

# Equine Reproduction Symposium

Report from Anne Brown



AI collection at W Kington - Opposition Supremacy owned by John Johnson and Mark Todd

Vets and breeders attending the Equine Reproduction Symposium organised by the B&W Equine Group, Beaufort Embryo Transfer Centre, West Kington Stud and Saracen Horse Feeds in March were treated to an extraordinary and inspiring series of lectures.

Some of the world's experts revealed their latest research and developments in AI, embryo transfer, chilled and frozen semen, fertility and nutrition. The intensive day session was aimed at vets and research scientists and an evening session at breeders.

Dr Fernando Riera from polo-mad Argentina is recognised as an international embryo transfer specialist, with over 8,000 ET births to his credit. As most high-goal mares are too valuable to take out of competition, host mares carry their foals. Dr Riera's pioneering team can now extract a single egg from an infertile mare, aspirating it through a thin tube inserted through the flank to the uterus. It is then fertilised and implanted into the host mare within 4 days of conception. His Doña Pilar centre is also now freezing delicate embryos in a vitrification process, to save them



Prof Martin Boyle and Jane Morrell analysing semen from stallion at West Kington

for future impregnation. Many are transported overseas.

Another keen innovator was Marc Spalart who runs a highly efficient ET practice, Equitechnic, in Normandy, mostly for Sport Horses but also for Arabs. He candidly revealed his methods and costings for collecting, storing and shipping semen and inseminating ET mares. Contrary to the techniques of some other experts, he does not use deep uterine insemination and usually inseminates twice, the latter straws immediately before ovulation.

Prof Martin Boyle of Stallion Reproduction Services, the top international specialist in analysing and freezing equine semen explained the basic needs for a stallion to be collected successfully – quiet surroundings, willing jump mare, booted and twitched if necessary – and a well set-up lab adjacent so that sperm can be analysed and chilled or frozen immediately.

Dr Jane Morrell of Stockholm University specialises in stallion fertility using single layer centrifuge (SLC). She illustrated how SLC separates the dead or deformed sperm from the healthy ones, to preserve only the very best from each collection to divide and freeze.

This process can also help identify the sex of the sperm – it is the male sperm which determines the sex of the offspring, not the egg. So the relative weight and speed of the sperm can also be crucial. The slightly lighter male sperm swim faster, so are likely to hit the egg before the female sperm do, if the mare is covered once, late in her season close to ovulation. However, if the mare is covered once, early in her season, the slower, but stronger female sperm are more likely to out-swim the males who will fall by the wayside with exhaustion before they hit the target. So a filly is the more likely outcome.

I was privileged the following day to visit West Kington Stud to watch the entire process from sperm collection to straw storage. The stallion in the quarantine covering barn was the superb 5-year old eventer Opposition Supremacy by Fleetwater Opposition (the sire of Opposition Buzz) owned by John Johnson and Mark Todd who will be competing him this year. He is trained to jump the dummy mare while a member of the West Kington collection team performs the delicate process of guiding the ejaculate into the AV (artificial vagina).

I then joined Prof Boyle, Dr Morrell and vet Chris Shepherd collaborating in the lab while they analysed, centrifuged, added the necessary "extender" and prepared Opposition Supremacy's precious straws of semen for freezing.

But back to the conference – Chris Shepherd of B&W Equine Group who has always been at the forefront of equine reproduction (and with whom I gained my AI Technician's qualification many years ago), outlined the practicalities of using AI. He stressed the necessity of checking that everything is in place before the mare needs inseminating, especially if the semen is coming from overseas.

"Some European studs are lax with the paperwork, but it is essential for it to be complete before a British vet can inseminate," explained Chris. "Also, ask for proof that the stallion is free of EVA, EIA and bacterial infections," he recommended. While pointing out the frequent conception difficulties with older mares, he nevertheless seemed to give very wide breeding parameters from ages 2 to 25, compared with most breeders' limits.

Chris' colleague at B + W, Pete Ravenhill, tackled the tricky question of hormonal mares and suggested a thorough diagnosis of the situation before resorting to remedies such as Regumate. One solution devised by researchers Twink Allen and Sandra

Wilsher is a cheap and easy mixture of peanut or coconut oil into the uterus which lasts for up to 90 days! Who knew!

Emma Tomlinson, an AI expert and Director of Beaufort Embryo Transfer Centre, identified the advances in embryo freezing techniques and the difficulties in sustaining the pregnancy because of its vulnerability. Emma has recently been instrumental in the exciting project to recover embryos from the world's top Three Day Eventer, Headley Britannia (now 19), past winner of Badminton, Burghley and Kentucky.

Tessa Clarke, the vastly experienced and successful stud manager at West Kington Stud provided practical advice to mare owners on finding the most suitable stallion and recommended AI to avoid health risks, injury and a

journey to stud if the mare has a foal at foot.

Lizzie Drury, the senior nutritionist at Saracen Horse Feeds identified how essential Omega 3 (found largely in fish oils) is to a horse's diet, to eliminate the free radicals which attack their immune system. For pregnant mares in their last trimester, she advised the addition of trace minerals, such as copper, zinc and manganese.

But with the lush spring grass up on us, her parting words gave comfort: "Dr Green is best". In the post-conference discussion, interesting theories emerged. One breeder swears that a corn-fed diet is more likely to produce colts, and a mare at grass, a filly.

The evening session opened with Sports Horse journalist Carole Mortimer helping us face the reality of breeding in recessionary times and worldwide over-production. For example, more than 100,000 TBs are now bred a year compared with under 20,000 four years ago. Basically "don't do it for the money" she advised. "It's a buyer's market which means lower prices."

Rather, take pride in breeding from one of your own mares who will pass on the best genes to the foal if you use the right stallion. Assess carefully her strong and weak points, and if possible, aim for a niche market. Certain colours frowned on years ago now sell at a premium, such as Palomino.

If you do breed a number of horses, and have a website, keep it updated and add prices.

Tessa Clarke again advised on taking a long hard look at why and what a mare owner wants to breed. "After searching through all the advertisements, web sites, stallion agents and stallion shows, try to visit the stud or AI centre to get a feel for the horse, his personality and his temperament," she suggested.

Her practical advice included the all-important admin side of breeding, knowing the terms of a breeding contract, and whether the covering or straws come with a Live Foal Guarantee. Make sure you get a covering certificate once you have paid the fee, and that the stallion has his DNA on record with the relevant stud book. You don't want an un-registerable foal after all that effort!



Pete Ravenhill, Katherine Hemson and Chris Shepherd, B + W vets, Symposium speakers

Photos courtesy of Anne Brown.