Organisation of sheep breeding in France -suckling breeds-. II. The Berrichon du Cher programme.

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Organisation of sheep breeding in France - suckling breeds - II. The Berrichon du Cher programme

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Résumé

La race ovine Berrichon-du-Cher est originaire du Bassin Parisien. Elle compte 140 000 brebis, dont 2700 (2 %) seulement sont contrôlées et forment la base de sélection. Les objectifs de sélection sont d'abord les aptitudes bouchères: conformation, gras et croissance, et ensuite les aptitudes maternelles: fertilité à contre-saison, prolificité, valeur laitière. 150 jeunes mâles sélectionnés sur les aptitudes maternelles de leur ascendance sont contrôlés individuellement en station sur les aptitudes bouchères. Les 15 meilleurs subissent le contrôle sur descendance à la station Berry-Test, qualifiant chaque année 5 béliers Améliorateurs Boucherie ou Elite. Ces derniers fournissent les pères à béliers de la génération suivante et sont accouplés prioritairement aux brebis qualifiées Mères à béliers. Une diffusion importante en croisement terminal sur les races rustiques du Sud de la France est assurée par les fils de ces béliers Améliorateurs.

Mots-clés: Ovin, amélioration génétique, sélection, aptitudes bouchères.
Keywords: Sheep, genetics, breeding, selection, meat producing abilities.

1. Description of the population.

141 000 ewes Berrichon-du-Cher are bred in 3440 flocks (RGA 1989). This population originates from the local sheep bred in Berry. It was improved for wool production by crossing with Merino in the first part of the 19th century. After 1850, it was crossed with Dishley-Leicester rams in order to increase the meat producing abilities. To-day, the main part of the pure-bred flocks are still located in Berry. Berrichon-du-Cher is often crossed with hardy ewes in the south of France.

In its origin area, the sheep industry is often associated with crop production, and the average size of the flocks is relatively low : 41 ewes. Lambs are grown in sheep pens. Ewes are kept in sheep pens or grasslands.

2. Genetic Improvement Programme.

This programme is summarized on the figure 1.

2.1. Selection Objectives

Berrichon-du-Cher is first selected for meat producing abilities: conformation, fatness, growth. It is secondly selected for maternal traits: prolificacy, milking ability, out-of-season fertility.

2.2. Animal Recording.

2747 ewes were recorded in 1993 in 34 flocks (2 % of the population). The size of recorded flocks averages 90 ewes. Period of mating, male used, date of lambing, litter size, pedigree, milking mode, mortality, 1st weighing between 0 and 21 days, 3 weighings each 3-week period later are registered in order to measure the prolificacy, the milking ability of the ewe and the rate of gain of the lambs (Bouix et al., 1986). Matings occur from april to october. Ewes lamb from september to march. 67 % ewes are naturally mated. 33 % have synchronised heats and are artificially inseminated.

The average performances are (Institut de l'Elevage et al., 1994):

table 1 : ***Average Performances of Prolificacy***

	ewe lamb	ewe
prolificacy (N.M.)	1,26	1,50
prolificacy (A.I.)	-,--	1,70

table 2 : ***Average Performances of Growth***

	10-30 daily gain	30-70 daily gain
single male	276 g	325g
single female	259 g	299 g
double male	231 g	306 g
double female	232 g	284 g

2.3. Genetic Evaluation of Maternal Traits.

Breeding values of prolificacy and milking ability are assessed by the national programme of sheep genetic evaluation.

Males and females are evaluated jointly for prolificacy with a multivariate animal model considering the performances obtained after natural (variable 1) and induced (variable 2) oestrus for all the females of the population (Poivey et al., 1990). This model takes into account year, flock, season effects as well as the age of the female, its mode of birth, litter size and number of lambs suckled after the former lambing and also the interval between previous lambing and fertilization.

Maternal abilities are evaluated with a multivariate animal model considering the performances of growth of the suckled lambs and the viability of these lambs (Poivey et al., 1994). Directs and maternals effects are split for each variable

500 ewes (19 %) qualify for ram dams. 700 ewes (27 %) qualify for ewe dams in order to procreate ewe lambs replacing 20 % of the flocks each year.

2.4. Planned Matings

40 sire rams have inseminated all the sire dams, 38 % by I.A. and 62 % by natural mating. These sire rams have also been mated with all the ewe dams.

The matings are planned out-of-season in april. Ewes lamb in september and young rams enter the station in december

2.5 Selection for Growth and Carcass Traits.

147 young rams have been controlled in the Berrichon-du-Cher station in 1994 (Genieys, 1995). They were born in 12 flocks. 40 % were issued from planned matings, 33 % from matings father rams- ewe dams and 27 % from other matings. These last rams were chosen on high 30-70 daily mean gain. They all enter the station at the age of 100-120 days. After 2 weeks of adaptation, they are controlled during 8 weeks for growth, weight at age-type, fat and conformation (Perret et al., 1994).

The 15 best indexed rams are submitted to the progeny test for meat producing abilities at BERRY-TEST multi-breed station (Bouix et al., 1982). The 3 or 4 best progeny indexed are qualified MEAT IMPROVER and kept in IA Centre. If their maternal abilities index (on lineage) is high too, they are declared ELITE and become father rams (Bouix, 1991).

2.6 Diffusion

The three others levels of rams controlled in the individual station are disseminated as follows:

50 rams second class indexed to the selection flocks,

55 rams third class indexed for terminal crossing,

30 rams fourth class indexed are slaughtered.

The selection flocks sale each year 750 rams for terminal crossing. 65 % are Meat Improver Sons. In 1994, 21 000 AI were made out of the selection flocks, mainly for terminal crossing.

References

Bouix J, Bibé B, Lefêvre C, 1982, Genetic parameters of growth and carcass quality for meat-sheep in progeny testing station. *2nd World Congress on genetics applied to livestock production*, Madrid, 4-8 October, vol. **8**, 732-738.

Bouix J, Perret G, Bibé B, 1986, Amélioration génétique de la croissance et des qualités de carcasse d'agneaux en France, *37th Annual Meeting of the European Association for Animal Production*, Budapest, September 1-4.

Genieys G, 1995, Schéma d'amélioration génétique de la race Berrichon-du-Cher, *Colloque Génétique Ovine Française Pour Une Viande De Qualité*, 02-03-95, Salon International de l'Agriculture, Paris.

Institut de l'Elevage, ALGO, INRA, 1994, *Bilan de contrôle de performances ovins viande*, campagne 1992-1993, 40-41.

Perret G, Bouix J, Poivey JP, Bonnet JN, Bibé B, 1994, Contribution du contrôle individuel des jeunes béliers pour l'amélioration des aptitudes bouchères, *Renc.Rech.Ruminants*,1,187-192.

Poivey JP, Cournut J, Jullien E, Bibé B, Perret G, Elsen JM, Berny F, Bouix J, Bodin L, 1990, Estimation of meat sheep breeding values in french on-farm recording system, *41st Annual Meeting of the European Association for Animal Production*, Toulouse, July 9-12.

Poivey JP, Jullien E, Bibé B, 1994, Utilisation du modèle animal chez les ovins allaitants, INRA-DGA, *Séminaire modèle animal, La Colle-sur-Loup*, 26-29 Septembre, 99-114.

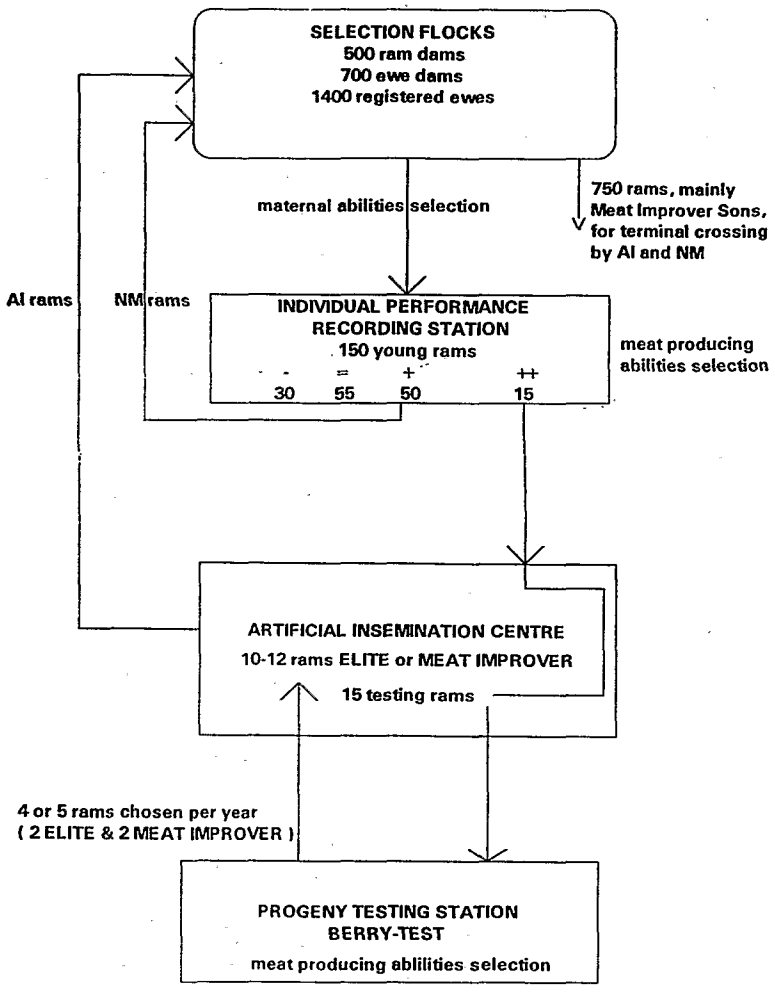

Fig. 1. Selection scheme of the breed Berrichon du Cher (adapted from Genieys, 1995)