of the type of crossing or the breed of dams and the age of sheep, on some prolificacy traits. The influence of sire breeds and years was not proved. In the main trait of prolificacy, i.e. the number of live- and deadborn lambs, the *MM* × *R* (1.73) showed to be the best, followed by *MM* × *F* (1.62), *MM* × *EF* (1.43), and *MM* (1.23). The prolificacy in the two-and three years old dams higher than in the ewe lambs mated to one year of age. In the prolificacy traits neither maternal components, nor progeny components of the heterosis effect were established. Mortality of lambs from birth to the 5th day of age is approximately identical with all types of dams. Death-losses from 5th to 60th day of age were classified, according to the causes, as losses due to ingestions, pneumonia, and those without specific clinical symptoms.

THE RESULTS OF CROSSBREEDING BETWEEN *CHIOS* AND THE LOCAL FAT-TAIL *AWASSI*

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A crossbreeding program was started in 1969 between the local fattail *Awassi* and the prolific *Chios*. One objective was to increase meat production by exploiting reproductive efficiency of crossbred sheep. The *Chios* is quite prolific compared to the *Awassi* which is a major breed in the Middle-East.

Based on lambs born per ewe exposed for mating, the respective lambing rates were 1.63, 2.22, 2.07 and 1.90 for the first four parturitions of *Chios* ewes, numbering 79. Corresponding figures were 0.91, 1.05, 1.12 and 1.15 for fat-tail *Awassi* ewes, numbering 1204. The weighted average over the four years was 1.95 and 1.04 for the respective breeds. Both breeds had their initial parturition in 1969-70 at 2 years of age. There were no significant differences for % of ewes lambing between the two breeds, and values during the four years ranged from 89 % to 100 % for *Chios* and 91 % to 97 % for *Awassi*.

F-1 crossbreds were produced from mating selected *Chios* rams (selection based on type of birth, twin, triplet, quadruplet or quintuplet) to *Awassi* ewes. Artificial insemination was used in making this cross. Each ewe was inseminated two times during an estrus period, approximately 12 hours between inseminations. There were no significant differences for either percent of ewes lambing or for percent of multiple births comparing artificial insemination with natural mating.

For each of the three years the lambing rates (no. of lambs born per ewe exposed) were significantly higher for F-1 ewes than for unselected *Awassi* control ewes. All ewes had their initial parturition in 1971-72 at 2-years of age. Respective figures for the first 3 parturitions were 1.26, 1.43 and 1.56 for F-1 and 0.91, 1.08 and 1.10 for *Awassi* control. For *Chios* ewes the figures were 1.70, 1.84 and 1.78. During the three years there were no significant differences for percent of ewes lambing between F-1 and controls. Heterosis was estimated from a comparison of lamb production between contemporary F-1 and F-2 ewes. The estimate suggested F-1 ewes produced 24 additional lambs percent ewes exposed.

F-1 ewes weaned more kilograms of lamb per ewe exposed than *Awassi*. For the University research station 3 year-old F-1 ewes weaned 40 kg compared with 28 ?g for *Awassi*. On the Government station contemporary 3 year-old ewes weaned 32 kg vs. 26 kg and 2 years old ewes weaned 22 kg vs. 15 kg per ewe exposed. Lambs weaned at 90 days on both stations. A higher lambing rate was the major factor responsible for F-1 ewes weaning more kg of lamb per ewe exposed.

Ram lambs weighing 40 to 50 kg were slaughtered and chilled carcasses cut into 6 primal cuts. Data for 3 years were consistent for the following:

1. dressing percentage for F-1, F-2 and Backcrosses averaged lower than *Awassi*,
2. calculating the weight of each primal cut as a percent of carcass weight the crossbreds had a higher percentage of weight for hind legs, shoulder plus neck and testicles and a lower percentage of weight of fat-tails and kidney plus kindney fat,
3. carcass and cannon bone lengths were longer for crossbreds,
4. fat thickness and rib-eye area at the 12th rib generally were smaller for crossbreds.

No major differences were noted between *Awassi* and F-1 yearling rams for evaluations made by a trained taste panel committee for subjective scores on tenderness, juiciness and overall eating qualities.

Experimental results for one year from Cyprus suggested only a small advantage for either lambs born alive or lambs weaned per ewe lambing for *Chios* crossbreds which resulted from crossing the local fat-tail breed and the imported *Awassi* with *Chios* rams.