## Characteristics and developments in the production of sheep and goat meat in Australia

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The Australian lamb industry produces 16 million lambs annually, 88 per cent of which are sold on the domestic market. These lambs come from a tired breeding structure in which cross-bred ewes (usually Border Leicester × Merino), derived from Merino wool-growing flocks, are joined to short wool rams such as the Dorset Horn or Southdown. Other breeds used to a lesser extent include Dorset Horn × Merino, Corriedale and Polworth ewes, and Border Leicester, Ryeland, Suffolk and Romney Marsh sires. Many trials have shown the superiority of the Border Leicester × Merino and Dorset Horn × Merino ewes joined to Dorset Horn sires for the production of prime lamb. Lambing percentages vary between 90-170 % and lambs from these crosses grow at rates of 0.24-0.30 kg/day.

With the decline in Australian traditional export markets, interest has turned to the Middle Eastern Muslim market, which requires a heavier (22-28 kg), leaner carcass. Suffolk sires are being used to produce the required type of lamb (48 kg liveweight) at 9 months of age. Young Merino sheep up to 3 1/2 yrs of age are currently supplied to the Muslim market as chilled carcasses. To increase the profitable production of this type of carcass in Merino wool growing flocks, farmers are increasing the proportion of ewes from 40 to 60 per cent without increasing flock size.

The large flocks of feral goats in Australia have been intermittently harvested to provide small quantities of meat for export (for example 6 000 kg exported to France 1974/75). About 50 000 goats are slaughtered each year and yield carcasses between 10-22 kg according to age.

Studies of these goats have shown that they are prolific (kidding percentage above 150 per cent) and the kids grow at about 1.0 kg/week until weaning. As these goats preferentially browse there is a large potential use for them in rangeland management and studies have begun to improve their meat production by selection and breeding.

## Growth and quality of prime Kid carcasses

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This report analyses the growth characteristics and quality of kid carcass and meat. The daily mean gain (g/day) of male Alpine kids receiving only milk replacer can easily reach values of 250 during the first month. The daily mean gain tends to decrease when the liveweight exceeds 16 kg at slaughter. The commercial dressing percentage (carcass + head + liver + heart + lungs + spleen) of light-weight kid is about 66-67 %. Generally, the net dressing percentage (carcass/empty liveweight) of heavy-weight kid (16-32 kg L.W.) reaches about 52-54 %.

Carcass conformation is not very favourable but is better when becoming more compact as the carcass weight increases. Kid carcasses are characterized by a low proportion of fat and by a high muscle/carcass ratio. Proportions of different tissues of shoulder ("épaule") or leg ("gigot") are good predictors of fat, muscle and bone proportions of the carcass. However, mesenteric ("toilette") fat and feet are also good predictors for carcass fat and for carcass muscle and bone, respectively.

In a taste panel of heavy kids (7-13 kg of carcass), general opinion was rather favourable (6 % of slightly or very unfavourable opinions on chops, 9 % on shoulder).

In France, heavier kid carcass production might be considered in the future.

## Variations in the adipose tissue composition of prime kids

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Thirty-three male Alpine kids were allotted to three groups and received three different levels of milk replacer. Three kids in each group were slaughtered before weaning, and 8 kids at about 27 kg of liveweight. The quantity of milk consumed had little effect on fatty acid composition of unweaned kid adipose tissue. After weaning, mesenteric ("toilette"), pericardiac and perirenal fat became particularly rich in stearic acid. The percentage of minor acids (branched and odd-carbon acids) of subcutaneous fat increased. Our results give two indexes on weaned kids which are, respectively, an estimate of the proportion of saturated fatty acids (stearic acid especially in internal fat) and of minor acids in subcutaneous fat. The he-goat origin affected these indexes significantly. Moreover, high intake of milk replacer increased the proportion of minor acids in subcutaneous fat.

## Fattening prime kids with an automatic milk feeder

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For the last few years, French goat breeders have been using automatic milk feeders to raise prime billy kids up to 24 lbs. liveweight. The following results concern 37 Alpine billy kids which first sucked colostrum from a self-feeder for 6 or 7 days. With no transition at all, the animals were put into one group sucking from automatic feeders (2 rows of 4 teats) where they received a milk substitute containing 160 g dry matter per litre.

All the kids were slaughtered very close to liveweight in two groups after 17 and 23 days of automatic feeding. Dressing results were 65 % and 69 %, respectively (carcass with head). Daily growth rate average of 250 g per day was similar for both lots, and 1.3 kg of dry milk replacer was used for 1 kg of growth.