

Stress Inoculation in Sheep

Arnold S. Chamove DSc & Carol J. Chamove MA

Massey University School of Psychology

Although there is no research on the “best” time to tail-dock, mules, or castrate lambs, there are recommended age ranges which differ in different countries. Tail-docking *should* be carried out < 7 days old (CA), < 2 weeks of age (USA), 1 week—3 mos. (AU, NZ), < 3 mos. of age (UK).

Research on rats (Denenberg, 1967) shows that briefly stressing rat pups at a specific age early in life produces rats, which are better able than others to



withstand stress when adult. If we define “best” as the docking age which maximally protects adult sheep against stressors, then perhaps varying the ages at which normal farming stressors (e.g., docking) are applied to lambs will similarly benefit them when adult (e.g., Chamove & Moodie, 1990).

Method

Massey University records the exact birth date of many of its Spring-born lambs, lambs subsequently docked aged from 1—70 days. Later, in late Summer and 4 months after weaning, those sheep are routinely caught for weighing and blood withdrawal, thereby applying a brief stressor. To see how the precise age of the early stress of tail-docking effects adult reactions to the stress of handling for blood sampling, the adult sheep response to stress was measured by how long it took the sheep to resume grazing when they were released following their restraint.

Results

3 years of data on 374 sheep have shown consistent ages (days 7—11) where sheep resume feeding in about half the time of average ($F_{35, 153} = 1.82, p = 0.007$). This suggests a stress-inoculation function for the routine husbandry procedures of docking when done aged 7—11 days. The mean time to resume grazing was 2.1 minutes (126 sec. SEM = 3.0 sec.). There might be another period making sheep less reactive to stress when aged 38—45 days; and perhaps docking aged 24—28 leads to sheep that may be more reactive to stress than the norm.

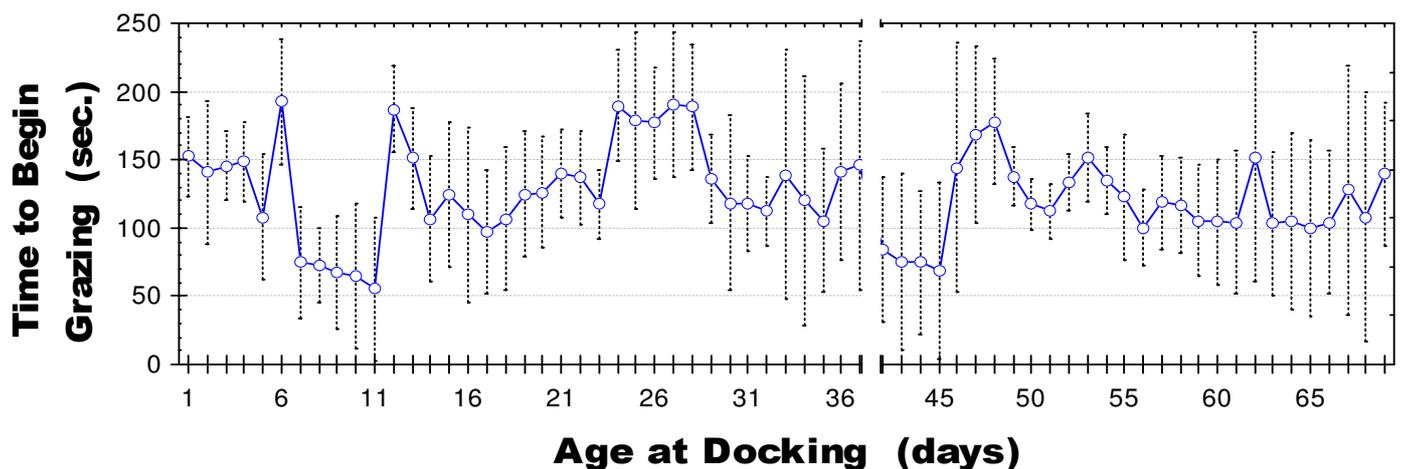


Fig. 1. Time to graze ($\pm 95\%$) after subsequent stress in weaned sheep as a function of age at early stressor of tail-docking

References

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