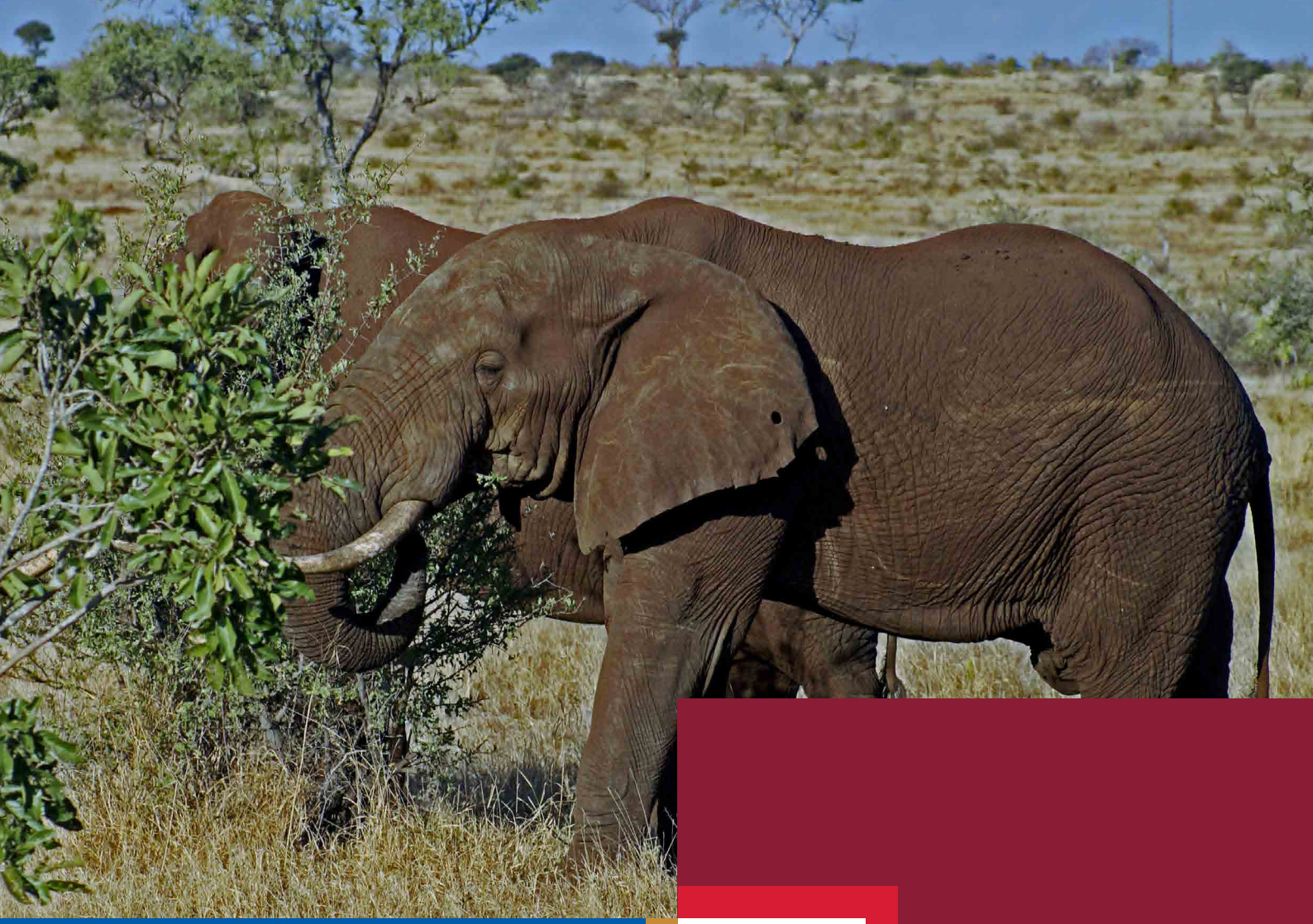

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of
Veterinary Science

Fakulteit Veeartsenykunde
Lefapha la Diseanse tša Bongakadiruiwa

Contraception of African Elephants

Elephants are one of Africa's iconic big five and for optimal survival, elephants require large areas to roam and breed. If elephant numbers are allowed to increase in smaller game parks unchecked it will lead to irreversible destruction of the natural habitat

- The use of contraceptive methods is a viable alternative to control their population numbers
- Through the use of a porcine zona pellucida vaccine we have successfully managed to reduce the birth rates of calves by 85 to 90%
- This programme allows for proper management of elephant population numbers without requiring culling or leading to environmental destruction

Immunocontraception

African Elephants are an iconic African species. While numerous wild elephants can be found in Africa's wildlife parks, due to their size, they require large areas of land to express their natural behaviour. Unfortunately, through natural population growth (±10% per annum), populations of elephants are exceeding the capacity of these parks. The Great Limpopo Transfrontier Park which includes Kruger is the only protected area in southern Africa which is large enough to allow self-regulation of elephant numbers. To avoid vegetation or habitat degradation the smaller game reserves have to control their elephant numbers. In the past traditional methods of population control relied on culling or translocation, both of which had the tendency to increase reproductive rate, shift the problem to another reserve, stress family members if entire family units are not removed, or necessitate the removal of entire family units. In addition to being difficult to implement in smaller reserves, such practices have been questioned ethically, both locally and abroad.

A solution we proposed was to rather slow down the reproductive rate of elephants. For this programme we were instrumental in introducing a porcine zona pellucida (pZP) vaccine, produced locally in our population management laboratory, which could be administered remotely by darting the cow. The vaccine stimulates antibody formation which recognises and binds to the zona capsule of the ovum, thereby preventing viable sperm from binding and penetrating the capsule resulting in the inhibition of the fertilisation process (known as immunocontraception). In addition, the vaccine has been shown to be completely safe to the cow without any negative effect on the oestrous cycle as well as to the developing foetus if already present. Since the vaccine was first tested in the Kruger Park in the late 90s, and subsequently successfully applied in Makalali (a private game reserve in the Hoedspruit area), another 21 game reserves, including five provincial and one national reserve, have been added to the program. More than 700 cows are now being treated every year. Current success rates at fertility control are at an amazing 85-90%, making this programme an extremely effective and ethically acceptable means of population control of this iconic species.

For more information please contact Prof Henk Bertschinger at henkbert@tiscali.co.za
www.veterinary.up.ac.za