

TECH NOTE



BULL
HEALTH

REPRO active™

BULL HEALTH

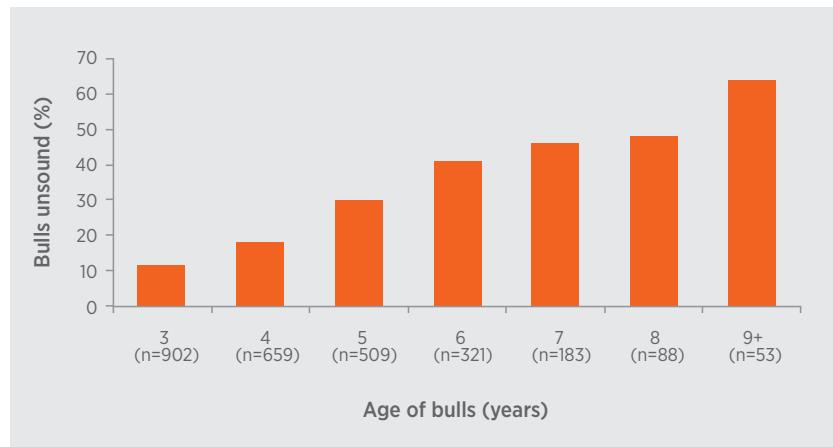
The importance of the bull in a cattle breeding program is often underestimated. Bulls have the most influence on the genetic progress of a breeding herd. The average cow will produce 5–10 progeny in a lifetime in the commercial herd while the bull may produce 120–150 progeny in four to five years in its working life.¹

The bull's ability to locate cows in oestrus and breed with them is therefore clearly vital to a successful breeding program. To achieve this, bulls must be sound for breeding; they must be willing and able to serve a high percentage of cows on heat and they must be free of any abnormalities of the penis, testicles, feet and legs.

Research conducted by Dr Mike Blockey, in Hamilton Victoria demonstrated bulls were unsound for breeding for a range of issues and was associated with aging bulls (figure 1).^{2,3} A total of 25.2% of 2085 bulls over 3 years of age examined were unsound for breeding, of which:³

- 13.8% had locomotion problems
- 6.3% had penile problems
- 3.2% had a low libido, and
- 1.9% had testicular issues and/or poor sperm

Figure 1 Increasing unsound bulls with increasing age³



Some causes for loss are completely preventable, and some are easily treated. A little time and attention to make sure they are fit, free from disease and actively working is well worthwhile.

This tech note aims to find ways that may help decrease the bull wastage and increase fertility and profitability in your production system.

TIPS

Heifers that breed in the first two cycles will have the greatest impact on herd fertility.²

Fertility is often 5–10 times more important than price received in terms of enterprise profitability.⁴



PURCHASING BULLS

Bulls with unknown fertility may affect the function and profitability of your herd well into the next decade.⁴ When selecting a bull for your herd, you should consider a bull that will provide the best value for the financial outlay and match your herd's breeding objectives.

When buying your bull, avoid common pitfalls of:⁵

- paying too much for the apparent 'super bull' when the second best bull is better value
- paying too much for the worst bull in a sale catalogue because he was less expensive

Use the following as a guide to determine your breeding objectives. It may be helpful to rank your selection criteria in priority order, to help you make a choice between bulls that will generally meet your selection criteria.⁶

- Traits of economic importance
- Customer market requirements
- Herd production targets
- Current herd performance
- Breeding goals and selection criteria

Factors to consider

Veterinary bull breeding soundness examination (VBBSE) - The VBBSE is a relatively quick and economic procedure for screening bulls prior to sale or use.⁷ The correct application of VBBSE principles may result in overall improvements in herd fertility rates and can help reduce bull numbers to enhance profitability.⁷

Temperament - Inspect the bulls in the yards or paddock before sale and note any unusual behaviour e.g. those who continually push to the centre of a mob, run around, or are unreasonably nervous, aggressive or excited.⁸

Estimated breeding values (EBVs) - EBVs can provide a fairly accurate estimate of the genetic potential for a trait and can be used to help identify the best bulls for the breeding program depending on your breeding objectives.⁵

Vaccinations and health treatments - Only buy bulls that come with information about the vaccinations and health treatments they have received.

- Obtain records of treatment programs, including date of treatment and batch number of vaccine used
- Check if he has been vaccinated for Vibriosis? Leptospirosis? Three-day sickness? Pestivirus? Have two initial doses been given? When are booster doses due?

TIPS

Relate the price you can 'afford' for a bull to the bull's potential earning capacity. The most profitable bulls for your herd will be those with the greatest difference between predicted earning capacity and purchased price.⁵

Avoid successive bull purchases from a common parent. Inbreeding is a major impediment to the genetic progress of a herd.⁵

The accuracies of the EBV presented should be indicative of whether a bull breeder is recording all important traits. As a guide, young bulls should have all EBVs displayed with accuracies between 50–60% for weight.⁵

Ensure your bull supplier is accurately recording all possible traits associated with traits that are economically important to your breeding program.⁵

If you intend to purchase insurance on the day of sale, check what pre-examinations may be required. Insurers frequently require a veterinary examination. Ask your veterinarian about appropriate risk prevention in your region prior to bull purchases.⁹

VETERINARY BULL BREEDING SOUNDNESS EXAMINATIONS

The VBBSE was developed to standardise bull fertility testing and evaluates whether a bull has met a set of standards for key fertility components, which indicate whether a bull has a high probability of being fertile.⁷

Unsound bulls for breeding can mostly be detected using a VBBSE.¹⁰ The VBBSE is not an absolute guarantee of fertility, but indicates risks that are associated with reduced fertility at the time of testing. As all possible components of a VBBSE will not usually be tested, there always remains a risk that bulls may not be sound.⁷

As a buyer, you should be clear on what the breeder has and has not assessed to detect pre-existing problems.⁶ Always seek and cite a VBBSE certificate (example below) in advance of purchasing your bull with your breeding objectives in mind.^{4,6,7}

Sample of a summary BBSE certificate⁷

Report: Bull Breeding Soundness Evaluation

This evaluation is limited to an assessment and expression of opinion on the following specified matters as at the time and place of examination and should in no way be relied upon as a representation or expression of opinion as to future fertility. The opinion expressed is based on the fertility components marked as having been evaluated. If the evaluating veterinarian is prevented from undertaking a full evaluation, the opinion may not be fully informed and no liability will rest with the veterinarian as a result. This report was compiled exclusively for the use of the person to whom it is addressed. No other person or corporation has any authority to make use of or to rely upon any or all of this report. The evaluating veterinarian will not be liable for any reliance on the content of the report by a third party. This evaluation does not involve and should not be considered as a pre-purchased evaluation.

Summary:

To: Mr Bill Seller, 123 Meat Street, Bulltown Vic. 3456

Place of Examination: Wet Water, Victoria

Date: 31/10/11

Bull ID Brand	Age Yrs: Mn Breed	Scrotum	Physical	Crush-Side Sperm Semen	Morphology	Serving
M1199 (Tag) Running M	2:1 Droughtmaster	42	Q	✓	✗	NT

Bull Identification

Birthdate - 10/09/09 Ear Tag:

Qualified

Physical Reproductive

Testes-Tone-Medium, Scrotum-Normal, Epididymides-Normal. Testes-Normal, Penis-Normal - Visualised, Prepuce-Normal, Seminal Vesicles-Normal, Ampulae-Normal, Prostate-Normal, Head-Normal, Weight-700kg Dentition-8

Comment: Bull has moderate posty leg - likely to develop arthritis prematurely

Crush Side Semen Evaluation

% Progressively Motile = 80, Vet Evaluation-Tick

Semen Morphology Evaluation

Semen Morphology-Fail, % Normal-60, %PC-33, %MP-4, %HT-1, %PY-0, %KA-2, %VT-4, %SA-0, Vet Evaluation-Fail

I hereby certify that I have examined the bull (s) described above in full accordance with the standard for evaluation and reporting bull breeding and soundness as published by the Australian Cattle Veterinarians

Veterinarian: Dr B Reporter
Accredited BBSE Veterinarian
Signature: _____

I hereby certify that there has been no medical or surgical intervention of congenital abnormalities of the listed bull(s), whether genetic or not, to enable the above mentioned standards to be met.

Owner/Agent: Mr Bill Seller
Signature: _____

Scrotum - Scrotal circumference (expressed in centimetres)

Physical - General physical evaluation and examination of the reproductive tract

Semen - A crush-side assessment indicated whether semen is within the normal range for motility, colour and % progressively motile

Morphology - Examination of proportion of normal sperm in semen

Serving - The bull is able to serve normally as demonstrated by a serving ability assessment

Next time you are looking for a bull, look at more than the glossy pictures and the presentation. **Instead, try and determine if you are satisfied that the bull has all the genetics you want and has passed an objective assessment of fertility.**



TIPS

For Angus breeders, in addition to the VBBSE, bulls should have EBVs that may also be enhanced with genomic information provided by i50K or HD 50K for Angus.¹¹

Consider buying your bulls from vendors who clearly and openly identify the VBBSE standards of their bulls.⁴

Ensure a qualified and experienced veterinarian carries out your VBBSE annually.¹²

BRINGING A NEW BULL HOME

Buying a bull is a long-term investment in the future genetics and sale income of your herd. To get the most from your new bull, it pays to look after him well, especially in the first season of use and ensure that he is settled in properly.

Bulls can become upset and excited in the sale and delivery process. They are subjected to strange yards, different noises, loss of their mates, different people and handling methods, new paddocks and different water and feed. When the bull arrives home:⁸

- unload him at the yards into a group of house cows, steers or herd cows
- never jump the bull from the back of a truck into a paddock
- bulls from different origins should be placed into separate yards with other cattle, steers or cows for company
- provide with hay and water, then leave the bull alone until the next day before giving routine health treatments

Below are some factors to consider before bringing your new bull home.¹³

- Insurance
- Carrier instructions
- Health policy
- Yard and paddock facilities for bulls
- Annual health treatments, such as vaccinations and testing
- Joining management
- Regular testing
- Buy bulls that suit your need
- Protect your investment

TIP

To provide time for bulls to overcome the stresses of the sale, being moved to a new location and adjust to their new environment, aim to get the bull home at least 1–2 months before the start of the breeding season.¹³



PREPARING YOUR BULL FOR JOINING – PHYSICAL EXAMINATION

Manage bulls carefully before joining to achieve high conception rates.

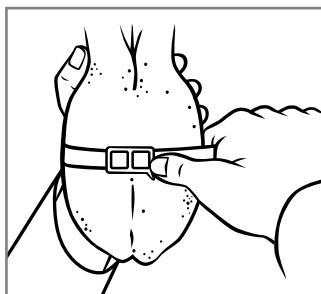
A yearly examination of the bulls in the herd reduces the risk of poor performing bulls and bull breakdowns.¹⁴ Before joining, consider obtaining:⁷

- pre-joining screening evaluation of your bulls
- advice on which bulls to retain or cull
- advice on bull management to ensure they are at the peak of reproductive efficiency at point of joining
- advice on joining management strategies

Physical problems in bulls can reduce the ability and/or desire to serve cows. The animal should be examined systematically by hand and eye from the head, along the neck and shoulders, down the forelimbs, along the thorax and abdomen to the lumbar region and over the hindquarters and down the hind limbs and particularly noting the feet and legs.⁷

Any abnormalities found should be subject to a risk assessment and reported accordingly.⁷

Scrotum examination



The most important part of a scrotal exam is to palpate the contents properly. It should be conducted annually by a professional veterinary surgeon. The scrotal circumference and tone are an important part of the physical assessment of the bull because it determines whether a bull can satisfy the current mating load and affects the fertility of the bull's daughters.¹⁵

Big testicles are a benefit if you keep your heifers because bulls with large scrotal size sire daughters with better fertility and who have fewer days to calving. Use BREEDPLAN fertility Estimated Breeding Values (EBVs, if available) to help maximise female fertility.¹⁵

Semen analysis

Poor semen quality and quantity is often correlated to testicle size. Therefore semen analysis is recommended for bulls with small testicles, soft testicles with low resilience (associated with abnormal sperm and low conception rates) or features that have become damaged due to injuries.¹⁶

Consider the following to help prevent physical injury to your bulls:^{10,17}

- the ability to control weight is critical. Prevent the bull from carrying excess weight. The dangers of grain feeding or a lack of exercise may contribute to this problem
- prevent bulls from fighting
- reduce the stocking rates of older bulls in paddocks or utilise larger paddocks

TIPS

Check bulls for structural soundness at purchase and annually before mating.⁵

Scrotal circumference indicates the likelihood that a bull has reached puberty and whether testicular development is within the normal range.⁷

A minimum scrotal circumference of 32–34 cm is required, but aim for 35 cm and above (applies for most *Bos taurus* breeds, at a working age of 18–24 months, and with average mating loads of 30–40 cows over a period of 3 months).¹⁵

Scrotal circumference should always be measured and reported on a VBBSE certificate plus any obvious abnormalities detected on the physical examination of the scrotum.⁷

SERVING ABILITY

Sound structure and testicles are of course no use without libido or the will to serve.¹⁵ The mating behaviour of bulls can be assessed qualitatively and quantitatively (previously known as serving capacity testing) and they can be used to detect many problems that may not be apparent upon a physical examination and is not correlated to the bull's testicle size.^{15,18}

You may use this test to:¹⁵

- rank your bulls
- predict the number of cows each bull can be mated to
- detect arthritis and joint problems
- detect penile deviations

Servicing capacity

Counting the number of serves over a period of time is rarely used, except where insurance claims are made.

Examination of internal genitalia

This is recommended, especially in older bulls. This involves the palpation of the seminal vesicles and the ampullae to ensure they are normal. Bulls that are determined to be abnormal should be culled.

When applying a quantitative test in ranking bulls, the emphasis placed on the number of serves and number of mounts may be influenced by the intended use of the bull. Higher thresholds are indicated where bulls will be mated as single sires for a short period, but may be lower if intended use is in a multiple-sire annual mating program.⁷

TIPS

When performing a serving ability test, the Australian Association of Cattle Veterinarians *Code of Practice for Serving Capacity Testing* must be observed at all times.^{7,15}

Using restrained females avoids introducing more variables into the test and provides a better evaluation of the bull.⁷

A VBSSE that includes serving ability should be conducted **annually** on your bulls by a qualified veterinarian with experience in this field.



PRE-JOINING EXAMS

Almost all bulls that are unsound for breeding can be detected during an examination for breeding soundness.¹⁰

When to check^{14,17}

Just before joining	<ul style="list-style-type: none">- To further reduce the risk of infertility affecting joining, the health of each bull should be checked at least 2 months before joining- Owners can cull obvious abnormal bulls (e.g. lameness, hip arthritis) prior to testing- An experienced cattle veterinarian should check basic factors as well as conduct more comprehensive testing. Vets should be performing a bull breeding soundness examination (BBSE) just before joining. This enables sufficient time to replace any bulls if needed, and assists financial budgeting processes
During joining	<ul style="list-style-type: none">- Pay special attention to 1st year joining bulls- Observe the bull to ensure he is fit, able and working well- Check 3-4 times per week during joining and more frequently during the first cycle of joining- If a bull does break down or is suspect, remove, treat or replace so as to cause minimal disruption to your joining program
Post joining	<ul style="list-style-type: none">- At pregnancy testing any results that are not satisfactory should be followed up to determine the reasons. This is especially important with high value bulls and when examination is needed for insurance

What to check^{12,14}

This is a list of factors you may want to examine in your bull. You can check some of these things, whilst others are usually done by cattle veterinarians. There is some extra value to be gained by having a cattle veterinarian check the bulls for you.

What you can check:

- assess seasonal conditions and the bull's body condition and organise supplementary feeding if needed
- aim to maintain a condition score of 3.0 prior to joining
- over-fat bulls (score 4 or 5) should be let down gradually, well before joining
- soundness of your bull, ensure he moves well and is not lame
- scrotal circumference and the soundness of testicles are above industry standards. Ask your veterinarian if you are unsure what is normal or what abnormal softness, lumps or swelling feel like

What your veterinarian could check:

- bull breeding soundness examination
 - Physical (eyes, teeth, feet and legs)
 - Reproductive tract
 - Serving ability and libido
 - General health of bull

TIP

The ACV strongly recommends that all bulls should be vaccinated against Campylobacteriosis (Vibriosis) and be certified as not being persistently-infected (PI) with pestivirus prior to commencement of mating.¹⁹

PROTECTING YOUR BULLS

Bull insurance⁹

Bull fertility issues may not be detected until pregnancy testing, which can be many months after bull purchase. Insurance companies provide the opportunity to offset some of the risk of your bulls. When purchasing bull insurance, it is important to understand what is covered in your policy.

A pre-sale test showing the bull is free of impediment(s) is very helpful for insurance claims with no discernible causal event. Pre-insurance evaluations are becoming more common and should be carried out and reported in the same way as for pre-sale evaluations.⁷ However, bulls may also still fail due to a variety of reasons including illnesses and accidents despite passing a pre-sale examination. If you are risk averse, testing bulls after purchase as well as prior to purchase is an option.

At auction sales, the possession of the bull is yours after the fall of the hammer. Insurance against loss in transit, accidental loss of use in the first 3–6 months or infertility is worth considering if it is not provided by the vendor.⁸

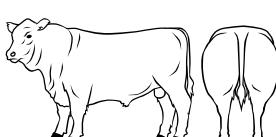
Obtaining insurance comes down to the attitude of the owner and the cost of the bull. The general recommendation is to insure 1st season bulls for at least 6 months as these bulls are more likely to experience difficulties and expose the owner to higher or unforeseen risks.

Make sure you understand what the policy covers when purchasing bull insurance.

Nutrition

Nutrition is an important factor in maintaining the health of your bulls so they are well grown stud and commercial bulls. Your bulls' condition score is an indicator of their health and should be used to monitor their wellbeing. Bulls in poor condition must be fed well before mating, and should be in good condition at least two months prior to mating.¹² On the other hand, over-fatness can interfere with the heat exchange function of the testicles resulting in infertility.¹²

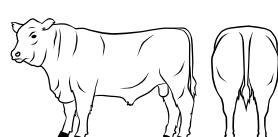
NOT RECOMMENDED



Condition Score 4.5

Bull may appear attractive but is expected to be lazy and serve poorly

RECOMMENDED



Condition Score 3.0

Bull expected to be dynamic, capable and have high fertility

TIPS

Policies are legally-prepared documents and are specific in their wording. When assessing claims, companies will use these specific conditions.⁷

1st year joining bulls should have a condition score of at least 3.5.

Mature bulls should have a condition score between 2.5–3.5.²⁰

If your bull's condition score falls below 2.0, consider supplementary feeding.²⁰

Bulls should not be joined in too heavy or over fat condition.

Learn more about condition scoring in the Condition Scoring Tech Note.

JOINING

The management of bulls has a large impact on herd reproduction. Bulls with low fertility lead to low pregnancy rates and/or increased calving spans. This ultimately leads to reduced throughput of weaners and animals meeting market specifications, and consequently reduced enterprise profits.

During joining, pay special attention to 1st year joining bulls. Observe the bull to make sure he is fit, able and working well. Check 3–4 times/week during joining and more frequently during the first cycle of joining. If a bull does break down or is suspect, remove, treat or replace if needed so as to cause minimal disruption to your joining program.¹⁴

Joining heifers

How a heifer calves in her first gestation, in relation to the calving span of the herd, determines the relationship for the rest of her life. Heifers that calve early in the calving season will continue to do so for the rest of their life.²¹ It is therefore important to join bulls of highest serving capacity to heifers so the heifers have the highest chance of getting in-calf at their first joining. If they calve early in the first season they tend to be early calvers for the rest of their lives.¹²

How many bulls?

Carefully consider the number of bulls allocated to mating groups or herds. Insufficient bulls for the number of cows in a herd may result in:¹⁸

- lower pregnancy rates
- reduced throughput of animals meeting market specifications

Having too few bulls can present a risk if a bull becomes infertile during the mating season.⁷

Too many bulls can also present a risk and may result in an increase in fighting amongst bulls and reduced fertility due to injury.⁷

Calculate the number of bulls required for joining, a minimum of 2 bulls per 100 cows or per herd (variable depending on terrain).¹⁸

- Retain 1 in 10 of total bulls in reserve so that injured bulls can be replaced as soon as they are identified

TIPS

Joining heifers a month earlier than the main herd is a management option that enables the heifers more time after calving to begin cycling before the start of mating.²²

Ensure bulls of similar age are used together and that bulls spend their time serving cows rather than fighting.¹⁴

TIPS

Plan mating groups eight weeks before joining to ensure bulls are run together before mating so they can establish their social groups.²⁰

Mating load, or bull power will vary with bull breed, size, age, testicular size and management factors.

JOINING – SINGLE OR MULTIPLE SIRE JOINING?

Bulls that are being watched by other bulls are likely to serve females more often—they respond to an audience. Conception rates in multiple-joining groups are usually higher, which is understandable, since there are more services made in multiple joining groups than in single-joining groups.²³

Multiple-sire joining involves a group of sires that are joined with a mob of cows at the same time rather than just a single bull (single-sire joining). Single sire joining is widely practised in the southern beef industry. It reduces the risk of bull injury from fighting, but increases the potential for low calving percentage within individual mobs due to infertility or sudden loss of service availability.¹⁸

Particular care should be taken when single-sire joining.^{8,18}

- Assess all bulls annually, prior to joining
 - Only use those that meet the assessment guidelines
- Join each bull to a maximum of 50 cows
- Rotate bulls to make sure that any bull infertility is covered
- Avoid wasting bull resources – joining sound bulls to less than 40 cows is wasteful and increases the cost of bull purchases
- Observe all herds weekly during the joining period to ensure that the bull is working and has not been injured during mating

If a number of young bulls are to be used together, run them together for a few weeks before joining starts – they sort out their pecking order quickly and have few problems later.⁸

TIPS

In multiple-joining situations, run bulls of the same age together.¹² Mixing ages of bulls in mating groups or mixing bulls shortly before or during mating may cause lower serving rates and conception as a result of establishing dominance within the herd.²⁰

Set up your breeding system in conjunction with a suitably qualified vet. The size of paddocks, availability of water sources etc. all influence what system is best.



AGE OF YOUR BULLS

Young bulls²³

Some cattle producers with experience in managing yearlings often say that they prefer them because they settle in better, mix with other cattle more easily and are easier to handle than older bulls. They are free of the structural problems that beset older bulls and there is potential to extend the working lives of the bulls by a year or more, thereby lowering the bull costs of a herd. However, yearling bulls are usually sexually inexperienced, are more likely to be sexually immature, and their health and body condition are far more sensitive to poor nutrition. Although poor management can reduce calving percentages, compromise animal welfare and limit their lifetime potential, yearling bulls have much to offer, both genetically and financially.

Younger bulls are best joined with their own group. Younger bulls are very prone to injury, especially the prepuce and penis, due to overzealous serving behaviour. Do not over-mate younger bulls (12–15 months) (maximum: 25–30 females).

In order to harness the potential of yearling bulls, consider:²³

- joining them either alone or with bulls of the same age. Mixing ages of bulls in mating groups or mixing bulls shortly before or during mating may cause low bull fertility and conception as a result of establishing dominance within the herd²⁰
- join yearling bulls for 6–8 weeks (2 cycles) only, then spell them for at least 3 months
- after removing yearling bulls from their joining groups, place them on high quality feed in specially prepared paddocks

Older bulls⁸

Older working bulls also need special care and attention before mating begins.

They should be tested or checked every year for physical soundness, testicle tone, and serving ability. All bulls to be used must be free-moving, active and in good store condition. Working bulls may need supplementary feeding before the joining season to bring up condition.

All bulls should be drenched, treated for lice, vaccinated with 7-in-1 (leptospirosis and key clostridial diseases) and for vibriosis and pestivirus annually. They may need vaccinating against three-day sickness in some areas.

Older bulls (>5 years of age) are more prone to diseases than younger bulls. They should be checked to ensure they can be retained in the herd.

A pre-joining bull breeding soundness examination should be conducted.

THE AGE OF YOUR BULLS...

...is a factor that can affect bull fertility and performance.

TIPS

Bulls that are well grown at 15 months of age can be used lightly over 15–20 females (usually heifers), provided there is no large disparity in height in favour of the females.¹²

Yearling bulls are usually sexually inexperienced and may be a little clumsy and awkward. The learning phase may cause minor delays to the start of calving.

Newly purchased young bulls should not be multiple joined with older herd bulls. They will not be allowed to work much and in keeping them away from the cows, the older, dominant bull will knock them around.⁸

YOUR SAFETY

Your safety on the farm is just as important as the wellbeing of your cattle. Those in the yard should be critically aware of the safety of themselves and those around them. Ensure you wear gear that is appropriate in the yard, including footwear (leather boots or gumboots) with steel toe caps, a strong pair of trousers and leggings. Avoid being distracted by a mobile phone, turn it off and encourage others to do the same.²⁴

Yard design and the type of cattle controls utilised are critical for:

- routine bull work
- being able to effectively control a bull in a crush
- being able to marshal and move bulls through the yard properly

Substandard designs can be very dangerous for both you and your bulls.

When conducting a VBBSE, ensure that facilities and labour are appropriate for the job to be conducted as this is important for the safety and welfare of both the veterinarian and the animals.

Bulls can be more aggressive during mating season and are extremely dangerous when fighting. Remember:²⁴

- never trust any bull – particularly the ‘lonely bull’ reared or kept in isolation
- never work bulls on your own or turn your back on a bull
- the older the bull, the more dangerous it can become
- avoid working bulls with other bulls around

In an emergency:²⁴

If you get concerned by a bull, shout loudly and strike it repeatedly on the nose to make it close its eyes. To keep a bull away from an injured person, grab and pull the tail to one side to deflect attention away from the injured person.

Moving bulls:²⁴

- move confidently - it is vital to demonstrate dominance
- don't try to move a dangerous bull on foot or alone – use a vehicle
- always have a long strong cane or stick
- keep bulls moving at a trot until they are well into the paddock and clear of the gate, keeping them apart at a good distance
- keep clear of a fighting pair



DISEASE PREVENTION

Diseases affecting your bulls can be particularly costly when they affect his fertility or the fertility of the breeding herd and may result in lower than acceptable conception rates or an extended joining in the herd.¹⁷

Disease prevention is more effective and less costly than treatment. Once you have identified the risk from any particular animal health issue, decide whether to:²⁵

- take immediate action and develop a preventive management program, or
- monitor the herd when disease symptoms are likely to occur in the production cycle, and act only when diseases appear

Use a cost benefit calculator, such as the one provided by MLA, to help decide whether prevention of some of the more commonly recurring diseases (e.g. bloat, grass tetany, clostridial diseases) is cost-effective.

<http://www.mla.com.au/News-and-resources/Tools-and-calculators/Health-cost-benefit-calculator>

Vaccinations

Vaccinations are an important part of disease prevention in an animal health program to reduce production and fertility losses in your bulls.

Talk to your veterinarian or beef advisor:

- i) before embarking on a vaccination program for your herd for up-to-date advice, or
- ii) to find out whether you should expand your vaccine choice from your usual selection in light of the previous year's events

Purchased bulls may be a source of introducing disease even when they appear healthy. All bulls should be vaccinated with:⁸

- 7-in-1 vaccine to protect against leptospirosis and clostridial diseases
- vibriosis vaccine
- pestivirus (BVDV) vaccine
- three-day sickness vaccine*

*If in areas where this exists and may cause problems

Consult your veterinarians and draw up a policy for treating bulls on arrival and then annually.⁸

All bulls should be tested to ensure they are not persistently infected (PI) or carriers of pestivirus (BVDV).

TIPS

Know the common cattle diseases in your locality.²⁵

Consult with neighbours, producers with similar production systems, local veterinary practitioners and state departments of primary industries and agriculture to assist with a thorough assessment of the disease status of your herd.²⁵

Vaccinate against specific diseases if it is cost-effective or a human health risk.²⁵

Catastrophes often remain undetected until pregnancy testing or calving.¹⁷ Discuss with your veterinarian whether you should expand your vaccine choice from your usual selection in light of the past year's events.¹⁷

Consult your veterinarian to prevent substandard preg-testing results – test for vibriosis and pestivirus.

SUMMARY



- Bulls have the most influence on the genetic progress of the breeding herd
- A breeding soundness examination conducted by a veterinarian is recommended annually on all current bulls and prior to purchase of new bulls
- Use objective measures to determine the genetic potential (and therefore value) of purchased bulls
- Calculate mating loads for bulls. A minimum of 2 bulls/100 cows is recommended as a rule of thumb
- Consider the pros and cons of single sire vs multi-sire mating and yearling mating – all require management strategies to reduce the risk of bull failure
- Monitor bulls during mating, especially first season bulls.
- Early pregnancy diagnosis ensures any problems are detected early and can be managed
- Monitor bull body condition score and manage to keep them in optimal condition for mating
- Develop and implement disease prevention and vaccination programs for your bulls in consultation with your veterinarian

Keep accurate records⁹

- ✓ Number and identity of herd
- ✓ Cows served and returned
- ✓ Cow condition scores
- ✓ Dates joined
- ✓ Pregnancy test records
- ✓ Calving records
- ✓ Co-sires
- ✓ Treatments
- ✓ Vaccinations

THANK YOU

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GLOSSARY

Condition score: An assessment of an animal's condition based upon an estimate or measurement of the amount of fatty tissue under the skin on certain body parts.

Estimated Breeding Values (EBVs): These are predictions of an animal's genetic merit, based on available performance data on the individual and its relatives.

Fertility: The ability of a bull to achieve, by natural service, a pregnancy rate of 60% and 90% in 50 normally cycling females, within 3 and 9 weeks of mating, respectively.

HD 50K and i50K: Commercially available DNA tests specifically designed for predicting performance and enhancing Estimated Breeding Values (EBVs) in black Angus cattle.

Serving assessment: Whether a bull can achieve a normal serve without problems being exposed under standard conditions (differing between temperate and tropical breeds).

Unsound bull: A bull that is not fit for breeding or a bull that has not passed a bull breeding soundness exam.

Veterinary bull breeding soundness examination: An exam developed to standardise bull fertility testing and evaluate whether a bull has met a set of standards for key fertility components indicating whether a bull has a high probability of being fertile.

Vibriosis: A sexually transmitted disease that causes infertility and abortions. It is commonly introduced to a clean herd by an infected bull(s).

References: 1. Meat and Livestock Australia. Bulls. Available from <http://www.mla.com.au/Livestock-production/Genetics-and-breeding/Cattle/Reproduction/Bulls>, accessed September 2014. 2. Locke I and Locke D. WIRRUNA NEWSLETTER.pdf, accessed August 2014. 3. Data on file. 4. Bertram J. Bull breeding soundness examination (BBSE). Future Beef, 2013. Available from <http://futurebeef.com.au/topics/breeding-and-genetics/bull-breeding-soundness-examination-bbse/>, accessed August 2014. 5. Meat and Livestock Australia. Procedure 3: Buy the right bulls (or semen) to maximise progress toward enterprise profit (the breeding objective) and avoid inbreeding. Available from <http://www.mla.com.au/mbfp/Cattle-genetics/3-Buy-the-right-bulls>, accessed December 2014. 6. Bertram J. Bull buying checklist. Future Beef, 2012. Available from <http://futurebeef.com.au/topics/breeding-and-genetics/bull-buying-checklist/>, accessed September 2014. 7. Beggs DS. Veterinary bull breeding soundness evaluation (VBBSE), 2013. QLD, Australia. Australian Cattle Veterinarians. 8. NSW Department of Primary Industries, 2004. Bringing your new bull home. Available from <http://www.dpi.nsw.gov.au/agriculture/livestock/beef/breeding/bulls/bull-management>, accessed September 2014. 9. Australian Cattle Veterinarians. Purchasing bulls 2014. Available from http://acv.com.au/?page_id=65, accessed October 2014. 10. Victoria, Department of Environment and Primary Industries, 2014. Bulls for breeding. Available from <http://www.depi.vic.gov.au/agriculture-and-food/livestock/beef/breeding/bulls-for-breeding>, accessed October 2014. 11. Angus Australia, 2014. Understanding Estimated Breeding Values (EBVs). Available from <http://www.angusaustralia.com.au/breedplan-60460/207-ebv.html>, accessed June 2015. 12. Victoria, Department of Environment and Primary Industries, 2006. Management of bulls at mating. Available from <http://www.depi.vic.gov.au/agriculture/beef-and-sheep/beef/breeding/management-of-bulls-at-breeding>, accessed April 2013. 13. Angus Australia, 2010. Bringing a new bull home. Available from http://www.angusaustralia.com.au/images/Bringing_Your_New_Bull_Home_.pdf, accessed October 2014. 14. NSW Department of Primary Industries, 2006. Checking your bull is ready for joining. Primefact 249. Available from http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0003/88509/checking-your-bull-is-ready-for-joining.pdf, accessed October 2014. 15. Cummings B. Bull soundness – reproduction, NSW Department of Primary Industries, 1999. Available from <http://www.dpi.nsw.gov.au/agriculture/livestock/beef/breeding/bulls/reproductive-soundness>, accessed December 2014. 16. Victoria, Department of Environment and Primary Industries, 1995. Soundness of testicles in beef bulls. AG014. 17. NSW Department of Primary Industries, 2007. Bull health. Primefact 437. Available from http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0013/111325/bull-health.pdf, accessed October 2014. 18. Meat and Livestock Australia. Procedure 2, Control the mating period to maintain selected annual calving dates. Available from <http://www.mla.com.au/mbfp/Weaner-throughput/2-Control-mating-period>, accessed September 2014. 19. Australian Cattle Veterinarians. Evaluating and reporting veterinary bull breeding soundness. Available from <http://acv.com.au/site/wp-content/uploads/2011/03/New-Back-Page-Ver3.pdf>, accessed December 2014. 20. Meat and Livestock Australia. Module 6: Weaner throughput. Available from <http://www.mla.com.au/mbfp/Weaner-throughput>, accessed October 2014. 21. Data on file. Manning. 22. Victoria, Department of Environment and Primary Industries, 2014. Age of beef heifers at first mating. Available from <http://www.depi.vic.gov.au/agriculture-and-food/livestock/beef/breeding/age-of-beef-heifers-at-first-mating>, accessed October 2014. 23. NSW Department of Primary Industries, 2005. Yearling bulls – tapping their immense potential. Available from <http://www.dpi.nsw.gov.au/agriculture/livestock/beef/breeding/bulls/yearling-bulls>, accessed October 2014. 24. WorkSafe Victoria. A practical safety guide. Beef cattle handling. 2006. 25. Meat and Livestock Australia. Procedure 1: Choose the appropriate management practice, corrective treatment or a combination to prevent common diseases or disorders. Available from <http://www.mla.com.au/mbfp/Herd-health-and-welfare/1-Disease-prevention>, accessed December 2014.