Phenotypic and genetic description of fibre traits in South American domestic camelids (llamas and alpacas)

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RESUMEN

Even though llamas and alpacas are multipurpose animals, fibre production remains the main trait from an international market point of view. The objectives of this review are to describe the phenotypic traits that determine fibre quality, and to identify the genetic mechanisms governing them. The finer and lesser prickling effect the fibre has, the higher its value is. All these characteristics are related to fibre diameter and evenness, and to other traits such as color, type of fleece, fibre length and yield. Studies on genetic mechanisms for llama and alpaca fleece traits show that the white phenotype is dominant to the pigmented phenotype and to the spotted phenotype. Black face and extremities phenotypes are dominant to black and wild phenotypes. Lustre is dominant to non-lustre type and double coated is governed by an additive genetic mechanism. Heritabilities of fleece weight, staple length and fibre diameter are low to moderate in the high plateau environment and very high outside Altiplano conditions.

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