



## Accumulation of -hexabromocyclododecane ( -HBCDD) in muscles of fast- and slow-growing broilers.

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# Book of Abstracts

## ‘EGGMEAT 2017’

XVII<sup>th</sup> European  
Symposium on the  
Quality of Eggs and  
Egg Products

XXIII<sup>th</sup> European  
Symposium on the  
Quality of Poultry Meat.



**EGGMEAT 2017**  
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# ACCUMULATION OF $\gamma$ -HEXABROMOCYCLODODECANE ( $\gamma$ -HBCDD) IN MUSCLES OF FAST- AND SLOW-GROWING BROILERS

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Hexabromocyclododecane (HBCDD) is a brominated flame retardant included in some insulating materials used in livestock buildings, which has been detected in meat. The aim of the current study is to investigate the fate of this lipophilic contaminant in fast- (FG) and slow-growing (SG) broilers. First, an experiment involving FG and SG broilers exposed to HBCDD through feed during 42 and 82 days, respectively, showed that breast muscle (BM, *Pectoralis major*) is similarly concentrated in HBCDD in the two strains, while leg muscles (LM, thigh + drumstick including intermuscular fat) was 5 and 10 times more concentrated than BM in FG and SG broilers, respectively. Second, a physiologically based pharmacokinetic model was developed and validated using the previous data. Different compartments (total and lipid weights) were represented: plasma, liver, BM and LM, adipose tissue and the rest of the animal. After ingested HBCDD was absorbed and one part was eliminated by hepatic metabolism, it was distributed to tissues by the plasma, through a partition coefficient defined as the ratio between their respective neutral lipid concentrations. The model, calibrated for different strains and sex, will be used to assess the risk of meat contamination by HBCDD in different chicken production systems.

Keywords: meat, lipophilic contaminant, modelling, fast-growing broiler, slow-growing broiler

# EFFECT OF THE GRAPE SEEDS MEAL USED AS NATURAL ANTIOXIDANT IN ENRICHED OMEGA-3 FATTY ACIDS DIETS ON BROILER MEAT QUALITY

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The inclusion of antioxidants in broiler diets helps maintain polyunsaturated fatty acids and prevents quality deterioration. A 3-week trial was conducted on 120 broilers at 14 days of age assigned to 3 groups. All diet formulations had the same basal structure with corn, wheat, soybean meal and flax meal. Compared to group C diet, the diets of the experimental groups had 2% (E1), and 3% (E2) defatted grape seed meal. Six broilers/group were slaughtered on the final experimental day, and 6 samples of breast and thigh were collected and used to determine basic chemical composition, pH and malondialdehyde (MDA) concentration. The pH value was significantly ( $P \leq 0.05$ ) lower in the