

SECTION VI-10: GENETIC SELECTION FOR RESISTANCE TO MASTITIS

10 GENETIC SELECTION FOR RESISTANCE TO MASTITIS

10.1 SELECTION BASED ON LOW SOMATIC CELL COUNTS

Although heritability of SCC levels is low and therefore genetic progress will be slow, there is no evidence that by selecting low SCC ewes, unfavourable traits such as low milk production or components will increase.

10.2 GENETIC MARKERS FOR RESISTANCE IN MASTITIS

Much work has been done on markers for mastitis resistance in dairy cattle but much less so in dairy sheep. Additionally, resistance to clinical mastitis is believed to be differently regulated than for low SCC. It is likely that resistance is not located on one gene and so genetic selection will be complicated.

The most studied “candidate genes” in dairy cattle are the MHC (major histocompatibility class) II DRB3 alleles. It is likely that the effect of resistance is through the immune system. However, insufficient work has been done in dairy sheep to say how useful genetic markers will be in the future.