

Productivity and Farm Animal Welfare

Michael W. Fox

In the search for and debate over objective indices of farm animal welfare, productivity is regarded by many animal scientists and others in the livestock industry as the most reliable measure of an animal's overall well-being and adaptability. On the surface, this would seem to be so, as productivity — in terms of growth rate, milk yield, feed-conversion and egg production — can be easily quantified. However, there are serious flaws in this assumption.

An increase in productivity may not be correlated with improved welfare or overall well-being. It may be attributable to genetic selection, higher protein intake, increased photoperiod, or a number of other husbandry and management variables.

A decrease in productivity does not necessarily correlate with a decline in welfare standards or overall well-being. Some husbandry systems are less efficient and their productivity lower because the animals are fed more roughage, for example, or are of a less productive genetic strain. A reduction in calcium or sodium or a decrease in illumination will dramatically depress egg production, while overall welfare is not jeopardized.

High productivity may actually jeopardize an animal's overall welfare, as exemplified by the so-called production-related diseases (Sainsbury & Sainsbury, 1979) of high-yielding dairy cows, as well as fast-growing pigs and broilers.

Antibiotics, growth stimulants, and other drugs may mask health- and welfare-related problems and lead to spurious correlations between welfare and production.

It is as risky to assume that a high production index is indicative of adequate welfare as it is to assume that low productivity is a sign of ill treatment. For example, store-feeding of beef cattle (in which cattle are kept at a low level of nutrition during the winter so that they just maintain their weight and are in good condition to make high rates of gain from grazing the following spring and summer) essentially mimics the natural seasonal cycle of reduced gain in winter, and as Raymond (1980) emphasizes, it is doubtful that there is any evidence that such cattle are under poor welfare conditions during maintenance winter feeding.

Taken alone, productivity cannot be regarded as a reliable indicator of animal welfare. Assessment of animal welfare entails an analysis of many factors, including health status, disease incidence, longevity, reproductive performance, physiological and behavioral indices as well as production records. This is the complexity that makes the science of animal welfare a challenging interdisciplinary subject.

References

- Raymond, W.F. (1980) *The Laying Hen and Its Environment*. R. Moss, ed., Martinus Nijhoff, The Hague, Netherlands, p. 321.
- Sainsbury, D. and Sainsbury, P. (1979) *Livestock Health and Housing*. Bailliere and Tindall, London, UK.