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Summary only

THE EFFECT OF LIVWEIGHT ON THE OVARIAN RESPONSE AND FERTILITY OF EWES TREATED WITH PMSG

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Two groups of 120 six-year Romney ewes were differentially fed for a period of four months, resulting in a mean liveweight difference of 15 kg. Within groups ewes were treated with 0, 600 or 1000 i.u. PMSG on day 13 of the cycle. After mating with entire rams, ewes returning to service were slaughtered 1 to 4 days later to determine fertilization rates and the number of ovulations at the preceding heat. Ewes not returning to service were slaughtered 22 to 24 days later to assess the number of ovulations and the number of normal embryos.

Treatment with PMSG significantly increased the number of ovulations in both nutritional groups but the response was greater in the heavier animals. Mean ovulation rates were 1.3, 2.0 and 3.9 in low liveweight ewes and 1.5, 3.0 and 5.3 in high liveweight ewes treated with 0, 600 or 1000 i.u. PMSG, respectively. Within five of the six sub-groups of 40 ewes there was a positive relationship between liveweight and the number of ovulations but this was significant only in high liveweight ewes not treated with PMSG.

Conception rates were 8.5% lower in ewes treated with PMSG, but there was no difference between nutritional groups (81% versus 72.5% n.s.). Conception rates were not different in ewes shedding 1, 2, 3 or 4 ova. Differences in the percentage of normal embryos were much less than the differences between groups in ovulation rate. In those ewes not returning to service, the percentage of viable embryos was 123, 164, 208; 143, 207, 237 for low and high liveweight ewes treated with 0, 600 or 1000 i.u. PMSG, respectively.