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Research for the benefit of specific groups.

Control of *Campylobacter* infection in broiler flocks through two-steps strategy: nutrition and vaccination "CAMPYBRO"

Newsletter

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RESEARCH & DEVELOPMENT

In **WP1**, the experiment work on Task 1.3 (*in vivo* evaluation of combination of additives) has finished. A total of 10 combinations were studied. The main groups of additives tested were organic acids, medium chain fatty acids, monoglycerides of medium chain fatty acids, plant extracts, yeast extract, and probiotics (based on *B. subtilis* and in a mixture of several probiotic species). In ANSES, several combinations have showed a significant reduction in *Campylobacter jejuni* populations at 14d, but only one at 35d, and none at 42 d. In IMASDE, several combinations have also shown significant reductions in the *Campylobacter* populations either at 21, 35 and 42d, especially one of the combinations, which will be used in the WP3. In WP3, which works are been doing, the dose and the time of administration are being investigated, in order to reduce the cost for the producer. Also, this combination of additives will be test in the functional diet developed in WP2 in order to find synergism between the additives and the feed form.

In **WP2**, all the trials were done. In the second trial, the inclusion of whole wheat and oat hulls at the same time decreased the cecal *Campylobacter* population 1.5logs at 42d. In the third trial, neither the feed form (mash vs pellets) nor the particle size had an effect on *Campylobacter* infection. In the last trial, also neither the feed form nor the whole wheat addition had an effect on *Campylobacter* population. In the first two trials, corn based diets showed some effect inhibiting the contamination in a percentage of birds, but differences were not significant. In addition, oat hulls improved the gizzard size and development (Figure 1), but its addition to diets did not modify the capacity of *Campylobacter* to grow in the ceca of broilers. In all this trials, it was observed that birds fed the pellet diet were heavier than birds fed mash diets

in the whole period, and that neither the particle size nor the whole wheat addition had no effect on performance. However all this nutritional measures had an important effect on gastro intestinal morphology and physiology.

Figure 1. Effect of increasing levels of whole wheat in pellet (T1-T3) or mash diets (T4-T6).



In **WP5**, the candidates identified in the first reporting period are being tested *in vivo* in order to identify if they have capacity to produce immunity in infected broilers.

MANAGEMENT

The coordinator has maintained the next meetings with the partners:

- PROPOLLO: 10/10/2014; 08/04/2015
- CZV: 07/04/2015
- MIKROLAB: 31/03/2015
- BTT: 01/04/2015
- NEPLUVI: 10/04/2015
- REDONDO: 20/03/2015

Also, the **First Reporting Period Report** was elaborated and sent to the European Commission in February 2015. At this moment, it is being evaluated

by the EC Services, and in the near future it will be approved. **All the pending deliverables** were elaborated and sent to the Commission Services, and the **Form C** of all participants were also signed and sent.

The next meetings are planned:

- FIA: 05/05/2015
- CIDEF: 05/05/2015
- ANSES: 06/05/2015

The General Assembly provisional Agenda of the Second General Assembly, to be held the 30th and 1st of October 2015 in Stockholm (Sweden), which will be organized by the Coordinator and NEPLUVI, has been sent to the partners for their approval. The reservation for the meeting has been also done.

Three of the Associations of the project (BTT, PROPOLLO and CIDEF), has been granted with the figure of SME.

DISSEMINATION

The next actions have been done:

- The website www.campybro.eu has been maintained and updated.
- A total of 13 scientific abstracts were elaborated by the partners and sent to the next Scientific Meetings:
 - Poultry Science Association meeting <http://www.poultryscience.org/psa15/> to be held in July 2015 in Louisville, Kentucky, USA
 - 8th International workshop on Campylobacter, Helicobacter and related organisms, CHRO <http://www.chro2015.com/>, to be held in November 2015 in Moroura, New Zealand
 - European Symposium on Poultry Nutrition <http://www.espn2015.org/>, to be held in August 2015 in Prague, Check Republic.
 - World Veterinary Poultry Association 2015 Congress <http://www.wvpac2015.com/>, to be held in September 2015 in Cape Town, South Africa.
- The first to scientific peer reviewed articles has been made and are ready to be sent to the magazine Poultry Science.
- The results of the project has been presented to the Associations members

- PROPOLLO, march 2015



- BTT, march 2015



- CIDEF & FIA, April 2015



- A delegation of the project (formed by Mark den Hartog –NEPLUVI- and Pedro Medel – IMASDE-) participated in the presentation of the results of the other EU founded project on Campylobacter, the project CAMCON. The meeting was place in Copenhagen the 14/04/2015.

OTHERS

An invited presentation about Campylobacter was asked to the coordination to participate in the 2015 JORNADAS PROFESIONALES DE AVICULTURA, to be held in Soria, Spain in June 2015.