

## Recent research and future projects on fine fibre production at INRA

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The *Station d'Amélioration Génétique des Animaux (SAGA)* is working on genetics and breeding of sheep, goats, rabbits and waterfowl for milk, meat and wool production. This laboratory belongs to the Department of Animal Genetics of INRA. Four researchers and five technicians form the SAGA "wool and fur" team.

Genetic variability of wool and fur traits and genetic improvement of these traits are the two main research objectives. The research has looked at new objective methods for assessing selection criteria. Computer image analysis has been developed to define and to measure fibre traits. We have defined objective measurements for the composition of the angora rabbit fleece and the diameter and the morphology of the angora rabbit hair. We have adapted the techniques of metrology for wool from sheep for the angora goat to simplify measurement of the fibre diameter and the clean: greasy fleece weight ratio. Future prospects are numerous: we are looking for an objective measurement of the roughness of angora rabbit fleece, of the medulated fibre ratio of angora goat fleece, and of the bristle ratio of the rex rabbit fleece. In addition, we shall determine the genetic basis of fibre moulting in cashmere goat, rabbit and mink.

SAGA manages national genetic improvement programmes for rabbits and goats. French angora goat producers use an on-farm recording system, and a subjective scoring to evaluate fleece quality. Objective fibre analyses are also made and a performance testing farm for bucks was set up in 1995. All data are registered in a national database. For rex rabbit, components of fur quality were defined: the main are "bristliness", "compactness", "maturity", "hair length", and "fur size". We have various projects: evaluation of the breeding values for angora goats and use

of artificial insemination for genetic purpose; estimation of genetic parameters and genetic values for rex rabbit with a multi traits BLUP animal model.

In a further project, we are studying the links between fleece components in a breed of sheep and the characteristics of the breeding system.