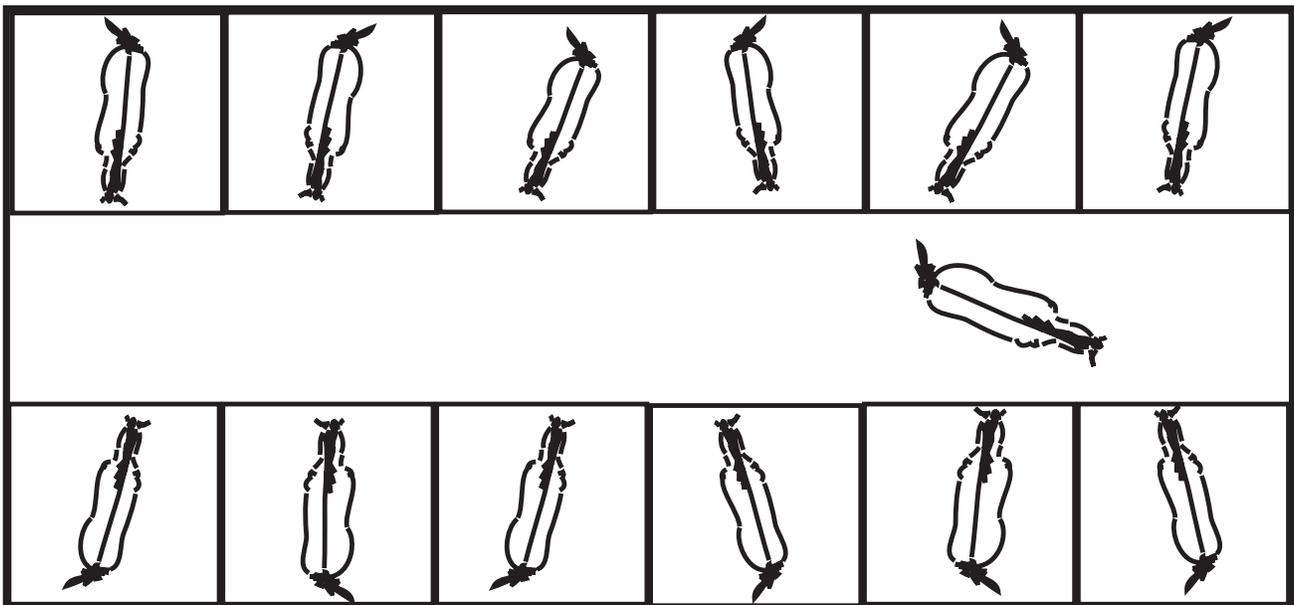


Figure 2. A stallion allowed to tease mares in individual pens.



tored as she is allowed access to the teaser across the rail.

The teasing rail system is accurate and safe. However, each mare must be individually led to the rail, which requires considerable time and labor. The cost to build a teasing rail is minimal, and it provides an effective way to tease.

The **teasing chute** system of heat detection is being used more at breeding farms today. This concept has mares worked individually through a teasing chute that is approximately 30 inches wide, 4 feet tall and 8 feet long. This size would accommodate one mare. Chutes can be made longer (15 feet per mare) for teasing multiple mares in larger operations.

Teasing chutes are faster and allow more accurate heat detection than some of the other methods. However, labor costs tend to be high since more than one person is needed to move mares in and out of the chute, handle the stallion and observe signs of heat.

The **teasing mill** is an interesting variation for heat detection in mares (Figure 5). The teasing mill consists of a small, central pen which holds the teaser and is surrounded on all sides by other small pens that hold the

mares. After the stallion has had time to tease the mares by moving from pen to pen, the mare pens are all emptied at one time and replaced with another set of mares. Depending on the labor situation, the mares can be replaced one at a time. This method is accurate and safe, but construction is more expensive than some of the other systems.

Regardless of the system used, observation time needs to be adequate to allow the mare to adjust to the presence of the stallion and show behavior characteristics for her stage of the reproductive cycle. This will require approximately two to five minutes per mare. Some mares will require more time. Spending less time per mare will result in inaccurate heat detection.

Typically, the presence or absence of estrus in a mare is determined by a teaser stallion incorporated into a teasing system. However, the rise of blood progesterone tests may assist with breeding information. Progesterone levels are lowest during the heat period and highest during the middle of the cycle. These tests are designed to determine if progesterone levels are low or high rather than at a specific level. Most tests produce a color

Figure 4. Teasing rail separates mare and stallion.

Source: Evans, J. Warren. *Horses*. Second Edition, 1989.

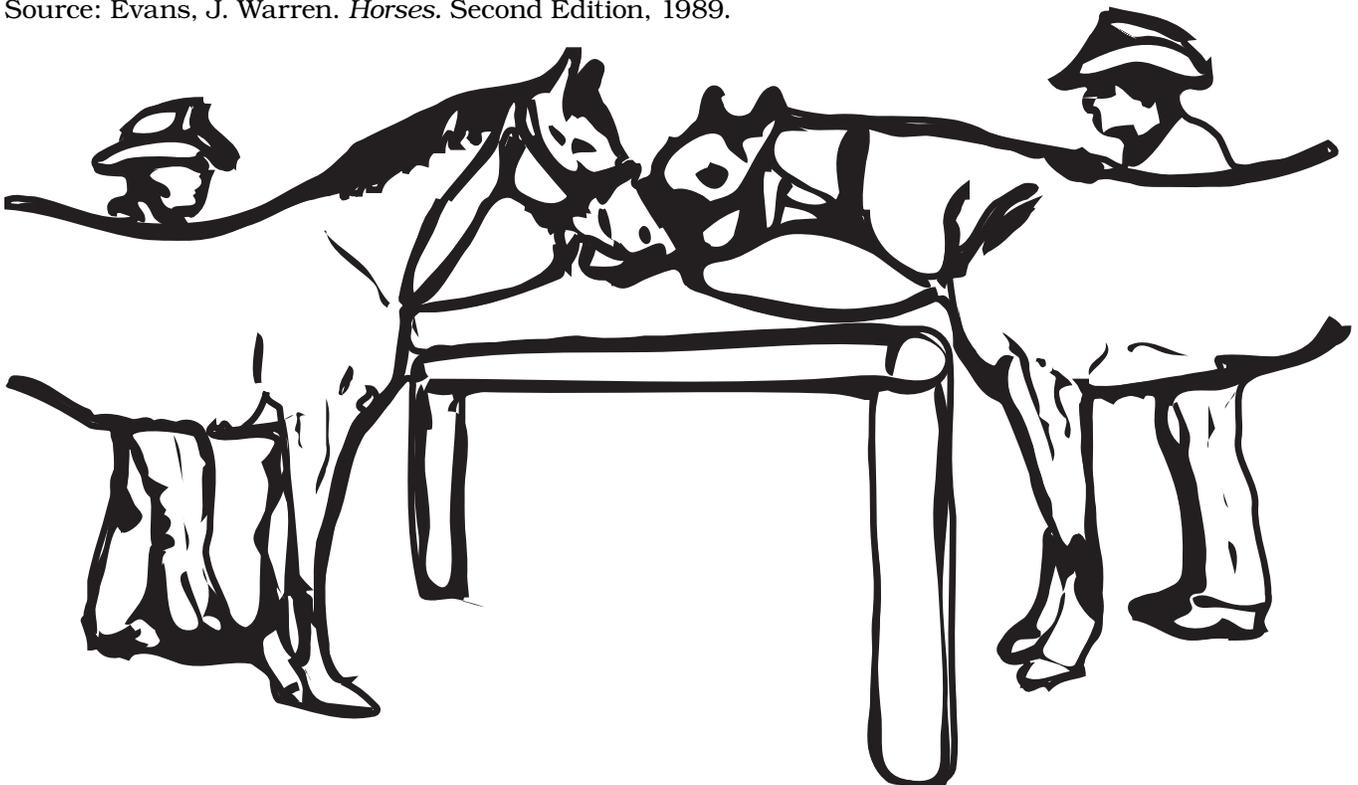
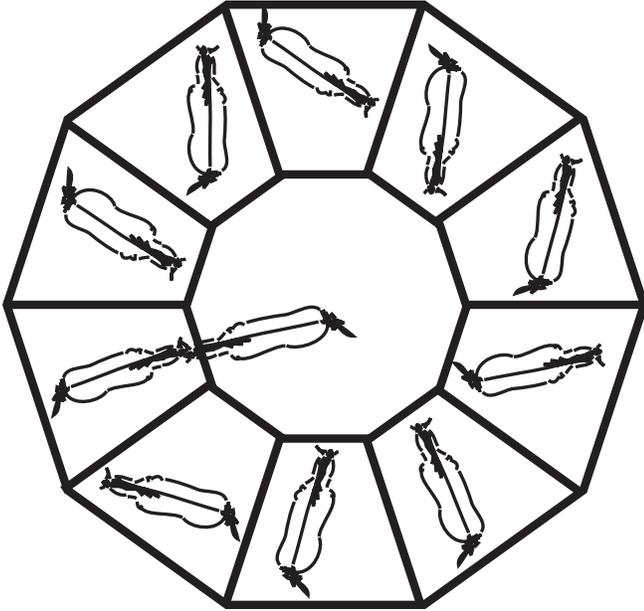


Figure 5. Diagram of a teasing mill to tease several mares simultaneously.

Source: Evans, J. Warren. *Horses*. Second Edition, 1989.



reaction for interpretation and are available at costs between \$2 and \$6.

Teasing Mares with Special Considerations

Certain types of mares and situations present special problems for accurate heat detection. Some mares are timid and will show signs of heat only when in sight of the stallion — not while in direct contact with him. Mares with foals at their side are often very anxious about the safety of their foal and will not show heat until they have been teased long enough to overcome these fears. Any teasing system should plan for handling a foal.

Extremely hot, cold, wet or windy weather can alter or mask sexual behavior in mares. Mares may be preoccupied about extreme environmental conditions and may not show signs of normal sexual receptivity. Teasing mares in large open sheds or under roof out

of adverse weather conditions will make teasing not only more accurate but also easier and more comfortable for the teasing manager. In addition, abrupt weather changes can affect accurate heat detection.

Mares that have never been bred (maiden mares) may show signs of heat regardless of their place in the estrous cycle. Mares hauled in for breeding will frequently show signs of heat when they are actually not in estrus. Typically these mares are often transported, bred and returned home with no chance of becoming pregnant.

Mares will show both irregular heat cycles and behavior early and late in the breeding season. In addition, old mares often need special attention to obtain accurate heat information. Also, mares that are waiting to be fed may give false heat behavior. Finally, race or show mares that have been given steroids while performing may need special attention for heat detection. These mares often need extra time before breeding season to relax and also time to allow the steroids to leave their systems.

Summary

An observant teasing manager, an effective teaser and a safe, efficient teasing system are the bases for accurate heat detection in the mare. These factors, combined with a thorough knowledge of sexual behavior in mares and a detailed set of records are necessary for a successful breeding season.

Pregnancy rates in mares are the lowest of any domestic animal. Only about one half of all mares bred will become pregnant and foal the next year. Pregnancy rates can increase substantially if managers can do a better job of heat detection in mares. Accurate teasing records, combined with rectal palpation or ultrasound, are management tools to increase the reproductive efficiency of the mare.

Visit the Agricultural Extension Service Web site
at <http://www.utextension.utk.edu/>

TNH-1000 1/03 E12-4415-00-027-03
The Agricultural Extension Service offers its programs to all eligible persons regardless of race, color, national origin, sex, age, disability, religion or veteran status and is an Equal Opportunity Employer.
COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS
The University of Tennessee Institute of Agriculture, U.S. Department of Agriculture,
and county governments cooperating in furtherance of Acts of May 8 and June 30, 1914.
Agricultural Extension Service Charles L. Norman, Dean