est donc prévisible, en particulier pour les composantes maternelles de nombreux caractères. De plus, le progrès génétique réalisé dans ces schémas de sélection est indirectement diffusé chez les producteurs pratiquant la monte naturelle, par l'utilisation des fils de taureaux très favorablement indexés en insémination artificielle.

L'application des stratégies optimales d'utilisation du matériel génétique pour la production de viande, risque d'avoir de profondes conséquences sur les populations animales existantes : la proportion de femelles allaitantes croisées issues des élevages laitiers et, secondairement, des élevages de races rustiques, devrait s'accroître au détriment des femelles allaitantes de races à viande spécialisées. En fait cette évolution et la mise en œuvre de tous ces systèmes d'utilisation du matériel génétique femelle pour la production de viande, restent dépendantes de la capacité du monde agricole à concevoir une organisation suffisamment large et efficace à partir des milieux de production, des opérateurs existants ou potentiels, de l'orientation la plus probable de la demande des consommateurs (quantité, qualité, prix de la viande bovine) et des contraintes temporelles qui caractérisent l'amélioration génétique des bovins.

Emploi du croisement pour la production de viande ovine

CROSSBREEDING FOR MEAT PRODUCTION IN SHEEP

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Crossbreeding may have three different forms : new breed synthesis, grading up, and repeated crossing between continuing purebred populations. Perhaps because sheep production has not been particularly profitable in recent years we have not seen many new breeds developed, and traditional patterns of pure and crossbreeding have continued. There has been a considerable increase in our understanding of the theory of crossbreeding since the concept of overall production or profit has been integrated into genetic theory. A crossing system may exploit *profit heterosis* arising from a number of different mechanisms. Nevertheless, because of the low reproductive rate of almost all existing female sheep, such systems are only of commercial interest where surplus females are available from one environment for exploitation in another. Thus the well developed stratification pattern in Britain takes the relatively unproductive but well-adapted hill ewes, and by the use of specialized sire lines produces first cross ewes and 3-breed cross lambs for meat production in more favourable lowland environments. We may expect to see existing breeds and crosses evaluated more carefully in the future in order to see where designed crossbreeding systems can prove more useful, but such work will not be simple.

CROSSBREEDING IN SHEEP IN RESPECT TO ECONOMIC EFFICIENCY

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In this paper a set of factors are discussed which influence the economic efficiency of sheep in respect to crossbreeding. These factors are

a) the percentage of birth difficulties in the different crosses,
b) the differences in losses in lambs,
c) the relation between the weight of the ewe and food conversion between the optimum carcass weight and price per kg of the lambs carcass. This in the purebreds and crosses,
d) the management system,
e) the relation between the costs of food for maintainance in ewes, the costs of food for production in ewes and the costs of food for lambs,
f) subsidies for utilizing fallow land.

It could be shown by model calculations, that the economic efficiency is not always higher in crossbreeding than in pure breeding. Furthermore, that not always the smallest ewe even with equal number of raised lambs per year, has the best results in economic efficiency. It can be concluded that beside all the very important and necessary comparisons between performances of breeds and crosses economic efficiency can be an additional help in finding the most suitable cross combination for given environmental conditions and management systems.