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 ≤ 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