







Choosing the best genes

Get the power to make positive changes this bull buying season with tools such as BULLCHECK and Estimated Breeding Values

BY TIM EMERY, DEPARTMENT OF AGRICULTURE AND FISHERIES BEEF EXTENSION OFFICER

F YOU are responsible for buying bulls for a business, your selections will have an influence on the genetic direction and profitability of the herd in question for more than a decade.

Relying on visual appeal can be an expensive gamble.

Luckily, there are a host of tools that can help you make more informed, objective decisions.

Bull checks

When purchasing a bull, you are ultimately buying a package of genes.

In order to pass on these genetics, the bull must first and foremost be fertile.

A veterinary bull breeding soundness evaluation (VBBSE) or BULLCHECK uses a set of standards developed by the Australian Cattle Veterinarians to identify risk factors for a bull's future fertility.

Before purchasing a bull, you should ask the seedstock producer for a BULLCHECK report, including a morphology assessment, so you have a clear understanding of the level of risk associated with using the bull for a particular purpose.

It's also a good idea to ask seedstock producers about the selection pressure they apply to their herd, if bulls are pesti virus persistently infected tested-free and their routine vaccination and biosecurity programs.

Breeding objectives

Clear, written breeding objectives will help you focus on where you want your business to head and what traits you need to consider and place emphasis on.

Determining the breeding objectives of prospective seedstock suppliers is also recommended.

Estimated breeding values

Estimated breeding values (EBVs), which provide an estimate of an animal's genetic merit for a particular trait, have been available for more than 30 years to help drive genetic improvement.

Research projects and demonstration sites conducted across various years, locations and breeds have clearly shown EBVs provide an accurate prediction of genetic merit, with the expected difference in the progeny and the actual difference closely aligning for various traits.

Calculating EBVs

Included in the calculation of EBVs are the animal's own performance, the performance of known relatives, the heritability of each trait, the relationship between the different traits and - in some breeds (five at present) - genomic (DNA) information.

EBVs can be expressed as a positive, negative or



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Department of Agriculture and Fisheries beef extension officer Tim Emery

zero value. It is important to remember a negative value doesn't always denote being undesirable.

This is certainly the case for the fertility trait "days to

calving", where a more negative figure is favourable.

You cannot currently compare EBVs across breeds (such as Santa Gertrudis versus Droughtmaster).

But research projects are being undertaken to drive development of multi-breed EBVs (such as Repronomics, Southern Multibreed and the Northern BIN Steer Projects).

Using EBVs

Determine the most appropriate selection index for your breeding objectives and production system - giving consideration to individual EBVs where relevant - and use this to establish a shortlist of genetically desirable animals.

EBVs can be found on the BREEDPLAN or relevant breed society websites. Here you can find comprehensive information about how the bull you are looking to buy stacks up across the varying traits, dam history and any genetic conditions of concern.

When using online sale catalogues, you can enter minimum and maximum EBVs to quickly identify animals that are genetically suited to your requirements.

Spend ample time appraising each shortlisted animal for temperament and structural soundness, excluding those that are unsuitable for your long-term breeding program.

When purchasing, implement measures to minimise risk to your new sire(s) and the overall business.

Be prepared

Tools such as BULL-CHECK and EBVs significantly minimise the guesswork and, in turn, the risk to your business.

They give you the power to make positive changes this coming bull buying season.

You can start preparing now by:

 reviewing and revising your breeding objectives
 doing your homework
 identifying seedstock producers going the extra distance to provide objective information
 evaluating your current

and potential sires.

For assistance, contact Department of Agriculture and Fisheries beef extension officer Tim Emery on 0408 707 155 or timothy.emery@ daf.qld.gov.au.

You can also learn more through Meat & Livestock Australia's BreedingEDGE workshop and by visiting the BREEDPLAN, TBTS/SBTS or MLA's genetics hub.



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Prepare for wet season

REPARING northern pastures and cattle for the wet season is a key tactic to boost productivity in beef busi-

As the end of the dry season approaches, northern beef producers will be trying to maintain as much ground cover as possible going into the 2022/2023 wet season.

As plants can only use water when it becomes available as soil moisture, maximising rainfall infiltration through ground cover is critical.

Producers are advised to maintain ground cover of more than 50 per cent in the lead-up to the wet season.

Department of Primary Industries and Regional Development (DPIRD) Western Australia development officer Matthew Fletcher said now was an extremely good time to start planning for the upcoming wet season.

"At the start of the wet season, grasses produce green leaf from energy stored in roots," he said.

"If new shoots are continuously grazed and plants don't have an opportunity to replenish energy reserves, the reserves will run out and grasses die.

"This is an example of how desirable perennial grasses, such as Mitchell grass (Astrebla species), ribbon grass (Chrysopogon fallax) and curly blue/bundle-bundle grass (Dichanthium fecundum) can be removed from a grazing system.

"Experience suggests once these plants are removed it is very difficult to get them back."

There are several things producers can do to get the best out of the wet season

opportunity.

"Aligning stock numbers with available feed is the number one thing to do," Mr Fletcher said.

"There is little benefit emptying paddock A into paddock B to achieve a wet season spell when paddock B is already stocked to capacity.

"The benefit gained from spelling one paddock comes at the expense of overgrazing the other.

"This leads to bare ground, erosion, reduced infiltration and reduced desirable grasses in the overgrazed paddock.'

Managing stock and having control over grazing is also essential in the lead up to the wet season, according to Mr Fletcher.

"Cattle preferentially graze the more productive, palatable pastures and if the opportunity presents, they will find their way back to these areas every time," he said.

"Keeping cattle out of preferentially-grazed areas over the wet season will enable palatable grasses to grow biomass (ground cover), set seed and replenish root reserves ready for grazing the next dry season.

"Fire is also a useful tool for encouraging stock onto underutilised areas."

Dr Kevin Bell is the technical innovations manager at Pardoo station in WA's Pilbara region.

He said there were several key management decisions Pardoo makes to prepare the cattle and land for the wet season, including spelling pastures and undertaking a controlled burning regime.

"Our usual program would aim to spell approx-



DPIRD WA development officer Matthew Fletcher, centre, says rotationally spelling pastures during the wet season is key to achieving good pasture growth.



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DPIRD development officer Matthew Fletcher

imately 30 per cent of our country in the wet season,"

"But this is dependent on the type of wet season we have.

"Where indicated, we incorporate spelling pastures with a controlled cool burn on an as-needed basis.

"Much of Pardoo is spinifex pasture, and so usually every four to five years we would anticipate burning designated areas.

"As spinifex pasture becomes of low value and difficult - or impossible - to graze the older it is, a cool burn removes accumulated dead and "stemmy" plant

material and restores fresh high-quality leaf.

'It also provides an opportunity for new plants to germinate."

Dr Bell said burning was achieved close to the wet season when humid conditions commenced and weather conditions were favourable.

There are other useful things a cool fire can achieve on the northern rangelands.

"Burning also helps to remove some of the unwanted plants such as wattle and Poverty bush," Dr Bell said.

"Burning this helps to open up more ground for spinifex pastures."

At Pardoo station, heifers are prioritised in management decisions and paddocks are stocked at an appropriate rate matched to feed availability.

"We try and place heifers into the paddocks spelled over the previous wet season," Dr Bell said.

"The fresh plant growth is of good quality and, if cattle numbers are conservative, the spinifex provides excellent nutrition.

"An appropriate stocking rate is required to meet a happy medium."

To enable spelling, cattle have to graze somewhere over the wet season in the northern rangelands.

So, producers should look for a paddock in good to fair condition (A-B condition).

Mr Fletcher said these paddocks would have the resilience to maintain ground cover with grasses able to tolerate grazing.

"Once the wet season starts, cattle will generally spread out," he said.

"This will minimise overgrazing."

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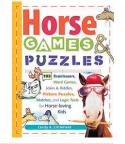
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New video helps assess bulls

THE importance of bull breeding soundness evaluations (BBSE) has been highlighted in a new FutureBeef video.

"It's important to measure bull fertility to ensure the bull is sound and able to join cows efficiently at the start of the breeding season," veterinarian Jo Connolly - who stars in the video - said.

A BBSE includes a physical examination, semen testing to examine motility and morphology (per cent normal sperm) and a scrotal circumference measurement.

Check is the Bull Australian Cattle Veterinarians accredited scheme for assessing bull soundness.

Accredited veterinarians undergo additional training and examination to ensure they meet a set standard.

Ms Connolly starts the physical examination with the bull in a race.

"We examine his joints and hooves, making sure that he's sound," she said.

"We have a look right around the bull, checking that his eyes and his head are okay.



It is key to measure bull fertility to ensure the bull is sound and able to join cows efficiently at the start of the breeding season, according to veterinarian Jo Connolly.

sheath and prepuce have no abnormalities. I'll examine the upper reproductive tract - which is the prostate - the ampullae and the seminal "We make sure that his there are no abscesses.

"I take the scrotal circumference measurement around the diameter of the greatest part of the testicles."

The scrotal circumference vesicles, just to make sure measurement is important I'll do a crush-side test as-

has the potential to produce enough semen over the mating period, according to Ms Connolly.

"To assess semen quality, as it's a check that the bull sessing the motility - which gy assessor.

is the forward progression of the semen - and I give that a percentage out of 100," she

"The semen sample is sent to an accredited morpholo-

"I can't examine it crushside, as you need a high-powered microscope to make sure there are no defects."

While a BBSE is an important gauge of a bull's fertility, it is just a snapshot in time.

"The bull can walk out of the crush and get an injury that will impact his fertility,' Ms Connolly said.

"An injury or illness, often with a spike in temperature, will damage the sperm."

Mark Madew, of Cundarra Santa Gertrudis stud in Western Australia, started doing bull checks four or five years ago.

"It was originally to ensure our breeding bulls were fit and ready to work at the start of each breeding season," he

"It also ensures that the bulls we sell as part of our seed stock operation are fit and guaranteed to work for the people that buy them.

"It's a critical part of our operation and I'd encourage commercial producers to consider doing it, as you can't tell a bull's fertility by looking at him."

For the BBSE video go to www.futurebeef.com.au.

INDUSTRY TAKING A UNITED FRONT ON EMERGENCY ANIMAL DISEASE THREATS



THE Queensland Government's recent announcement of \$22 million over five years, followed by an ongoing annual investment of \$2.4 million, will boost prevention and preparedness for biosecurity emergencies to ensure the protection of Queensland livestock and supply chain industries.

Activities will further strengthen prevention and preparedness efforts in response to the threat of

emergency animal diseases including Lumpy Skin Disease (LSD), Foot and Mouth disease (FMD) and African Swine Fever (ASF).

Queensland and Australia remain free from FMD, LSD and ASF.

An incursion would have the potential to cause significant and far-reaching impacts to Australia's livestock industries, including considerable economic losses and restrictions.

Queensland's Chief

Veterinary Officer Dr Allison Crook said the Department of Agriculture and Fisheries (DAF) was working with other government departments and key livestock industry and supply chain stakeholders to ensure emergency animal disease preparations were timely, informed and united.

"We know the key to Australia's defence is vigilance, early reporting and ensuring every livestock supply chain enterprise

has adequate biosecurity measures in place," Dr Crook said.

"We continue to collaborate with our livestock industry networks and are encouraging everyone along the supply chain to look, report and protect.

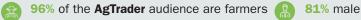
Dr Crook said prevention and preparedness messaging was being delivered to all stakeholders and DAF was implementing enhanced surveillance, response and diagnostics.

RESPONSE

What to do on-farm

- Look for and know the signs of animal disease
- Report anything unusual to the Emergency Animal Disease Watch Hotline on 1800 675 888 or your local vet immediately
- Protect your livestock and livelihood
- Have a biosecurity management plan
- Be a Registered **Biosecurity Entity**

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Helping resilient producers

WHETHER you are managing drought or have just come out of drought conditions, planning and adapting to climate risks are a vital part of business planning.

The Farm Business Resilience Program supports business planning by identifying goals, business and climate risks and strategies to manage these risks.

The Farm Business Resilience Program is delivered through the Department of Agriculture and Fisheries (DAF), Queensland Farmers' Federation, Growcom and CANEGROWERS.

Within DAF, the Grazing-Futures Livestock Business Resilience Project has partnered with rural financial counselling services and natural resource management groups to provide a comprehensive whole-of-business extension program which is flexible to producers' individual needs.

DAF's Geoff Bahnisch said along with workshops and other training opportuni-Business Resilience Check- at right now.



Joe Rolfe and Bernie English, from DAF, are helping primary producers complete a Farm Business Resilience Checklist and develop a Farm Business Resilience Plan.

list and develop a Farm Business Resilience Plan.

Completing a Farm Busities, one-on-one assistance ness Resilience Checklist is on offer to help primary will help you work out where producers complete a Farm you, and your business, are the financial, production,

This is important to know before you can effectively plan for your future.

While your Farm Business Resilience Plan will include people and natural resource

management aspects of ■ ways to manage your risks your business, it will help you identify:

■ what is important to you and your business (your goals) and improvements in your operation

practices and actions to meet your goals.

DAF senior principal beef extension officer, Joe Rolfe, said more than 950 producers had received one-on-one qld.gov.au/drought.

support from the Grazing-Futures Livestock Business Resilience Project this year.

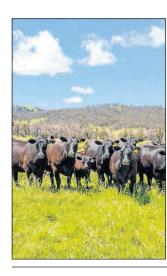
"Along with one-on-one assistance, we're running workshops and other training opportunities to help producers develop a Farm Business Resilience Plan," Mr Rolfe said.

"There may be actions and strategies identified in your business plan that could improve your business operation, such as building new water infrastructure and fodder storages.

"While not all actions identified may require a direct financial commitment, some of these actions may be considered for funding under the Drought Preparedness Grant or Drought Ready and Recovery Loan through the Queensland Rural Industry Development Agency."

The Farm Business Resilience Program and the Farm Management Grants are co-funded through the Australian Government's Future Drought Fund and the Queensland Government's Drought and Climate Adaptation Program. Go to daf.

GETTING TO THE HEART OF BEEF GRAZING ESSENTIALS AT DAF WORKSHOP



WANT a better understanding of the components of the grazing production system and scientifically-backed principles behind optimising grazing land productivity?

Join Department of Agriculture and Fisheries (DAF) senior beef extension officer, Megan Willis, for the Grazing Fundamentals EDGE workshop in Townsville on 13 October.

Personalised to your business, this workshop

will help you develop a climate profile for your property and identify key areas for grazing management.

You will learn key concepts such as:

- conditions that drive pasture growth
- how to better align herd management with seasonal changes in pasture condition
- how to assess land condition and its impact on carrying capacity.

Ms Willis has been delivering GLM EDGE in the Townsville region for more than 10 years, with participants giving positive feedback such as "great workshop - informative and practical" and "very beneficial and well presented".

Discounted workshop prices are possible thanks to the Department of Agriculture and Fisheries Reef **Grazing Extension Services** through the Queensland Government Reef Water

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Country Life

Quality Program. Tickets cost \$250 per person (inc GST) for the first person from a business (usually \$825) and \$165 for each additional participant from a business.

Tickets include the workshop, workshop notes, a workbook and catering. To register, go to www. eventbrite.com.au/e/grazing-fundamentals-edge-tickets-394110504127 or email megan.willis@daf.qld.gov.

EDGE WORKSHOP

Attending this workshop will help you:

- Better understand the connection between land condition, pasture growth and animal production
- Allow for climate variability when planning livestock management
- Recognise the dominant land types in your region and on your property

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Spring rains boost worm risk

QUEENSLAND sheep and wool producers are being warned to prepare for increased worm burdens this summer.

The current Bureau of Meteorology (BOM) outlook is forecasting above-median rainfall for most of Australia between August and October, with minimum temperatures likely to be above median.

Department of Agriculture and Fisheries extension officer Jed Sommerfield said forecast rainfall in spring meant producers must be vigilant with monitoring and increase the frequency of worm checks in their flock.

"Prolonged favourable conditions will create an opportune environment for increased survival and multiplication of worms in sheep, with high moisture levels in the soil and substantial vegetation cover on paddocks limiting the chance of these parasites being exposed summer," he said.

"There are several things producers should keep a summer period."



It is vital for producers to understand the impact of worms on their flock's productivity and ensure they have a worm management plan.

Common visual indicators to the usually lethal sun in include: scours and subsequent weight loss; swelling under the jaw - which is commonly referred to as "bottle look out for this spring and jaw"; general lethargy; or - in more severe cases - collapse this would give you a clear

when being mustered and

But the most accurate indicator are the results from a faecal worm egg count.

Mr Sommerfield said

indication of the number of worm eggs and the worm burden in your sheep.

"A worm egg count (WEC) test will alert producers to the scale of worm burden and give them the information recent conversation with a ported by AgForce.

they need to make informed management decisions, particularly around drenching," he said.

Mr Sommerfield said this was highlighted during a Wool Innovation and is sup-

Queensland sheep producer, who said: "I was desperate. After finding a weaner with symptoms of worms, my first reaction was to drench. I did a worm egg count, which indicated a low worm burden. and I saved myself the cost and effort of mustering and drenching."

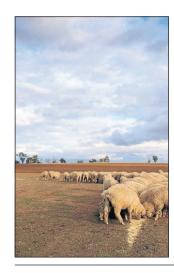
Mr Sommerfield said that while drenching was the most commonly used management practice for sheep with high WEC, it was important producers continually evaluated its effectiveness and checked for drench resistance in their flock.

"WormBoss has a quick and easy test to help check for drench resistance DrenchCheck - where, following results of an initial WEC, producers drench their mob and send in another WEC sample for testing 14 days later," he said.

'The results will compare the effects of drenching on the worm egg count."

Leading Sheep is a partnership between Queensland's Department of Agriculture and Fisheries and Australian

TOP FLOCK TIPS TO GET THROUGH THIS WORM SEASON WITH FEW DISRUPTIONS



THE sheep and wool industry incurs significant productivity losses from worms each year, but there are several tests and simple management methods producers can put in their toolbox to help mitigate the risk of an infestation.

Department of Agriculture and Fisheries extension officer Jed Sommerfield said if you're neglecting regular worm egg count (WEC) tests, it's easy to miss the signs of

infestation until your sheep become ill.

"So, be sure to test regularly and always be on the lookout for visual signs of infection in your flock," he said.

"If it's a method in your management plan, it's important to be vigilant in ensuring the correct drench dosage is administered to your sheep.

"This is an easy mistake to make. So, ensure you use a correctly-calibrated

gun, alternate the type of drench you use and assess for drench resistance to ensure effectiveness."

Mr Sommerfield said it was key to keep any new sheep brought onto your property away from your existing flock and give them a 'quarantine drench', keeping them off your pastures for six to eight hours.

"The most high-risk time for worm contamination in sheep is in late winter and late summer, so be watch-

ful. If your pasture becomes contaminated, rotate your sheep into a new paddock after drenching or the cycle of infection will continue," he said.

The WormBoss website - at www.paraboss.com. au/wormboss - has a range of resources, including how to collect and send WEC samples and a list of WEC providers. There is an online booklet outlining regionally-specific worm control programs.

SIGNS OF WORMS

What to look out for

- Bottle jaw
- Accumulation of fluid in the abdomen
- Humped back from abdominal pain
- Coughing and
- pneumonia
- Anaemia
- Lethargy and collapse
- Weight loss from decreased appetite
- Scouring
- Nodular lesions

