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► **To cite this version:**

Nicolas Bédère, Tom V.L. Berghof, Katrijn Peeters, Marie-Hélène Pinard-van Der Laan, Jeroen Visscher, et al.. Towards resilient laying hens: taking the genetics' course with high-throughput recording. 26. World's Poultry Congress, Aug 2022, Paris, France. , pp.135, 2022, Book of abstracts 2022 - Abstracts submitted in 2020 and 2021 and selected in 2022. hal-03788983

HAL Id: hal-03788983

<https://hal.inrae.fr/hal-03788983>

Submitted on 27 Sep 2022

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Towards resilient laying hens: taking the genetics' course with high-throughput recording

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***Resilience:** the capacity of an animal to be minimally affected by disturbances or to rapidly return to the state pertained before exposure to a disturbance*

A concept realized in 3 indicators based on deviations between expected and observed weekly egg production:

- **LNVAR:** the natural logarithm of the variance
- **AUTO-R:** the lag-one autocorrelation
- **SKEW:** the skewness of the distribution

A resilient laying hens shows a low LNVAR and both an AUTO-R and SKEW close to zero.

Study on different pedigreed populations: White Leghorn and Rhode Island purebreds (about 35 000 hens / line), and their crossbreds (about 13 000 and 4 000 records respectively).

Main results:

- 1. LNVAR and AUTO-R are heritable, although $\leq 10\%$**
- 2. The genetic correlations with total egg production are synergetic**
- 3. The genetic correlations between purebreds and crossbred are moderate**

Conclusions:

- Genetic improvement of resilience is possible**
- Considering crossbred records in breeding program is recommended**

Please, note that these results are now published, Therefore further details are available here: <https://doi.org/10.1186/s12711-022-00716-8>