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HIDDEN COSTS OF DYSTOCIA: FERTILITY AND LONG TERM SURVIVAL IN DAIRY COWS

S. E. McClintock[1,3], K. T. Beard[2,4], M.E.Goddard[2,3] and D.J. Johnston[1]
[1]Animal Genetics and Breeding Unit[*], University of New England, Armidale, NSW 2351
[2]Department of Primary Industries, Mickleham Road, Attwood, Victoria
[3]University of Melbourne, Parkville, Victoria
[4]Australian Dairy Herd Improvement Scheme, William Street, Melbourne

SUMMARY
This paper reports two of the short and longer term outcomes of dystocia for the cow. Calving interval (a measure of cow fertility) may be increased by up to 42 days following a difficult calving. Cow survival may also be reduced, though farmers rarely identify a difficult calving as a cause of a culling or death of a cow more than a month after calving. We investigated the varying culling rates for cows following differing degrees of calving difficulty, particularly cows culled soon after calving, or later than 21 days after calving. Any degree of calving difficulty reduces cow survival and fertility, depending on the severity of dystocia.
Keywords: Dystocia, dairy cattle, survival, fertility.

INTRODUCTION
Dairy farmers are usually acutely aware of the immediate costs associated with difficult calvings: the farmer's time, veterinary and medication costs, and cow and calf loss. However, some of the longer term outcomes are rarely considered, and their costs are generally ignored. It is important to know these costs so that the true impact of the genetic variation of calving difficulty between bulls may be estimated.

Dystocia can result in the early death or disposal of a cow (Dematawewa and Berger 1997) or reduced fertility (McDaniel 1981) and is a source of economic losses to the dairy farmer. Estimates of the effect of dystocia on cow survival and cow fertility vary widely depending on cow age, the recording system and the environment in which the cow lives. The increased likelihood of cow death following dystocia varies according to the parity of the cow and the degree of dystocia: Dematawewa and Berger (1997) found it ranged from 0.13% for primiparous cows requiring slight assistance to 4% for mature cows having extreme difficulty, although this study was not able to estimate the numbers of primiparous cows that died before they had initiated a lactation record. Philipsson (1976) found emergency slaughter rates of 3.5% for Swedish cows with dystocia, and 6% for cows that had stillborn calves. These figures may vary considerably between populations, partly because of the variety of scoring systems that are used for measuring the occurrence of dystocia: for instance, a cow requiring an easy pull is classed as having a normal calving in the Netherlands (de Jong 1998), but is scored as an assisted calving in Australia. This means that comparison of events associated with different degrees of dystocia may be difficult across countries and recording systems. Likewise, conditions in Australia are very different to those of Europe and North America: our herds are large (O'Connor 2002), pasture based, and are rarely housed. This may alter the effect of dystocia on cow survival and calving interval. We therefore investigated the short and

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