Elements of SUCCESSFUL STUD DESIGN and LAYOUT

Gone are the days when a stallion was led or ridden from property to property to breed mares. Gone too are the days when the only way to get a foal by the stallion of your choice was to send your mare to stud for months on end, with all the associated dangers of long-distance transport, the possibility of her contracting a viral or reproductive infection or suffering physical injury while she was away from home. Nowadays mare owners and breeders have a range of options for getting their mares in foal and broodmares can live their entire lives without ever having physical contact with a stallion.

Breeders range from the owner of one or two mares who breeds only by AI, to the owner of one stallion who paddock breeds all his mares every year, to stallion stations that collect semen and chill it to transport the same day or freeze it for later use, to studs that foal-down outside mares, and the facilities that each requires reflects their individual needs. There have been great advances in reproductive knowledge and techniques but, regardless of your set-up and the number of mares you breed each season, one thing remains the same – the stud facilities you build must be safe.

How to design your own stud facilities depends entirely on the type of operation you are running but horse breeding has unique demands that can only be met if you are aware of them. Many of these demands can be met with little expense and some need not involve additional expenditure at all if they are included in the initial plans of your property. The first priority of all breeding operations, regardless of size, is the safe management of mares, foals and stallions, therefore your facilities should be designed to avoid injury to horses and their handlers and to minimise the risk and transfer of infectious disease between horses. Safe access via laneways should be provided between paddocks, yards and breeding areas and your plan should include good vet facilities, safe teasing facilities, safe stallion stables and paddocks and a serving or semen collection area with or without a laboratory. Access to your stud and the security of your horses and their facilities should also be a major concern. Your stud should be easy to find, easy to reach from motorways or major roads and have good vehicle access.

YARDS & PADDOCKS

The advantage of self-contained individual yards and paddocks is important in minimising hazards associated with infectious diseases and is often overlooked in the planning of stud layout. For safety and ease of use, a series of smaller yards is preferable to one big yard, especially when more than one stallion is in residence. A series of smaller yards allows appropriate groups of mares to be segregated, for example mares with foals at foot can be kept separate from maiden and open mares. An isolated yard or paddock provides an added bonus in that, if a mare aborts or a foal is taken ill due to a bacterial infection or a virus, the risk of the problem spreading can be decreased. Many abortions are caused through hormonal imbalances in the mare or deformity of the foetus, and in these cases it is not necessary to quarantine the horses involved. However, confirmation of the cause of an infection can take several days and while results of laboratory tests are awaited, it is wise to isolate the affected horse. Plan a complete yard system even if only part of it can be built at a time, add tree guards to your design, take advantage of or plant shade trees and ensure the yards have a good supply of water. All yard rails (except on dividing fences) should be on the inside of posts. Small holding paddocks can be built near the yards and will eliminate overcrowding in the yards themselves.

There is a wide range of infections from which stallions, mares and foals at stud are at risk. The most devastating is abortion and the best-known of these is Equine Herpes Virus Abortion. EHVA can be shed by carrier mares, foals or yearlings and is more likely to arise when mares are mixed on large studs. Pregnant mares at stud should be isolated from other horses as far as feasibly possible. EHVA can be transmitted through direct contact between animals, from airborne nasal...
secretions and indirectly by infective material being transported by vets and stud staff on their clothing. The virus is relatively short-lived in the air so appropriate spacing of yards and paddocks decreases the risk of this route of spread. However, EHVA may survive for up to several weeks if cleaning and disinfection are not adequate. Pregnant mares should be isolated from show horses that may carry infection picked up on the show circuit.

There is a wide range of infectious diseases that are particularly harmful and can be life-threatening for young foals, including septicemia, pneumonia, arthritis and enteritis. It is important to provide fresh pasture for young foals which can be particularly at risk from infections, and careful observation of mares and foals can detect problems early, allowing treatment to begin and affected horses to be quarantined if necessary. Some infectious diseases may persist in the environment for weeks or even months therefore it is clearly beneficial to provide fresh pasture for foals born late in the season, preventing them from grazing pastures that may also be infested with worm eggs.

**DETECTING MARES IN SEASON**

Teasing not only identifies those mares that are in season but exposing a mare in anoestrus to a teasing stallion often encourages her to begin cycling. Mares vary widely in their response to a teaser and often several approaches must be used for teasing to be successful. Some mares react violently, spinning around and kicking at the teaser and putting the handler in a potentially dangerous situation, the majority squeal and strike and others are so shy they do not show at all. It is vital to allow timid or shy mares enough room to move away from what they can perceive as threatening advances and to show to the stallion in their own manner, in the relative security of a corner or at a distance from the equine Romeo. Teasing and serving techniques are so numerous that the one you use will depend on your personal preference and experience. If you have room on your stud, allow mares free access to the outside of the teaser’s yard or walk them past him. The teaser’s yard should be 18 metres x 18 metres with fences 1.8 to 2.4 metres high and with rails no less than 230 mm apart. If you use a teasing lane running past the teaser’s yard, it should be at least 9.15 metres wide. Another option is to use a teasing rail or fence which must be at least 1.07 metres high and preferably solid with padded top and sides. A teasing crush should be 790 mm wide, 2.3 metres long, have a 2.75 metre head clearance with the sides 1.07 metres high topped with a padded rail and one side should open like a gate or collapse if problems occur. You should provide ample shade for your teaser and his handler.
RESTRaining THE MARE

A crush is merely a restraint aid that makes your vet’s job safer, quicker and easier. The crush can be used to restrain the mare for reproductive, dental and physical examinations, AI, worming, vaccinating and branding. When she is in the crush a mare must be able to see and touch her foal, so either build a small holding yard in front of your crush or run the foal into an extra crush beside her. A small forcing yard leading to a double crush, or installing your double crush on a solid wall, guides a foal into the right hand crush as it runs beside its mother. For peace of mind, quarantine purposes and to prevent stress and injury caused by moving mares and foals on a daily basis from the security and safety of a familiar paddock to yards, some large studs have crushes located at each group of mare paddocks and others use a mobile crush. Mares are more settled when they are not moved every day, they face less pressure and stress and their foals’ exposure to injury and disease is reduced.

A crush can be constructed of either steel or timber. The inside measurement of each single crush should be up to 790 mm wide, up to 2.30 metres long and 1.8 metres high and, if you are using roof bars, the minimum clearance should be 2.75 metres. Solid sides to a crush are safer, preventing legs from becoming trapped, and sides should be constructed of a minimum density of 5/8” marine ply. If you use rails there should be a gap of 230 mm between rails and the bottom rail should be 380 mm from the ground. Install front and back gates to your crush and hinge them on the right hand side to enable them to be worked from the near side. The back gate should be lower than the front to enable the mare to be preg tested and follicle tested. The near side of the crush should collapse or be able to swing out like a gate to enable quick release if problems occur.

FOAL WATCH FACILITIES

Mares usually foal at night. One survey found that 86% of foalings occur between 7 pm and 7 am, with forty percent being within two hours either side of midnight. Mares must be observed carefully in the lead-up to the birth for signs of problems and it is critical that experienced hands are present at foaling time to monitor the progress of the birth and provide assistance where necessary. Foaling paddocks should be near your crush and vet facilities, should be floodlit and overlooked by an obser-
vation post that can simply be a window in your
tack room or even your bedroom window.

Special attention must be given to young foals
to ensure they grow and develop properly so
they have the opportunity to perform to their
fullest potential in later life. There is a range of
injuries and orthopaedic conditions of young
foals that can have a serious impact on their
future prospects. The risk of some of these,
for example fractures, can be decreased with
attention to good stud layout, stable design
(see p6, April 2007 Australian Quarter Horse)
and management practices. Foals may suffer
fractures to the jaw, spine, pelvis and legs,
primarily as a result of being kicked or running
into objects and the risk of such fractures is
increased as horses are brought together in
larger groups or when mares and foals are ex-
cited or frightened. The most common fracture
in foals up to one month of age is proximal
sesamoid fracture which is caused by foals
galloping to exhaustion when running beside
their dams. The sesamoid bones sit behind the
fetlock joint and young, weak foals or those
recovering from other problems may be par-
ticularly at risk. Smaller nursery paddocks and
exercise areas can prevent mares from gallop-
ing to excess and can allow you to separate
mares with young foals from with those with
older, more boisterous foals.

CONTAINING THE STALLION

Horses are herd animals and it is natural for
stallions to want to see and be with mares and
foals. However, housing a stallion is not the
same as housing a mare or a gelding. Each
stallion is different – some love to see mares,
some are aggressive towards other stallions
and geldings and others become violent when
they see or hear other stallions breeding or
being collected. During the breeding season
some stallion owners house their stallions
together in a barn with very solid dividing walls
where they can see and touch each other
through bars or mesh, others run their stallions
in large paddocks with their mares and still
others isolate their stallions - it all depends on
your facilities, your experience and routine and
the temperament of your stallions. In the off-
season some stallions run together in a large
paddock, some run with a band of pregnant
mares and their foals while still others go back
into work.

A stallion is testosterone on legs and needs
some form of exercise every day to work off
excess energy and maintain his mental health.
It is cruel and inhumane to place him in solitary
confinement with no exercise, allowing him out
only to breed. Continual stabling or confine-
ment to a small yard frequently causes major
behavioural problems and all stallions are
healthier mentally and physically if they have
daily exercise either on a hot walker, through
turnout in a paddock or by being ridden. Stallion facilities should be strong and well made. If your stallion is confined to a yard it should be no less than 30 metres x 30 metres or 0.2 ha, large enough so he can exercise himself and should be shaded. Fences should be 1.8 metres high and an offset electric wire is useful to keep the stallion off the fence and prevent him rubbing. A stallion stable should be at least 3.7 metres x 3.7 metres with good ventilation and a ceiling height of at least 2.75 metres. If in years to come your stallion dies or you sell him, this large stable and yard, surrounded by a laneway, is perfect as a quarantine facility for a sick or infectious mare or foal.

LOADING RAMP

You never know when you may need a loading ramp. Even though you transport your own horses by float, you may one day sell a horse to someone who drives a truck with a narrow or faulty loading ramp or you may take delivery of an unmanageable horse that needs to be contained as soon as it is unloaded. A small raised yard with gates that open to allow a horse to step directly onto or off a truck can be more useful than you can imagine. Alternatively, your loading ramp could be simply a cattle ramp with a race. The loading ramp should be 760 mm to 790 mm wide, the rails should be 1.6 metres high and there should be a head clearance of 2.75 metres. The loading ramp rises from ground level to a height of 1.15 metres and a tailboard is fitted on the outlet to bridge the gap between the ramp and truck.