

EASTERN PLAINS ANGUS



BULL SALE

**WEDNESDAY
AUGUST 4 2021**

70 ANGUS BULLS ON OFFER

"Getting you ahead"



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Why fuss over pre-sale Sperm Morphology testing Angus bulls?

The fundamental job of your Angus bull is to get females in calf. Whatever his phenotype or genotype, he'll generate more profit if he does this earlier in the breeding season, not later. But if the bull has an inherent fertility problem, ie he is infertile or subfertile, very simply, he will not be able to do this & will not be as profitable as a bull that can.

Though a bull may present fat & sappy on bull sale day, with tremendous phenotype & genotype, this has no relationship whatsoever to the fertility or reproductive function of that bull himself. So how can I tell if a bull is fertile, infertile or subfertile? The answer is simple but little applied! Pre-sale Sperm Morphology testing Angus bulls, prior to their entry into a sale ring, is the best means to accurately identify fertile, infertile & subfertile bulls. It is a long established, objective measurement of bull fertility. Our practice is that only those bulls that test as fertile, enter our sale ring.

But even though it's fundamental to the job of a bull & thus your profit, it's no easy task to buy Angus bulls at auction out of a sale ring, knowing his Sperm Morphology test result. Why?

To begin, what is Sperm Morphology?

Sperm Morphology describes the anatomy or structure of individual sperm cells. It CANNOT be tested 'crush side'. Testing for Sperm Morphology requires a specialised, off-site laboratory microscope to examine a preserved semen sample to assess the integrity of the sperm head and tail. Test results are expressed as the percentage of normal sperm cells in a semen sample or percent normal sperm (PNS). The percentage of abnormal sperm cells is also reported, classified into 7 categories.

It's these abnormal sperm cells that can be the problem as it's highly likely they will, at best delay, or at worst, prevent conception. Though they may start fertilization of the egg, the resultant embryo will be non-viable & unable to be maintained. So the female will fail to conceive on that cycle & she falls into a later calving round. The recognised minimum standard for bull fertility in Australia is >70% normal sperm for bulls used in single sire mating or AI, & >50% normal sperm for bulls used in multiple sire mating.

Sperm Morphology should be not be confused with Sperm Motility or "crush-side semen testing". Sperm Motility testing determines whether the sperm are progressively forwardly motile. That is, are the sperm alive & swimming 'forward', which is obviously important to achieve fertilization. Motility of the sperm is also expressed as a percentage. The recognised minimum standard for bull fertility in Australia is >30% progressively motile sperm.

A bull may pass one but fail the other. However, a bull must pass BOTH to be considered truly 'reproductively sound'. In so doing, he demonstrates a very high probability of being fertile as opposed to infertile or subfertile. He demonstrates he is 'road worthy' & 'fit for purpose', ie breeding!

Too often we read in a bull sale catalogue, "all bulls have been semen tested", but yet actual results are very seldom disclosed. If you ask the direct question of the seedstock vendor, it is too common that "semen tested" reveals bulls have been crush side tested *only* (for Sperm Motility). They have not been tested for Sperm Morphology as well. But make no mistake; without *BOTH* Sperm Motility & Sperm Morphology testing, you're no further ahead in being able to identify a bull who is infertile or subfertile (or fertile for that matter).

Alarmingly around 20%* of Angus bulls fail a Sperm Morphology test. Very simply, those who fail are at worst infertile, & at best, subfertile. So if you're buying Angus bulls out of a sale ring who have not been Sperm Morphology tested, about 1 in 5 will likely turnout infertile or subfertile, with an inherent fertility problem that will very likely have a negative impact on your joining program.

Depending on the timing of your joining program, the cost of buying an untested bull with an inherent fertility problem may not reveal itself until up to a year after his purchase. Too often they fly under the radar but at a cost borne by you, the bull buyer. This cost lies in a higher incidence of PTE females or females calving late in the breeding season.

You may have observed bulls with fertility problems serving females during your joining season & understandably, think all is well.

If you're multiple sire mating in your joining program it can be almost impossible to identify an infertile or subfertile bull (without Sperm Morphology testing) as other bulls may cover for him to some extent. This extra workload for the remaining (fertile) bulls makes it more likely they may incur an injury during the joining season. Yet more cost to bear!

Though a subfertile bull may still sire calves, they'll most likely be costly, late calves as his subfertility can result in a non-viable embryo so that the female will fail to fall in calf on that cycle. Thus she falls into a later calving round, producing a later, less profitable calf. It is difficult for the female to then break out of this late calving cycle, increasing her chances of PTE in a subsequent joining. So it's more probable she'll end up culled from your breeding herd, though the fertility issue was never of her making. Rather its source was subfertility in the bull.

So why the poor uptake in pre-sale Sperm Morphology testing? It costs too much? Lack of understanding? Bull buyers don't care? A question of integrity in the seedstock industry? All of these & likely more! But we'd like to comment on a few 'reasons' that seem often used to argue 'against' pre-sale Sperm Morphology testing.

Firstly the cost of Sperm Morphology testing is very economical; \$35/hd at most. The major cost lies more in the direct cost to seedstock producers of culling those bulls who fail Sperm Morphology from their sale drafts. If sold through the sale ring in the current market, an Angus bull can fetch approx. \$8000/\$9000 (possibly more). But if sold for slaughter because he has tested infertile or subfertile, his value is more like \$2000/\$3000. Herein lies the heart of this issue! Reluctant to risk this cost, many seedstock producers opt to not test at all (?). But really, when buying Angus bulls at auction out of a sale ring, it is fair & reasonable to expect them to be reproductively sound & fit for breeding purposes at the fall of the hammer. If not, then this is a cost that should rightly be borne by the seedstock producer rather than you as the bull buyer.

Even though many seedstock vendors offer clients a credit at a future sale for bulls that may subsequently fail a 'vet test', you as the bull buyer will have already borne the cost of lost production by the time this eventuates. What's more, your credit could well be used to buy another bull with an inherent fertility problem, if that seedstock vendor continues on the path of not bothering to test both Sperm Morphology & Sperm Motility.

Secondly, a common catch cry is that 'Sperm Morphology varies over time' so 'don't hang your hat on a single test result'. This is 100% true! Just like any other raw measurement, eg weight & eye muscle area etc, Sperm Morphology is not a constant & will change. Sickness, disease, injury, environment, nutrition or indeed any stress arising from your production system or husbandry program (eg vaccinations) can impact on Sperm Morphology.

Once sexually mature, a bull is continuously producing semen throughout his life. The production period from start to finish, when semen is ready for ejaculation, is approx. 6 to 8 weeks. Taking this time period into account, once the bull recovers from a stress event & providing he does not have an inherent fertility problem, his Sperm Morphology will similarly recover. While a subsequent test result may vary from a former, 'good' Sperm Morphology, in keeping with minimum fertility standards, has been shown to be repeatable in a reproductively sound bull (who does not have an inherent fertility problem).

Thirdly, some argue that as Sperm Morphology test results can vary by laboratory they cannot be considered a reliable indicator of bull fertility. Whilst results can vary by laboratory, this can be mitigated. If testing is carried out at labs with comparable equipment (some brands of microscope are better at detecting abnormalities in the sperm than others), staff are experienced & competent (is the morphologist qualified & trained, doing this kind of work on a daily basis) & if results are reported in the standardized format according to the national guidelines for classifying sperm abnormalities, it's unlikely the variation in results between labs will be so substantial as to render them null & void.

Finally, it is important to note that a Sperm Morphology test result is not a lifetime fertility guarantee in the bull. The reality is that as there are so many factors that can either permanently or temporarily affect bull fertility, it is impossible to do this.

But this in no way discredits Sperm Morphology as a reliable, accurate measure of bull fertility. Pre-sale Sperm Morphology testing of bulls will weed out the true losers when it comes to fertility which crush side semen testing on its own will not. These bulls do not belong in a sale ring! Sperm Morphology testing is the best means currently available to substantiate that those bulls entering that sale ring comply with minimum standards for fertility & do not possess an inherent fertility problem (that will not correct itself over time). Multiple, industry-levy funded, published & peer reviewed scientific research papers stand behind this claim. It is not a smoke & mirrors 'marketing tactic' or merely our opinion.

2021 will be the 15th consecutive year, in which each & every bull in our bull sale team is offered with both pre-sale Sperm Motility & Sperm Morphology testing. These results are printed in the Lot Details for each bull in our Bull Sale Catalogue. We have a genuine commitment to independently & objectively measuring bull fertility & offer a draft of sale bulls who all comply with minimum fertility standards. We are proud of our record in this field.

If you'd like to read more about our pre-sale testing program please [CLICK HERE](#). Or please don't hesitate to contact us directly – Andrew White 0477 359 057 & Sally White 0409 455 232.

*Felton-Taylor, Prosser, Macrossan, Perry (Theriogenology 2020)