

# BUFFALO-BREEDING INDUSTRY

## Trait transfer and record prices



*Top: Routinely punching above her weight, Kruger Cow is a beautiful cow of 36" in spread. She was mixed onto two different sires for research purposes: Hague, a low-quality bull to produce Axton; and Jagua, an excellent-quality bull, to produce Shingwedzi.*

*Above: Axton at 3½ years – his mother, Kruger Cow, punches above her weight, but his father, Hague, is a normal contender, so it is his mother's genetics that are rescuing him from being an average bull.*

*Right: Shingwedzi, also at 3½ years – both his mother, Kruger Cow, and father, Jagua, punch well above their weight; consequently, great things are expected of him.*

In the previous article I examined the 'perception of value' of buffalo, using the beef industry, and Bonsmara in particular as point of reference. Moreover, I made a concerted effort to stay within industry norms and means, and I specifically avoided considering record prices obtained at auctions. As argued previously, in conventional farming value is determined by the primary income source of a product. The price of beef cattle is directly related to the market beef price. Stud animals in the beef industry sell for a multiple of the 'commercial value' and this can vary between four and seven times the 'carcass weight'. These figures are, however, far below record prices obtained for some animals.



Photo J Kotzé

I would now like to revisit the market implications of 'auction fever' or perceived 'auction fever' and attempt to answer whether a buffalo bull is really worth R9 million, or a cow worth R2,5 million.

### Bulls and cows, and birds and bees!

Traditionally, bull stud prices have always outperformed cow prices for two very simple reasons. Firstly, one bull can cover many cows, and secondly, artificial insemination is far simpler, less expensive and more effective than embryo transfer.

However, genetics remains a fifty-fifty game, and the double-edged sword that is science is playing an increasingly greater role in the perceived value of animals through establishing DNA markers in many breeds of commercial livestock. DNA markers take a lot of the guesswork or empirical testing process out of stud selection. DNA markers, or a collection of markers, simply isolate the genetic codes that determine certain characteristics. Thus, in sourcing stud cattle, future breeders will be able to select bulls according to the transfer of heritable traits. The more certain these traits are, the higher the value of the stud animal in question. This rather simply justifies very high prices for bulls with an ideal mix of heritable traits.

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The record price for a Bonsmara bull in South Africa is R800 000, which equates to a multiple of 114 times the value of a Bonsmara steer (assumed to be R7 000).

Prior to using DNA markers, cattle bulls were assessed by two means: empirical evidence and gut-feel. Empirical evidence would evaluate hundreds of a bull's offspring for comparison against industry norms. Only then would an assessment be made on his overall performance as a sire. Gut-feel is the wonderful combination of folklore, fact, fiction, and visceral conviction, which is still the overwhelming means by which buffalo bulls are selected.

The record price for a buffalo bull in South Africa is R9 million, which is a multiple of 128 times a hunting bull at a value of \$10 000, and a multiple of 51 times at a hunting value of \$25 000. Thus, if the argument stands that stud value depends on the transfer of heritable traits, and a buyer with unwavering visceral conviction believes he has found a bull that throws outstanding calves, can the market anticipate a new record buffalo-bull price of R19 950 000? (Using the 114 multiple, as in the case of the Bonsmara stud price.)

### **Punching above one's weight**

There are currently no DNA markers for heritable traits in buffalo. Any new record price will need to be justified on more than just horns. The buffalo market has gained enormous momentum in recent years and more and more attention has been focused on empirical evidence. There are enough bulls emerging that have sired sufficient calves, which are proving adequate heritable traits to justify a new record price.

Moreover, certain animals seem to punch above their weight. Some quite ordinary cows and bulls produce outstanding offspring, and some excellent cows and bulls produce quite ordinary offspring. The reason lies in genetic diversity. Genetics are not simply a factor of a single generation, but a consequence of multiple generations. It is

reasonable to argue that a wider genetic base allows for a greater opportunity for an animal to punch above its weight, simply because the odds favour a genetically impressive recent ancestor.

This is not a hybrid vigour argument, because crossing a genetically diverse cow on a genetically diverse sire is not a hybrid vigour exercise.

**Hybrid vigour or heterosis** can be argued when crossbred offspring show superiority to their parents. This extra performance, obtained through crossbred animals, is simply the recovery of production losses that resulted from in-breeding or line-breeding in parental breeds. Thus, hybrid vigour can only be put forward as an argument when dealing with genetically restricted or inbred animals.

### **How will this affect the market?**

"One swallow doesn't make a summer" but all too often people over react to record prices and suddenly feel that an immediate trickle-down effect is justified. In most cases it is not. Not all 46 to 50-inch buffalo are created equal, and more significantly, not all of them transfer traits equally. However, one can expect that bulls that routinely "punch above their weight" will become increasingly sought-after, and that a bull's overall performance will become more important than just his horns.

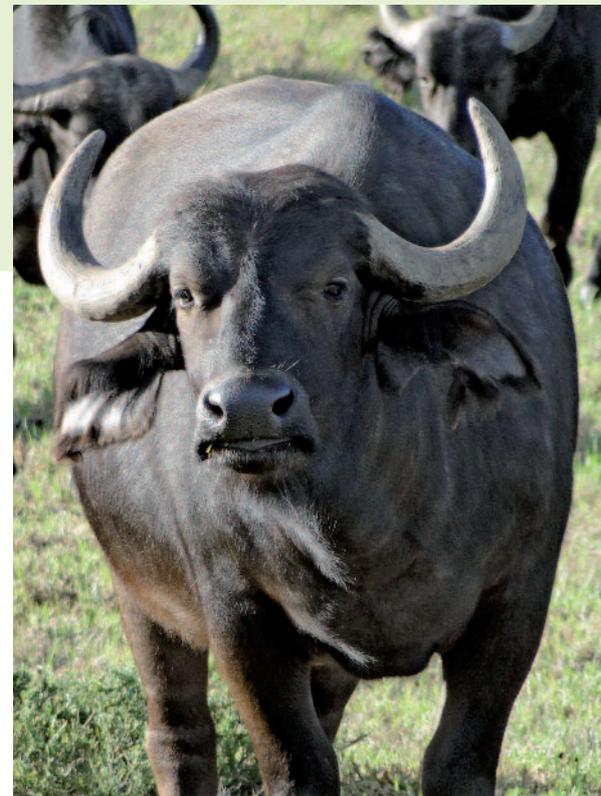
### **Will 2011 see a new record buffalo-bull price?**

As argued in the previous article, the buffalo market is in a sustained growth phase and buyers are becoming increasingly aware that sourcing quality stock is paramount. Moreover, more and more animals are showing empirical evidence of heritable trait transfer and a new record price can be expected, but not because of 'auction fever'. A bull that "punches above his weight" and throws exceptional calves will achieve a new record price purely because of the value that he would



*Kipsi is a poor-quality cow, who routinely punches well above her weight. She is from a hugely diverse genepool. She was mated on 40-inch Karlin, to produce Kidokipsi (below).*

*Kidokipsi, the daughter of Kipsi, at 35 months – she has definitely broken her maternal and paternal genetic bonds, and one can expect her recent ancestors to have been impressive animals.*



add to a herd of genetically diverse females.



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