



*ASX Limited
Market Announcements Office*

Phosphagenics' TPM[®] Improves Negative Effects of Heat Stress in Poultry

15 December 2017, Melbourne: Australian drug delivery company, Phosphagenics Limited (ASX: POH; OTCQX: PPGNY), is pleased to announce the successful completion of an independently run, second poultry study. Building on the results from our initial poultry study, we have confirmed the optimum TPM[®] dose in broilers and demonstrated significant additional benefits associated with adding TPM[®] to the diet of birds under additional stress conditions (i.e. heat stress).

Feed additives are included in poultry feed to improve the efficiency of bird's growth, their laying capacity, prevent diseases, and to improve feed utilisation. The global poultry feed market alone is estimated to be worth over \$180 billion and is expected to grow to \$220 billion by 2020, of which ~\$944 million represents the local industry, with these costs constituting approximately 70% of the total cost of production¹. The addition of TPM[®] to feed in our previous studies has been focussed on increasing the absorption of vitamins and minerals from standard feed, thereby improving the performance of the animals on the feed. Results from these initial studies have already indicated the optimum TPM[®] dosing in weaner pigs and broilers, and have demonstrated performance benefits (i.e. significant improvements in growth rate and feed efficiency), in standard housing conditions.

This new study conducted in broilers at a large research facility in Australia investigated the potential positive impact of TPM[®] enhanced feed on broiler growth during heat stress. Heat stress is a common problem in many parts of the world. The study was designed to establish if TPM[®] can impart additional benefits to the performance of poultry, beyond those demonstrated in previous studies.

The results of this latest study have reinforced the findings of previous studies, demonstrating that TPM[®] (when added to broiler feed at 10ppm) significantly improves performance. The study also confirmed that heat stress significantly reduces broiler growth rate by 3-5% and this optimum TPM[®] dose can negate the impact of this decreased performance induced as a result of heat stress.

Phosphagenics' General Manager of Animal Health and Nutrition, Dr Roksan Libinaki, said, "This is a very pleasing result. We have seen in the past that TPM[®] can improve broiler performance under normal conditions, but to see the relative normalisation of performance under heat stress was impressive and provides further insight on the application and use of TPM[®] as a feed additive in this market. We are very keen to see the work being published with the research team in the New Year".

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Phosphagenics' Chief Executive Officer, Dr Ross Murdoch, added, "We have been working hard to build a body of data demonstrating the utility and flexibility of TPM® in the Animal Health sector. We have maintained a multi-prong approach assessing TPM®'s potential across multiple species selecting three: pigs, poultry and cattle, to provide proof-of-concept data in monogastric (single stomach) and ruminant species – although related, each being significantly valuable in their own right. To date we have demonstrated significant utility and value for TPM® in both the pig and poultry feed sector. Discussions with key potential partners have highlighted poultry as a key species of interest, increasing the importance of this result. This trial further reinforces our previous strong data and adds a new driver for TPM®'s inclusion in the lucrative poultry feed market."

A trial of the utility of TPM® in dairy cattle feed is nearing completion and headline results are expected before the end of the year.

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1. *Cowieson A.J. and Selle P.H. The environmental impact of low feed conversion ratios in poultry. Recent Advances in Animal Nutrition – Australia (2011).*

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About Phosphagenics

Phosphagenics Limited is focused on developing and commercialising innovative Human Health, Animal Health and Personal Care products using its proprietary drug delivery system called TPM® (Tocopheryl Phosphate Mixture). TPM® is derived from Vitamin E using a unique, proprietary and patented process and has been proven to enhance the solubility and oral, dermal and transdermal absorption of drugs and nutrients.

Amongst its major projects, Phosphagenics' is developing TPM® enhanced patches, gels and injectable products for the human health market and is also developing TPM® to enhance the feed efficiency and health of livestock.

Phosphagenics' shares are listed on the Australian Securities Exchange (POH) and its ADR – Level 1 program in the US is with The Bank of New York Mellon (PPGNY).

Inherent Risks of Investment in Biotechnology Companies

There are a number of inherent risks associated with the development of pharmaceutical products to a marketable stage. The lengthy clinical trial process is designed to assess the safety and efficacy of a drug prior to commercialisation and a significant proportion of drugs fail one or both of these criteria. Other risks include uncertainty of patent protection and proprietary rights, whether patent applications and issued patents will offer adequate protection to enable product development, the obtaining of necessary drug regulatory authority approvals and difficulties caused by the rapid advancements in technology.

Forward-looking Statements

Certain statements in this announcement may contain forward-looking statements regarding Company business and the therapeutic and commercial potential of its technologies and products in development. Any statement describing Company goals, expectations, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those risks or uncertainties inherent in the process of developing technology and in the process of discovering, developing and commercialising drugs that can be proven to be safe and effective for use as human therapeutics, and in the endeavour of building a business around such products and services.

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