

# An Introduction to Mule Sheep

The Bluefaced Leicesters link to grass fed lamb

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## INTRODUCTION:

I maintain a flock of purebred Clun Forest and NCC ewes from which I raise Clun Mules and NCC Mules. From these commercial Mule ewes, I produce prime, grass fed finished market lambs. This paper is intended to give a brief introduction about a group of crossbred sheep collectively known as Mules. To do so must encompass an overview of the traditional system that utilizes these crossbred commercial ewes, namely the Three-Tier or stratified system of England.

## THE THREE-TIER SYSTEM:

Great Britain has developed a unique way of producing prime market lambs. This process is known as the three-tier or stratified system. The three tiers of this system involve three different regions, or geographically distinct areas of the country that differ considerably in environment, forage quality, and consequently land values. A distinct feature of this system is the transfer of ewes from one region to the next for the intended purpose of crossing them on rams endogenous to the next region. Basically it consists of three different geographical areas or tiers. The higher elevation areas that are home to the so called "Hill" breeds, the Upland areas that are primarily dominated by the BFL and his crossbred ewe progeny, the Mule, and at the bottom, the lowland areas with their terminal or meat breeds that when bred to Mule ewes, produce prime market lambs.

This summary is really a simplistic illustration of what in reality is a complicated crossbreeding system that uses different purebred breeds at each level. In addition, there are many other crossbreeding schemes that use different breeds and only some of the three different geographical farming areas. An example is the use of an Upland breed such as the prolific Clun Forest as the primary ewe breed to be crossed on the BFL to produce the Clun Mule. Other variations incorporate the infusion of Polled Dorset genetics into Mules for the purpose of "out of season" lambing. Currently, this is being done in the South Western part of the country, where the early lamb trade is better. An important point is that these purebred breeds have each, in their own right, been selected for specific traits with many of them experiencing specific trait selection pressure for hundreds of years. It is in part this consistent and continual specific trait selection in the purebred breeds that produces the dependable transfer of desirable genetic traits that allows this system to be successful.

## MULE DEVELOPMENT:

At the top of the scheme are the so called "hill" breeds. These breeds are typically the endemic breed of a district or region in some of the most rugged areas of the UK. Common to these breeds is the capacity to thrive in the harsh environment found in the higher elevations of Scotland, Northern England, and Wales. A few examples would be the Scottish Black face, the Swaledale, the North Country Cheviot, and the Welsh Mountain sheep. In their individual purebred flocks these sheep have been selected over time for the hardiness needed to thrive in a relatively rugged environment complicated by nutrient deficient soils that provide only poor quality forages. From their fleece type to their exceptional forage conversion capacities, these hill breeds excel where few other breeds could survive.

After three to five years, older hill ewes, unable to cope with the rigors of foraging on the hill, are sent down to areas lower in elevation with more moderate climates and slightly improved forage quality. These "Upland" areas, while an improvement, are still marginal in terms of soil quality. An important point here is that these older hill ewes have the capacity to be profitable for another three to four years when fed somewhat better quality forages and offered a slightly improved climate. In this way, draft hill ewes remain beneficial rather than being culled.

By now many of you are probably asking what the term 'Mule' has to do with all this and in particular, sheep. These "draft" hill ewes are bred to the Bluefaced Leicester to produce crossbred progeny referred to as "Mules". As far as sheep go, this term is exclusive of the cross bred progeny sired by the Bluefaced

Leicester on specific Hill breed ewes utilized for this system. Scotch Mules being the progeny of a Scottish Blackface ewe bred to a Bluefaced Leicester ram, Cheviot Mules the progeny of a North Country Cheviot ewe bred to a Bluefaced Leicester ram, North of England Mules being the progeny of the Swaledale ewe bred to the BFL and so on. For more than half a century, Mules have served as the backbone of the United Kingdoms prime lamb production system, accounting for nearly one half of all commercial ewes in the country.

#### MULE HISTORY:

The earliest recorded intentional production of crossbred ewes from hill type dams dates back to a period just prior to the nineteenth century. At that time, the Border Leicester commanded the top position as the premier crossing sire. His crossbred progeny, and most notably the Scotch Halfbred and the Grey Face had begun to attract considerable admiration by lowland farmers as the "improved" production ewe to use with their meat breeds for a more efficient means of producing prime market lamb. Soon after the turn of the century, the Border Leicester underwent some fundamental changes. Border Leicester breeders began to select for increased wool density and a more compact frame to meet the ever increasing needs of the Merino breeders in New Zealand and Australia. This had the effect of changing the overall composition of the breed as well as increased its market value and price. At the same time, Scottish Blackface breeders began selecting for longer staple length as a means of improving profitability. At that time there was a significant gap in the availability of imported wools and an ever growing need for domestically produced wool. These two changes resulted in a considerable deviation in the character of the crossbred ewes and along with that, displeasure from the growing number of shepherds now recognizing the profitability of utilizing crossbred ewes for market lambs. In the mean time a distinct line of Leicesters with fine fleece, exceptional milk production, extended frames and darkly pigmented heads had been quietly developed in the Hexham area of England. Its origins date back to a split in type during the early development of the Leicesters. Until this time, this version of the Leicester had experienced minimal acceptance and had not been widely used. Their relatively fine fleece and improved structure meshed well with the "Hill" breeds of the time and these so called 'thin skins' were soon sought out as they produced superior crossbred commercial ewes. They were the poor mans Leicester as they were inexpensive to obtain when compared to the Border Leicester. From this small nucleus arose the emergence of the Bluefaced Leicester and his now famous "Mule" progeny. Others attempted to produce similar crossing sires at the time by utilizing Wensleydale genetics into the mix. When this "recent" cross was tried it was never widely accepted. It produced undesirable characteristics such as wool on the legs, cheeks and forehead along with poor head conformation. In addition, crossbred progeny from these crossbred rams produced further inconsistencies in their market lamb production.

#### MULES AS A COMMERCIAL EWE:

So what's so special about these commercial ewes called Mules? Mule ewes command top consideration as the premier commercial ewe because they consistently inherit the vigor, hardiness, and forage conversion capabilities of their Hill dam with the additional benefit of increased size, prolificacy, milk production, and early maturity; characteristic of their BFL sire. Most Mule ewes can be bred their first year and will often twin. In general, lambs from Mule ewe flocks will average 200% or better at weaning. In addition, the Mule ewe has a notably improved wool clip over that of its dam. Comparative fleece samples of some hill breeds and their Mule progeny can be viewed on the display table. All in all, the capacity to consistently transfer maternal traits to his Mule daughters as well as his ability to improve the harsh fleece common to the breeds he is put to, has been the primary selection criteria used for over one hundred years in the development of the BFL breed. The reproductive capacity of his ewe progeny is the vital and essential link in this stratified systems efficient production of prime lamb.

#### TERMINAL SIRE:

As mentioned previously, Mule ewes represent the backbone of the prime lamb industry in the UK. This accomplishment is brought to the forefront when the Mule is bred to a terminal sire which represents the final step of this three tier system. The British type Suffolk, the Texel, the Beltex, and the Charollais are a few examples of breeds often used for this purpose. The terminal sire produces lambs with improved market carcass qualities as well as a carcass that fills out quickly. The genetic make-up of the Mule compliments these traits. She has both the frame and capacity to carry and deliver multiple lambs sired by the terminal ram. In addition, her forage conversion capacity captured from her hill dam along with the BFLs influence for increased milk production and overall structural improvement provides an avenue to meet the additional

nutritional demands required for optimal fetal growth as well as the rapid growth rates that her market type lambs are capable of. The end result is the efficient production of prime lamb.

CONCLUSION:

The stratified system has been successful for three primary reasons. First, it utilizes a wide range of farm environments, many of which would otherwise have minimal value for the ultimate end product; meat. Secondly, this is primarily a forage based system that exploits the inherent genetic qualities found in three distinct and diverse types of sheep. Thirdly, the system utilizes crossbreeding for the selection of the two most important biological components that affect the efficiency of meat production; the reproductive performance of the ewe and the growth and carcass characteristics of the lamb.