

Bull Sperm Morphology Examination and Reporting in Australia

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Australian guidelines in bull sperm morphology examination and reporting (Perry et al., 2002) were originally designed for use within the framework of a new system for Bull Breeding Soundness Evaluation (Fordyce et al., 2006) within which sperm morphology assessment must be carried out by accredited assessor individuals. This morphology scheme has become widely accepted among practitioners and cattle producers, despite some initial opposition, because of the uniformity it offers.

This study shows the distribution of sperm morphology by breed, age and location in samples submitted to the QSML from 12,272 bulls during the last 4 years using this single standard where sperm are classified into the 8 categories determined. Australian location was divided into 4 climatic regions based upon temperature, vegetation and parasite exposure. There was a significant effect of location and breed (Fig.1) upon both percentage of normal sperm and the individual categories of sperm abnormality ($P < 0.001$). A significant interaction ($P < 0.01$) occurred between 3 locations and breed. Age was significantly correlated ($P < 0.01$, $r^2 = 0.01$) with some abnormalities (e.g. proximal droplets, Fig. 2) but not others (e.g vacuoles).

This is the first study to comprehensively collect data from this wide geographical area and compare sperm morphology profiles among the *Bos indicus* and *Bos taurus* breeds assessed enabling increased accuracy of prognosis by clinicians based on a robust data set established for breed, age and location.

Acknowledgements

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Fordyce G, Entwistle K, Norman S, Perry VEA, Gardiner B, Fordyce P. (2006). Standardising Bull Breeding Soundness Evaluations and reporting in Australia. Theriogenology 66:1140-48.

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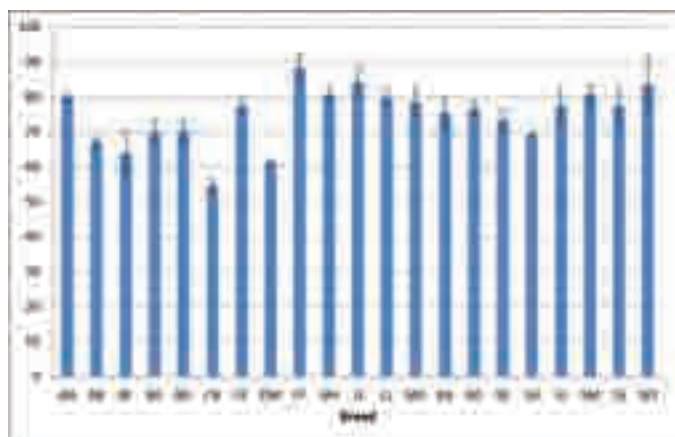


Fig 1 Percent Normal Morphology by Breed

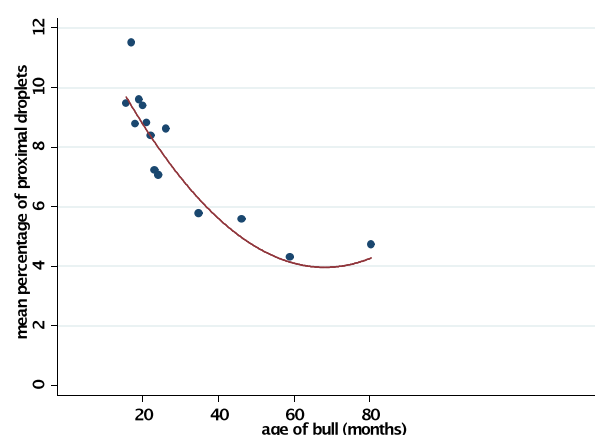


Fig 2 Percent Proximal Droplet by Age

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