



ASX ANNOUNCEMENT

Results of RMT Pilot Trial Post Weaning Diarrhoea in Piglets

October 7, 2004, Sydney: The pilot trial for Imugene's new RMT product to prevent post weaning diarrhoea caused by *E coli* has been completed. The short trial in 45 piglets looked at incidence and severity of diarrhoea and weight differences over 14 days. The trial was conducted by the Victorian Department of Primary Industries Pig Health and Research Unit, Bendigo, using their well established '*E. coli* challenge' model.

After receiving the challenge dose pigs were monitored for diarrhoea according to faecal consistency. The effect of treatment on the level of diarrhoea and the number of days pigs had a scour score ≥ 2 was analysed. The trial period covered the first 14 days after weaning, which is the period of highest susceptibility to *E. coli* post weaning diarrhoea.

Faecal consistency for measuring the presence and severity of diarrhoea

Diarrhoea Score	Faecal consistency
0	Normal
1	Soft formed faeces
2	Loose unformed faeces
3	Profuse, watery, diarrhoea.

After first challenging piglets with *E coli* the result was an overall low incidence and severity of post weaning diarrhoea. The researchers then took the unusual step of administering an extra challenge several days later in an attempt to increase the incidence of diarrhoea. Diarrhoea was reduced in all pigs, however the reduction was greater in treated pigs as indicated in the table below. Due to the low incidence of diarrhoea overall, the difference was not statistically significant.

Average daily diarrhoea score

Treatment	Av. Diarrhoea Score
Untreated Control	0.39
RMT treated	0.24

As stated above, the overall incidence and severity of diarrhoea in this trial was much less than expected. Previous trials using the exact same challenge model and *E. coli* challenge bacteria have resulted in 100% incidence of severe diarrhoea. The incidence of diarrhoea in this trial did not exceed 30% at any time despite a second challenge. Although this reduction in diarrhoea in untreated pigs cannot be clearly determined from a single trial, it is possible that the RMT treatment reduced the spread and reinfection of pigs with *E. coli* resulting in reduced diarrhoea in all pigs through what is known as a “herd effect”. The herd effect can occur when treated and untreated pigs are housed in the same pen, as was the case in this trial design for statistical reasons. Further trials are required to determine if this effect is repeatable.

The next RMT piglet trial is scheduled for the fourth quarter of 2004.

Weight Gains

The 45 piglets were divided into five treatment groups, including a group of five pigs that received no treatment and no handling. Of the 40 remaining pigs, 24 contracted bronchopneumonia that resulted in loss of appetite and slowed weight gains. The statistical analysis revealed that the differences in piglet weight over the trial period were correlated with the presence or absence of bronchopneumonia. The presence of this secondary respiratory disease prevented scientifically accurate interpretation of the benefit of RMT on weight gain in this trial.

Imugene Managing Director, Dr Warwick Lamb stated “To establish the positive effects from the RMT, in particular the effect on weight gains, we need further results from subsequent trials in which complicating factors such as any respiratory infections are absent.”

Successful Palatability Trials

Following completion of the pilot trial, separate palatability trials have been undertaken with excellent results. Piglets voluntarily drank the RMT product diluted only in water, and also ate the RMT product in pure pellet form.

Dr Lamb said “Bitter tasting products may cause food aversion and the actual dose consumed may vary. To have a product that the piglets actively eat or drink

is essential for commercial success. These results confirm that the sweet tasting RMT product will be very palatable in drinking water, our preferred method of administration.”

END

About RMT:

The “**Receptor Mimic Technology**” is a new biological method for disease control and, consistent with Imugene’s current range of products under development, is safe, residue free, and aims to improve animal health whilst reducing or replacing the use of antibiotics, drugs and chemicals in food producing animals.

RMT is a platform technology against infectious gastrointestinal diseases with multiple potential applications in all species, not just pigs. With a strong biological product portfolio for infectious diseases already under development by Imugene using the patented **Adenoviral Delivery Vectors**, the new product range to be developed from the “**Receptor Mimic Technology**” will further expand and strengthen the product portfolio.

For a description of ‘How the Receptor Mimic Technology works’ please refer to the Imugene website or follow the link to

<http://www.imugene.com/porftolio/receptor.html>

ABOUT IMUGENE:

Imugene Limited (ASX:IMU) is an Australian biopharmaceutical company specialising in the development and commercialisation of animal health products for production animals (pigs and poultry) and companion (pet) animals.

Imugene's products safely prevent disease in animals, reduce or eliminate the use of antibiotics, harmful chemicals and drugs and, in production animals, reduce the level of antibiotic and chemical residue entering the human food chain.

Imugene owns the worldwide rights to two platform technologies. The **Receptor Mimic Technology** for gastrointestinal diseases of pigs is under license from BioMimic Limited including options for the use of this platform technology over all other animal species. The second platform technology is the **Adenoviral Vector Delivery System** for pigs and poultry. It is this Delivery System that is used to deliver Imugene’s *poultry productivity enhancer* and the *Bird Flu vaccine*. Patents have been either granted or are under application in the major pig and poultry markets worldwide.

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Imugene's poultry and pig portfolio is tapping into segments worth US\$3 billion of the existing US\$8 billion global spend on existing treatments per year. The majority of the existing treatments are chemical and antibiotic solutions that are becoming less effective for disease treatment and productivity enhancement. Compounding the problem of diminishing efficacy, governments and health organisations, internationally, are lobbying and legislating against the use of antibiotics in favour of non-chemical treatments.

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