BEWARE OF THE BULL

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emphasises the importance of properly considering the risks when buying a bull and how to ensure the purchase is a profitable one

ABSTRACT
A bull is inextricably linked to profitability in any herd using natural service, through its fertility and potential to introduce disease. The selection, purchase and management of a bull determines whether it is an asset or a liability. However, many farmers, even those with exceptional cow management, fail to properly consider the risks they take when buying in a bull and don't consider how to ensure he is fit for purpose. A bull seems to be considered more like a piece of farm machinery and, while most clients will readily seek advice and discussion on various aspects of cow health and management with their vet, they rarely seek advice prior to buying a bull. This is not intended to be a clinical article, but its purpose is to provide general comment on some areas of bull health and fertility management, and the pitfalls of bull purchase where farmers often fail to ask for veterinary support.

Keywords: bull, fertility, safety, health scheme, natural service

FOR anyone using natural service, a bull is an essential item, yet mistakes in selection or management mean that it is not always an asset.

The financial impact bulls have – through poor fertility, service or calving trauma, and the introduction of infectious disease – can have devastating effects on a herd. Yet many farmers have learned the hard way that a bull can pose a serious threat to the profitability of a farm business. In some cases they get away with it, but all too often our profession picks up the pieces when the damage has been done.

Many farmers would not think to discuss bull purchase with their veterinary surgeon, but the use of natural service and selection and purchase of bulls is an important – although perhaps forgotten – area of herd health management.

Clearly, in some herds natural service for all or some females is required. Each year, people are tragically killed or injured by bulls, so it is pertinent to start with some comments on safety. There is no such thing as a safe bull, so, whether it is to be confined at all times in a bull pen or used at pasture, it must be with as little risk as possible.

Good temperament is critical, particularly in any situation where a bull will run with cows. However, just because a bull is quiet does not ever mean it is safe. In a perverse way, aggressive bulls are safer because no one takes liberties when around them. It is horrifying to see how inadequate some bull housing is in terms of safety and how suitable facilities for restraint of a bull are totally lacking on some farms.

Sadly, the deaths and injuries caused by bulls each year show that farmers do take risks and those who have got away with it up to now will continue to be complacent. That, of course, is not to say those people who have been killed or injured by bulls is always because facilities have been inappropriate or skill has been lacking – bulls are unpredictable and injuries and deaths are an unfortunate consequence of that.

As veterinary surgeons, clients often expect us to be able to examine, treat or TB-test bulls without suitable restraint because they are too big or unwilling to go into a crush. I'm sure I am not the first vet to have been presented with bulls pinned behind gates or tractors, but I would hope to be the only one to attend a second opinion case where I was asked to treat a lame bull in a field tied to a muckspreader by a rope around its horns. I treated it successfully under sedation – its weeks of lameness were due to an abscess and underrun sole that could have been treated sooner had there been any facilities to handle it.

Clearly, these situations are not acceptable and vets must never compromise their own safety – there is little value in being heroic if you end up seriously injured or dead. Anyone keeping a bull without good facilities should rectify the situation or should not be keeping a bull, and, for our own safety, that of our clients and the public, we should never be afraid to say so.

A semen sample for assessment, coupled with a thorough physical exam is advised in maiden bulls.

When it comes to the bull, the needs of different herds vary tremendously, so the starting point must be to select an animal fit for purpose. This, often, is where bull selection falls down, as some farmers seem to focus solely on the presence of testicles as their only requirement.

To ensure a bull is fit for purpose, forward planning is necessary. Encouraging clients to do this is vital, but not always easy. The starting point must be, "when is the bull needed?" All too often, a bull purchase is left to the last minute, which leads to a number of pitfalls. One of these is that often no suitable bull is available so the one bought is perhaps not ideal. Another is that at purchase, many bulls are overfit, so while they look the part in the sale or show ring, they are not ready for work. So in terms of being in the right condition at the right time, they are not fit for purpose. Overfit bulls may lack the libido and stamina to cope with the job and will often go lame just when they are needed most. Last-minute purchasing also leaves little time for health screening, quarantine, sheath washing and fertility assessment, all of which will be discussed later.

The next step in ensuring fitness for purpose is to select a bull of a suitable breed and age. If a bull is to serve cows, it needs to be physically big enough. Equally, if it is to serve heifers, it must be an appropriate size so that it neither causes damage to the heifers at service nor creates a high incidence of dystocia from oversized calves. In some herds, a bull will only be required for heifers, while in others it will be required to serve both heifers and cows.

Breed and maturity issues occur here and it is imperative to get the right animal for the job, as it is easy for a bull to cause enormous financial loss through dystocia and traumatic serving injuries. A young bull may be of a size suitable for heifers, but, if it is of a breed that has a large mature size, the risk of dystocia is still high. Unfortunately, some farmers don't realise these are not only welfare issues, but there is also a substantial cost that far outweighs the higher sale price they may subsequently get from the higher birthweight calves that actually survive parturition.

A herd requiring a tight calving pattern through natural service requires a bull to work far harder over a short period than in a herd where it is just required to sweep up after AI.

In the former situation, when faced with too many cows, a bull may not keep pace and the calving period will slip, which is costly. Maturity is also an issue, as a maiden bull used as a single sire may not cope with serving as many females in a short period as a mature bull. It is critical to have the correct ratio of cows per bull and multiple bulls may be required in some herds. There are many factors that influence the bull-to-cow ratio, such as heat synchronisation, maturity, libido, subfertility and calving pattern. It is a decision that can't be made for an individual bull for that breeding period without a breeding assessment.

Subfertility does not exclude a bull from service, it just has to be known, so it can work with a smaller number of cows. For clients who wish to run the gauntlet and do not have a breeding assessment on their bulls prior to the service period, the recommendation should be to have a high ratio of bulls to females.

It is also important to establish how and where the bull will be used. Bulls that run with a herd when housed will suffer if they are too big to lie in the

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cubicles. They are then highly likely to go lame and become unfit for purpose. Another problem is that bulls are sometimes expected to serve cows in situations where they are not comfortably able to do so – they may lose libido and are more like to injure themselves or cows because of slippery concrete or low roof height. Clearly, the other factor is one of safety.

Temperament

Whether a bull is run with cows or they are put to the bull in a pen, it must be with as little risk as possible, so temperament is very important. Breed has a big influence on temperament, with dairy bulls typically being more aggressive than beef breeds, but again there is no such thing as a safe bull. Having worked with bulls in a stud and on commercial farms, I know breed does not always correlate with safety. An aggressive mature Holstein bull in a stud that is handled by experienced professional stockmen within a suitable handling system is potentially a far safer and more predictable prospect than a quiet old Hereford running with cows that is not used to being handled.

Selecting the right breed is critical in ensuring a bull's suitability in an individual herd. Besides temperament, breed also determines mature size and, therefore, has a huge influence on the risk of dystocia. It is important to get a balance between the end product required – be that a replacement dairy animal or a beef calf – by genetic improvement, without compromising the health of the dam, or the calf, to achieve it. Whether this is done through pedigree or crossbreeding, it means the right sire choice is essential. Once a breed is selected, estimated breeding values should be used, if available, to further aid in selecting a bull with preferable traits. The needs of a pedigree beef herd, for example, are different to dairy herd using a sweeper, with the former likely to consider the pedigree and conformation of any potential bull very carefully.

The shelf life of bulls varies from herd to herd – often lameness, infertility, injury or poor temperament leads to their early exit from the herd. In other herds, bulls must be changed to avoid them serving their own daughters. A bull should be seen as a long-term investment, and many of the issues that lead to them prematurely being culled can be avoided if time is taken to make sure the right animal is bought in the first place and then managing it correctly so it remains fit for purpose.

Again, we need to get clients to look beyond the presence of testicles and getting a bargain. Conformation is important, not only for the working longevity of the bull but also for the inevitable genetic influence on its offspring. Critically, any physical deformity that renders a bull unable, or raises questions over its ability, to serve should immediately exclude it from purchase. I expect I am not the only vet to have seen bulls with appalling feet and legs that were purchased because they were cheap.

Mixing bulls must be done with care. Although there will inevitably be some fighting to establish the pecking order, I don't recall treating any bulls for serious injury when they have been first mixed at pasture, even when several bulls have been present. However, I do remember being called to a young and very expensive new bull, which had been put in a cubicle shed with the herd and the existing mature bull immediately on its arrival. The new bull's pelvis was smashed by the dominant animal, purely because it hadn't a chance of keeping out of the way. Such lack of thought is not only a very quick way to waste a lot of money, but also shows complete irresponsibility and disregard of animal welfare.

Infection risk

The introduction of any animal to a herd brings the risk of introducing infectious disease. Bulls are particularly devastating, as they tend to be the only animals bought in to otherwise closed herds. I have had two cases that I use to highlight to clients the consequences of buying a bull into a closed herd.

The first was a batch calving, 200-cow dairy herd, which mostly used AI but had its own bull to sweep up. A tight calving pattern had always been maintained. The in-house bull went lame, so a bull was hired in. Between five and seven months post-service there were 27 abortions due to *Campylobacter fetus* introduced by the hired bull. It was only my history taking during the abortion investigation that disclosed a hired bull had set foot on the farm.

The other case was a closed herd that bought in a bull without any health screening. The farmer had not mentioned his intention to buy a bull to the vet practice, and wrongly assumed that if he bought a maiden bull there would be no risk. He introduced infectious bovine rhinotracheitis (IBR) to a previously naïve herd, resulting in the deaths of six fresh calved heifers from necrotising pneumonia, plus considerable treatment costs and production losses in the rest of the herd. Equally, a naïve bull can be brought into a herd where infectious disease exists, with a subsequent consequence for its own health and fertility.

In suckler herds, the introduction of bovine viral diarrhoea (BVD) and Johne's disease by purchased bulls have massive long-term effects. It seems madness that farmers will take the chance and risk jeopardising herd health. Perhaps the issue is that many of them still prefer to stay blissfully unaware of the disease status in their herds in case it means spending money to do something about it. Thankfully, an increasing number of beef breeds are embracing Cattle Health Certification Standards-approved health schemes, with some insisting all animals entered for pedigree sales are accredited or from herds participating in such a scheme.

The purchase or hire of a bull is not only an opportunity to screen it for infectious disease prior to entry on to the holding, but also the chance to check the current health status of the herd. Prior to purchase, disease screening should include blood titres for IBR, BVD antibody and antigen, Johne's disease and leptospirosis. If the animal has grazed, assessment for endoparasites or treatment to prevent the potential introduction of resistant gastrointestinal nematodes is also sensible, as is a physical inspection for evidence of ectoparasites, ringworm and digital dermatitis. I would also include a TB test if the animal has not been recently tested, even if premovement testing is not required.

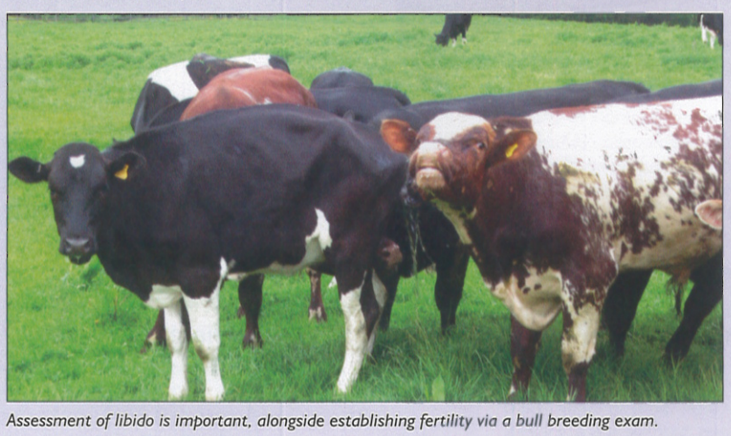
Quarantine on entry to the holding is an essential recommendation – even if health screening has been carried out. A purchased bull must also be included in the herd's vaccination programme, which is often overlooked by farmers. The quarantine period brings the opportunity for primary vaccination courses to be completed and other treatments, such as anthelmintics, to be given, if required, before entry to the herd.

A proven bull brings with it the risk of sexually transmitted infection, so sheath washing before using it for natural service is critical. A breeding assessment is also sensible, even with a proven bull, as previous history is no guarantee of current fertility. All maiden bulls should also be subject to a breeding assessment as some may not have reached puberty. Electroejaculation is a very useful method of collecting a semen sample for microscopic assessment, and is coupled with a thorough physical exam. Bulls certainly don't seem to have any objection to this procedure.

If semen assessment gives doubt about the bull's fertility, it can be reassessed after a couple of weeks. With young bulls that are subfertile at their first exam the likelihood is that they haven't fully reached puberty and many will pass a repeat test with adequate fertility. It is also common that nose ringing is carried out just before sale and this is a painful procedure that often has a temporary effect on semen production. A bull breeding exam represents tremendous value for money for any farmer because it is an opportunity to protect the fertility and, therefore, the profitability of the herd.

Some farmers manage the purchase and management of a bull exceptionally well, while others leave an unfilled opportunity to do things better. The challenge to our profession remains how to convince farmers of the benefits of a bull breeding exam, quarantine and so on because of their attachment to the concept that the presence of testicles is enough.

Three bulls with one heifer.



Assessment of libido is important, alongside establishing fertility via a bull breeding exam.

A young Angus bull with traumatic preputial damage spotted at a routine fertility visit. This bull had good libido, but was unable to serve.

Although beef breeds such as this Aberdeen Angus tend to have better temperaments than dairy bulls, there is no such thing as a safe bull.

Further information

There are many practical articles in both *Cattle Practice* and *In Practice* on aspects of bull health and fertility, including sheath washing and semen evaluation.

Bull breeding examination courses are run by the BCVA, Embryonics Ltd and others. ■

DIANA BAKER graduated from the University of Glasgow in 1998 and also has a BSc in animal science from the University of Nottingham. After four years in mixed practice, she founded Deva Vets as a purely farm, principally dairy, practice. This led her to winning Young Business Person of the Year at the Cheshire Business Awards in 2007. Deva Vets became part of the Willows Veterinary Group in 2009. She has two children and is taking a career break.