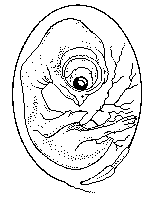
**Incubation and Fertility Research Group (IFRG/Working Group 6)**



**2018 Meeting** – **Edinburgh, Scotland**

[*Holiday Inn*](https://www.ihg.com/holidayinn/hotels/gb/en/edinburgh/edbcr/hoteldetail)***, 132 Corstophine Road, Edinburgh***

***EH12 6UA, UK***

**2018 October 4th and 5th**

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|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
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|  | | |  | | | |
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| **Preferred presentation format (please tick below)** | | | | | | |
| oral presentation  (Powerpoint) |  | Poster | | **X** | Oral presentation or Poster |  |
| **TITLE OF PRESENTATION: Laying performances and egg quality in two broiler breeder purelines divergently selected on their meat ultimate pH.** | | | | | | |
|  | | | | | | |
| **Format of abstract: 300-500 words; letter type Arial 11**  **Title: Arial 12 and bold**  **Author/s: Arial 11 and bold (\*A. Name1,2, B. Name1, C.Name2, …..)**  **Company/Institution:** *1Institution name and address…*  **Text:**……………………..text (**Arial 11**) | | | | | | |
| **ABSTRACT** | | |  | | | |
| The selection of meat-type lines for increased growth and muscle development has been | | | | | | |
| accompanied by significant physiological changes. While considerable gains have been made | | | | | | |
| in production performances, there are limits in terms of product quality but also reproduction. | | | | | | |
| There is therefore a real challenge to better understand and exploit, the elements of the | | | | | | |
| compromise between production, reproduction and meat quality. | | | | | | |
| The study focused on breeder hens at the 11th generation of selection, at which a differential | | | | | | |
| of 0.5 pH unit is observed for the selection criterion (ultimate pH measured in chicken growing | | | | | | |
| in the breast muscle at 6 weeks). Eighty females for the pHu+ and for the pHu- lines were | | | | | | |
| housed in single cages in controlled environment from 20 to 40 weeks of age. During this period, | | | | | | |
| eggs were weighted every week and eggshell mechanical properties (eggshell shape, percent, | | | | | | |
| index, thickness, toughness, elasticity) have been determined to evaluate the egg quality for | | | | | | |
| each line during all the laying period. | | | | | | |
| Data collected between 23 and 39 weeks of age show a decrease in the laying rate, a first egg | | | | | | |
| delayed and a higher percentage of broken eggs in the high pH line (pHu+, line presenting the | | | | | | |
| lower energy status) by comparison to the low pH line (pHu-). Divergent selection also changed | | | | | | |
| the characteristics of the eggs, resulting in heavier eggs and a higher shape index value (more | | | | | | |
| round shape eggs) in the pHu+ line. | | | | | | |
| In conclusion, these results suggest a deterioration in the reproductive performance studied | | | | | | |
| and changes in the characteristics of eggs in relation to the decrease in energy storage caused | | | | | | |
| by selection for an increase in pHu. These first observations pave the way for future | | | | | | |
| genetic studies to evaluate the contribution of energy status in terms of improving reproductive | | | | | | |
| traits whose degradation penalizes the meat-type sectors. In an original way, they also suggest | | | | | | |
| the possibility of identifying new indicators or biomarkers of the energy status from measures | | | | | | |
| related to reproduction and the egg. | | | | | | |
|  | | | | | | |