

Title: Egg and Egg Shell Quality in the Australian Egg Industry

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Historically there has been no common standard against which Australian egg producers and other industry personnel could compare egg quality. Different producers and egg grading facilities have their own methods of monitoring quality. However, in order to optimise the profitability of the Australian Egg Industry, it is essential to have industry guidelines or benchmarks for the quality of the end product of the industry – the egg.

The main outcome of this project is a booklet containing sufficient information for producers to be able to compare the egg internal quality and egg shell quality of their flocks with typical data from the industry.

Researchers at several locations in Australia conducted detailed laboratory measurements of egg internal quality and egg shell quality. There were two different types of study conducted: 1. “Longitudinal Studies” where individual flocks were studied at different ages, and 2. “Cross-sectional Studies” where samples of eggs from flocks of known backgrounds were sampled. A total of 271 flocks were sampled, each of 90 eggs – a total of 24,390 eggs (16,650 from the Longitudinal Studies and 7740 from the Cross-sectional Studies). Only the data obtained from the three main strains: Isa Brown, HyLine Brown and HiSex are included in the strain versus age comparisons. There were insufficient data from the other strains for meaningful comparisons.

In order to provide quality guidelines it was necessary to sample widely from commercial production facilities from as many parts of Australia as practicable. Of the 271 samplings of eggs, 221 were from New South Wales, 37 from Queensland, 2 from Victoria and 11 from South Australia.

Where comparisons were conducted on effects of factors such as strain, location housing or time of year, it was frequently not possible to maintain all other variables constant. This resulted in there being difficulties correlating the laboratory measurements made by researchers with the outcomes in the commercial situation. This limitation needs to be borne in mind when evaluating the findings of such comparisons.

Furthermore, some producers and egg grading facilities were not able to provide records that were of sufficient detail to be suitable for the present study.

It is anticipated that the booklet published from this project will enhance the use of record keeping in the evaluation of flock performance, in order to increase the profitability of the Australian Egg Industry.