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It is not surprising anymore to find alarming news in European media about *Campylobacter* in broiler chicken meat. While there is large variation in published data from surveys and specific cases, *Campylobacter* prevalence of more than 70% is frequently reported for the market in Europe.

As with other foodborne pathogen reduction strategies, the primary focus for controlling *Campylobacter* contamination is on sanitation in the processing and retailing sectors. Pre-harvest recommendations remain directed basically towards biosecurity. The reason is simple: The poultry industry does not yet have an effective and widely recognized solution to reduce *Campylobacter* in live birds. Even with such a solution, there is the challenge of applying it successfully in different countries and production systems.

Fortunately, a large, diverse group of experts are actively seeking a comprehensive solution to reduce the risk of *Campylobacter* in broiler meat by fighting this persistent pathogen in the flocks from day 1. This consortium, working under the umbrella of the [Campybro Project](#), brings together the expertise of 10 research institutions, industry associations, and companies in four European countries. This



independent, collaborative project is sponsored under a grant from the European Union for research, technological development, and demonstration.

During 2015, results from several initial trials within the Campybro Project were presented at various scientific forums in Europe (Czech Republic, United

## Research Update

# Campybro Project: Reducing *Campylobacter* in broilers



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Kingdom, Italy, France, and Spain) and elsewhere (New Zealand, South Africa, and the United States). The first two full peer-reviewed articles on the use of available products to fight *Campylobacter* in live birds in Europe were published recently in the journal *Poultry Science* ([Part A](#) and [Part B](#)).

### **Variety of products tested**

Products for inclusion in broiler feed that were tested in this first phase of the project – a total of 24 alone along with a number of combinations – are identified by their commercial or trade names and generic characterization. Most of the products are commercially available now, although some are still under development. The products include organic acids, fatty acids, monoglycerides, plant extracts, probiotics, essential oils, flavoring compounds, and a unique, proprietary fermentation product characterized by the authors as “prebiotic-like.”

This fermentation product is listed in the European Union's *Catalog of Feed Materials* (category 12.1.5) and is not a “feed additive” according to EU regulations.

A first battery of 12 products (Part A) was evaluated at the facilities of the French Agency for Food, Environmental and Occupational Health Safety (ANSES) in Ploufragan, France, in an experiment with 688 one-day-old Ross PM3 male and female broiler chicks. Each product was tested once and three trials were conducted to cover all 12 products, always against a positive control. The fermentation product was included at 1.25 kg/MT of feed. Chickens (45-40 per group) were randomly assigned to the treatments from day 1 and all birds were individually inoculated with *Campylobacter jejuni* (100 µL oral suspension) on day 11. *Campylobacter* cecal counts were performed in subsamples of birds at 2, 5, and 6 weeks of age (3, 24, and 31 days post-challenge).

### **Product performance**

Although 10 of the 12 products showed reductions in *Campylobacter* counts at some point during the trials, half of the products showed effects only up to day 14. However, at the end of the study on day 42, the fermentation product showed the highest mean reduction in *Campylobacter* counts -- the only product with over 3 log reduction. Also, the fermentation product's reduction of *Campylobacter* was the most significantly different from the averaged control groups of the three trials at 42 days ( $P < 0.001$ ).

The research of the Campybro Project is ongoing. Combinations of products and other strategies, such as vaccination programs and feeding management, are being evaluated in different modules.

There remain a number of challenges to conducting this type of research. Often there is high variation in levels of *Campylobacter* infection or contamination in the birds. Also, testing so many possible solutions together sometimes dilutes the power of the trials and the application of the results under commercial conditions.

Diamond V is committed to the goal of bringing safe food to consumers worldwide. The independent testing of the Campybro Project confirms Diamond V research on food safety and poultry, which includes 24 trials completed in less than four years. For 2016, there are 12 Diamond V controlled research projects in place for poultry, including six focused on broilers and pre-harvest food safety in Europe.

More information on the latest pre-harvest food safety research is available through [Diamond V representatives around the world](#).



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