A collaboration of academics and industrial partners has led the development of a novel poultry feed ingredient with predicted significant market value, set to provide both economic benefits to the poultry sector and improve consumer food safety.

Two streams of Welsh Government A4B funding of £526,000 released over a period of five years has enabled Aberystwyth University’s Institute of Biological, Environmental and Rural Sciences (IBERS) to collaborate with industrial partners Phytatec (UK) Ltd, Oat services Ltd, Poultry Xperience, British Poultry Council and Bernard Matthews.

The collaboration has led to a comprehensive understanding of the physiochemical properties of oats, in particular oat husk and straw, and the impact of these on the recovery of biosynthetic products from this natural source on the production of xylo-oligosaccharides – sugar-based compounds known to nutritionally benefit various animal species.

The project also evaluated the impact of the configuration of oats on the efficacy of xylo-oligosaccharide as a prebiotic within poultry diets, and their potential to reduce the antibiotic control of food poisoning known as campylobacter within poultry. It has therefore also been demonstrated that naturally occurring polymer from oat husk has prebiotic potential – making the feed ingredient unlike any others currently available, adding nutritional value to oat husk, and ultimately assuring the farmer of greater revenue.

It is expected that the findings will therefore improve the overall wellbeing of poultry, offering companies such as Bernard Matthews the opportunity to reduce the levels of food borne pathogens within the flock without reliance on antibiotics. The consumer will in turn benefit from improved food safety and reduced exposure to antibiotic resistant pathogens.

Next in-vitro models and small scale feeding trials will illustrate the potential of the feed ingredient, encouraging further investment and further product development. It is expected that large scale feeding trials with biotechnology firms including Phytatec (UK) Ltd and other partners will take place ahead of a product launch in 2015.

Director of Phytatec, Steve Bowra, said: “The AD-Oat project funded by the Welsh Government A4B programme has provided Phytatec with an excellent opportunity to demonstrate its technology by developing a new and novel product, from an oat by-product, which has significant potential in the poultry feed sector while at the same time supporting the company’s vision of assisting the evolution of low input agriculture. The project enabled Phytatec to lever the considerable resources of the Oat breeding programme at IBERS and at the same time helped reinforce a long term mutually beneficial collaboration which plant breeding for the public good requires.”

To find out more about funding and support from the Welsh Government:
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