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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>