

# Pregnancy outcomes of porcine embryo transfer are not affected by increasing the volume of transfer medium

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## BACKGROUND

Embryo Transfer allows for rapid genetic upgrades to be made in a herd as 100% of genetic material is transferred.

Embryo survival time during transport is dependant on the volume of transfer media they are kept in.

Larger volumes of transfer media allow for longer survival as they can better buffer against pH changes and prevent toxic metabolite buildup through dilution effect.

However introducing large volumes of culture media into the uterus when implanting embryos can alter the physiological environment and negatively impact on conception



## OBJECTIVE

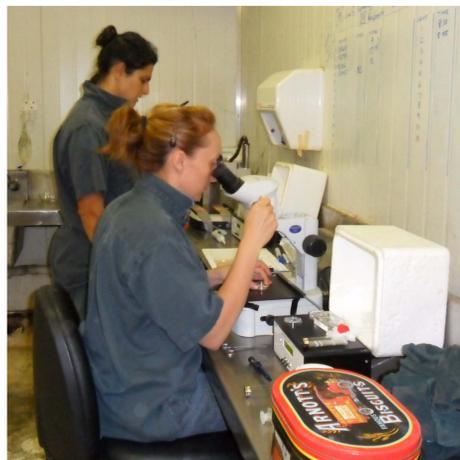
The hypothesis is that increasing the volume of Hepes-buffered Porcine Zygote Medium Version 3 expelled into the uterus from 1.4ml to 5ml will have no negative effects on pregnancy outcomes and piglets born alive

Most of the previous volume work done in porcine embryo transfer was done with primitive medias, we wanted to see what happens now that we have highly specialized advanced medias

## METHODS



•Embryos were surgically harvested from 81 donor sows



•Embryologist assessed embryo viability



•“Litters” of good quality embryos were allocated to either normal (n=65) or high volume (n=11) transfer groups



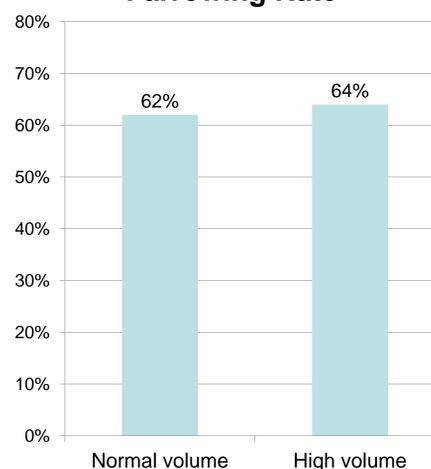
•Embryos were surgically implanted into recipient sows

## RESULTS

There were no significant differences between the high volume and normal volume groups with respect to

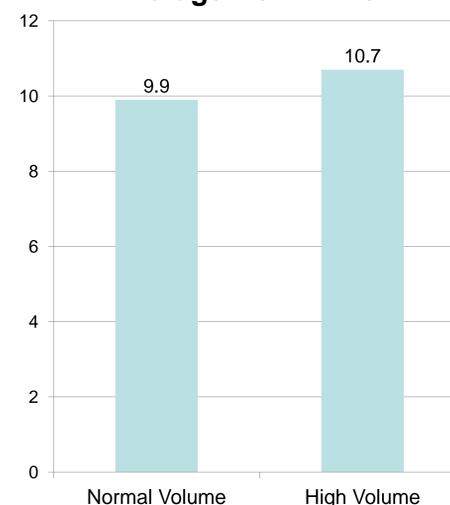
- Farrowing rates
- Piglets Born Alive
- Stillborn per litter
- Mummified foetuses per litter

### Farrowing Rate



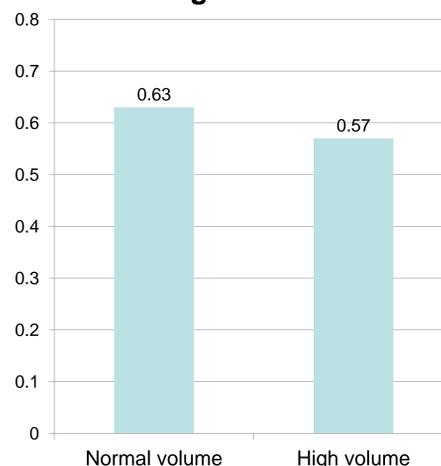
•P-value > 0.05

### Average Born Alive



•P-value = 0.3

### Average Still Born



•P-Value = 0.95

## RESULTS



### In summary

- New generation specialized porcine culture medias do not negatively impact farrowing rate or litter characteristics when large volumes are expelled into the uterus with embryos during surgical embryo transfer in the pig.



## CONCLUSIONS

The ability to implant porcine embryos in 5ml of media has the potential to greatly simplify the embryo transfer procedure as it eliminates the need for an embryologist at the implanting site whilst still allowing embryos to be cultured for long durations and therefore moved over large distances.

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