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# **Standards of Conformation & Type for Mules and Breeding a Mule**



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# **Breeding A Mule**

## **Introduction**

Mules are rapidly becoming popular in New Zealand as their attributes are appreciated by people wanting an equine that is intelligent, loyal, athletic, strong and tough. Mules are well suited for riding or carriage driving.

The concept that the Donkey & Mule Society of New Zealand should develop its own Mule Standard of Type was raised by Nicola Thistoll in early 2007. She expressed the need for the Society to produce a sound guideline for judges.

The President, Margaret Salkeld, suggested to the Executive in July 2007 that the Society establish a Mule Sub-committee with 'a view to setting up our NZ Standards of Conformation for Mules.' She proposed that the members of the Mule Sub-committee 'would consist of members who have shown mules over the past season' (i.e. 2006/2007).

The Executive agreed with this proposal and Nicola Thistoll, Diana Humphries, Anke van Dijk, Cathy Perrott and Robin Winter were invited to form the Mule Sub-committee. They all agreed to work on this Sub-committee and have, for the past two years, worked conscientiously and assiduously to produce these standards. I have had the pleasure of chairing this committee and seeing first hand how carefully they have considered each section to ensure that the Mule Standards are accurate and clear.

The Sub-committee agreed there was a need for an additional section for those intending to breed a mule. Because it is a new area for so many in New Zealand, and there are several attributes of the sire and dam that are essential to producing a good mule, they decided to include a section on Breeding a Mule.

The Donkey & Mule Society has been well served by this Committee and I wish to thank them for their dedicated input. I also wish to thank the D&MSNZ editor, Lea Hullett who has ensured that the text and photos have been prepared to a high standard for publication.

*Andrea Thomson*

D&MSNZ Mule Sub-committee Chairperson.

# **Standards of Conformation And Type For Mules**

A mule is a cross between two species of equine: the horse/pony (Equine caballus) and the domestic donkey (Equine asinus). The word 'mule' is used for either the cross of male donkey with the female horse or female donkey and with the male horse; the latter cross is more correctly known as a 'hinny'.

Despite the fact that both mules and hinnies each have one horse and donkey parent the two crosses generally differ from each other in appearance and stature and to some extent, in temperament – a fact that has been recognized since they were first bred.

In the following discussions the term mule shall also be deemed to include hinnies unless otherwise stated.

Each mule is unique, a product of the union of some breed of horse mare with some breed of donkey jack. Because of this they do not have an identifying breed but need to be considered to be of a type. Mules are usually determined to be the same type as the mare that foaled them.

As with horses and donkeys, when looking at the structure of the mule you will first need to consider the general conformation of the mule and then consider how well that mule meets the standards for its type.

## **General Conformation**

The more horse-like a mule is the better mule he will be so a good mule should, except for the ears, closely resemble the conformation of the horse although mules are somewhat narrower. Following the basic ideal conformation for the quality performance horse/pony will help ensure a quality performance mule.

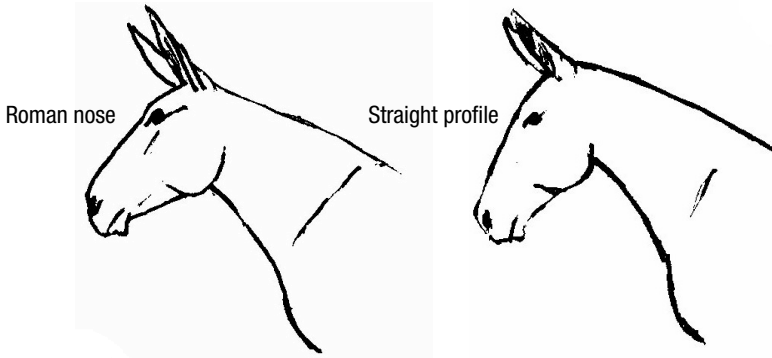
### **Head & Neck**

The head and neck of the mule should be in good proportion with its overall conformation.

### **Head**

The mule's head does not have to be horse like to be correct but should show quality, definition and intelligence.

The head tends to be a little bit narrower than that of the donkey. The forehead should be broad and flat. The profile of the face should be almost straight or slightly dished. A slightly roman nose is acceptable and can be more evident in the heavier/draft type mule.



**Eyes**

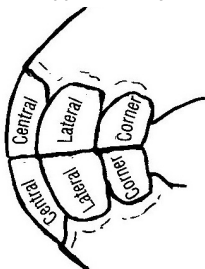
should be clear, prominent and well set apart and they should be gentle but alert in appearance.

**Nostrils** should be large to accommodate adequate respiration while working.

**Lips** should be firm.

**Teeth** should be in good condition and not show any signs of abnormality such as an overshot jaw (parrot mouth) or undershot jaw (sow mouth) which are faults. The incisors in the upper jaw must meet the incisors in the lower jaw within 3mm. (1/8”).

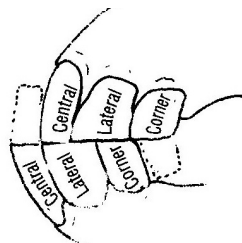
‘A’  
Correct bite  
Upper and lower incisors  
oppose evenly

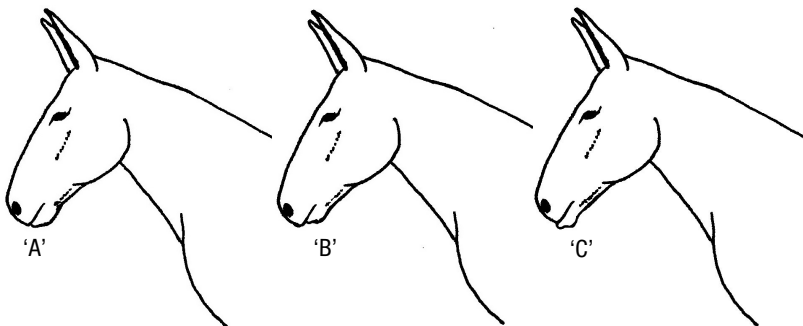


‘B’  
Under bite (Parrot Mouth)  
Malaligned mandible  
or lower jaw lacks extension



‘C’  
Over bite (Monkey Mouth)  
Malaligned mandible  
or lower jaw extends beyond  
upper jaw





**Ears** should be notably longer in comparison to a horse's or ponies' and narrower than a donkey's. They should be upright, well set and alert, clean cut, and in proportion to the mule.

## Neck

The neck should be long, muscular, well set and tapering in at the throat latch. It should join the body high on the chest rather than low or from between the front legs. A neck with an upside-down curvature or a short neck and thick throatlatch will not flex easily, vertically or laterally and will make it difficult for the mule to respond to the bit easily.

The mane is often short and thin and usually stands upright like that of a donkey, but may fall to one side like a horse.

## Body

The top line should be smooth, curving gently, without interruption and with the length proportional to the animal. The mule's back will however tend to be nearly straight over the topline compared to a horse but should show strength over the loins. A long back with slack loins should be avoided as this may lead to back problems. If the back is too short it may prevent good leg action.

A mule with a deep heart girth and a deep flank should not be penalised as this is acceptable.

**Withers** Mules tend to have less prominent withers than horses but it is desirable for the withers to be as high and run as far back as possible.

**Shoulder** also tends to be more upright than a horse but again a long sloping shoulder is desired, as a short, straight shoulder, creates a short choppy stride.

**Ribs** should be well sprung and the girth deep.

**Chest** should be deep, wide and well muscled, but not so wide as to interfere with action. Mules have a chest which approximates the breed of horse they are related to, but often without the crease. This is acceptable for a mule and should not be penalized. The chest should be in proportion, not too narrow or weak.

**Loins** should be short, wide and well muscled.

**Hindquarters** should be long, wide, level and as muscular as possible with plenty of length between point of hip and point of buttock. When viewed from the rear the smoother the muscle over the quarters and thighs the better.

**Tails** are more like a horse but may have short hairs on the dock. It should be well set and stylishly carried.

## **Forelegs**

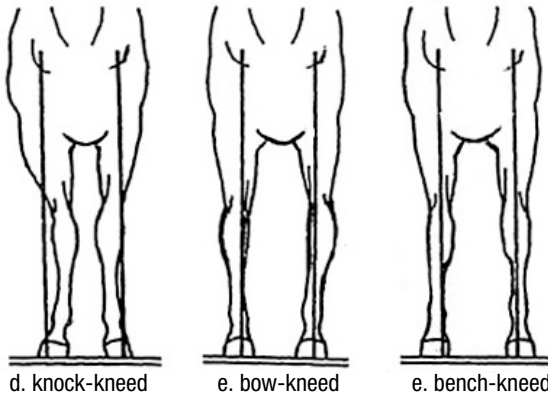
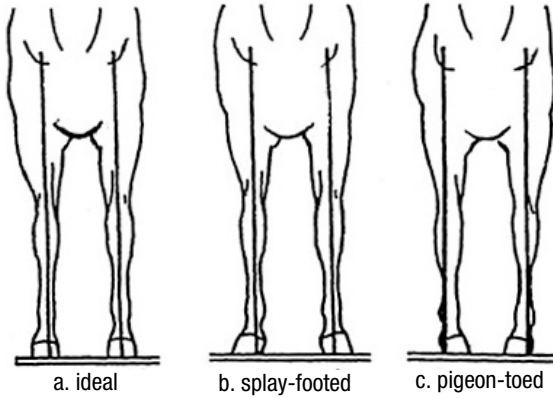
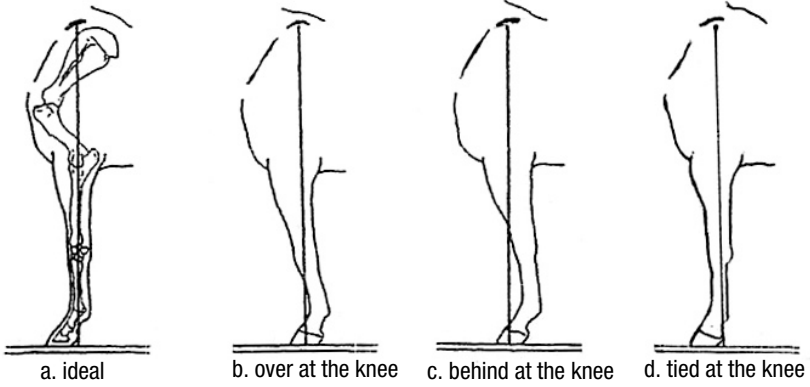
Characteristics desirable in the limbs of the horse or pony are also desirable in the mule. Limbs must be straight and true, with bone in proportion to the type of animal.

**Forelegs** straight and squarely placed - viewed from the front a perpendicular line from the point of the shoulder to the ground should bisect the knee, cannon, pastern and hoof. Viewed from the side a perpendicular line from the top of the shoulder blade should meet at the ground at the bulb of the foot having bisected the forearm and cannon bone.

**Forearm** to be broad and well muscled.

**Knees** to be flat, wide and well defined. Being over or behind at the knee may cause the mule to breakdown under work.

Figure 1. The Front Legs, Side View



**Cannon bones** to be short and solid, although not heavy, and proportionate to the animal.

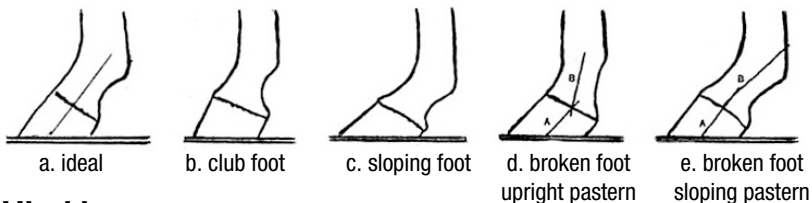
**Tendons** to be well defined and straight.

**Fetlocks** to be straight, broad and defined.

**Pasterns** to be strong, well defined and not too long, or too short. They should be at approximately a 60° angle to the ground. If the pastern is too long and low they tend to be very weak and if they are too short and upright they can cause a concussive gait.

**Feet** are allowed to be narrower and slightly more upright than a horse's foot but it must be sound and proportionate to the animal. The hoof wall smooth, dense and tough, with the heels broad and well separated by a large tough frog. The angle of the hoof should match the angle of the pastern.

Figure 3. The Foot, Side View



## Hind legs

**Hindlegs** should be straight and squarely placed – viewed from behind a perpendicular line from the middle point of the buttock to the ground should bisect the hock, cannon, pastern and hoof. Viewed from the side, when the canon is perpendicular to the ground, the back line of the cannon when extended should just touch the rear of the buttock.

**Croup** should be nicely rounded with smooth muscling, indicative of strength and staying power. The length of the croup is measured from the point of the hip to the point of the buttock (NOT at the top of the croup from the top of the hip to the tail set).

**Quarters** and thighs should be deep, full and strongly muscled.

**Gaskin** should be broad with strong muscling.

**Hocks** should be set low, broad, flat, deep, defined and strong. Hocks carry a great strain so need to be large, clean and well set. Slight cow-



hocking is common in mules but should be bred to a minimum. If the mule is too cow-hocked the hocks will be weak and will be predisposed to twisting/rotating when the mule is moving. Sickie hocks should also be avoided as they force the legs to carry the body's weight at an unnatural angle so can lead to unsoundness.

**Cannon bones** should be short and solid, although not heavy, and proportionate to the animal.

**Tendons** should be well defined and straight.

**Fetlocks** should be straight broad and defined.

**Hind pasterns** should be at approximately a 65° angle to the ground. They should be medium length, strong and well defined.

**Rear feet** are smaller than the front feet and more oval in shape but should still be in good proportion to the animal and with the same quality of hoof, broad heels and set at the same angle as the pastern.

Figure 4. The Rear Legs, Side View

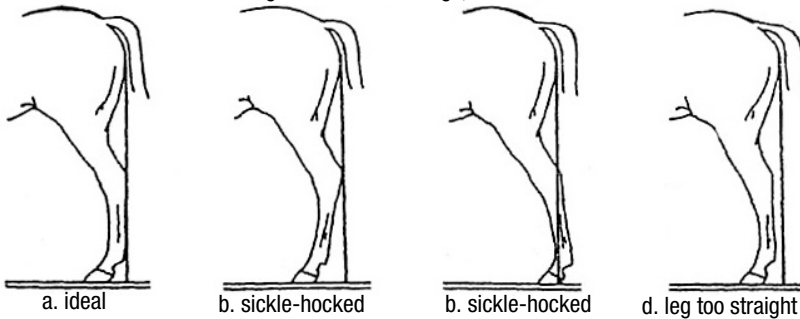
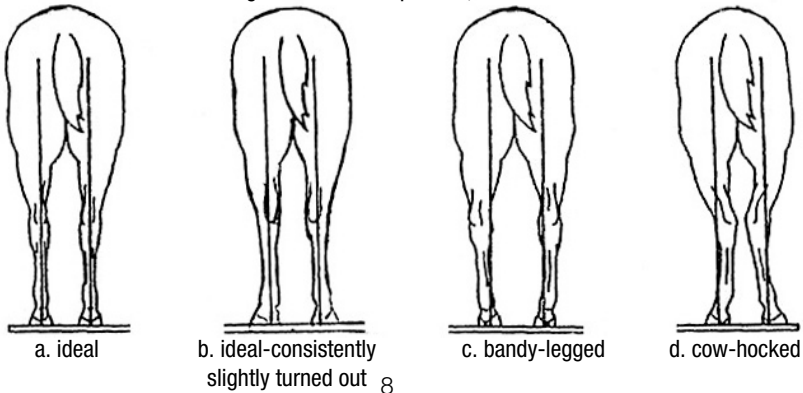
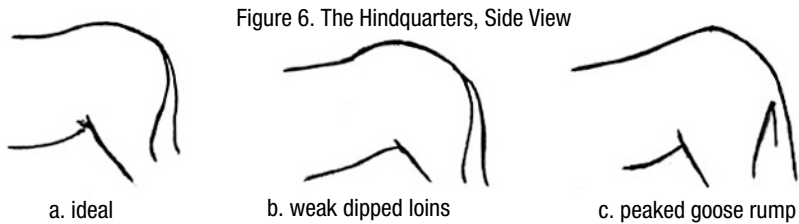


Figure 5. The Hindquarters, Rear View





## Coat

The summer coat hair of the mule should display a healthy shine covering pliable skin. Mules can have a variety of coat types, from short fine hair, to a strong dense coat, depending on how they have been bred. The winter coat is noticeably thicker, may be wiry, but should still display a healthy shine

## Colour

Mules come in as many colour variations as horses and can display lighter areas on the nose, around the eyes and on the underbelly like their sire but not usually as light. They can also display dorsal and shoulder stripes as well as zebra striping along the legs.

## Movement

The mule should show movement that is straight, long, free, active, smooth and covers the ground well.

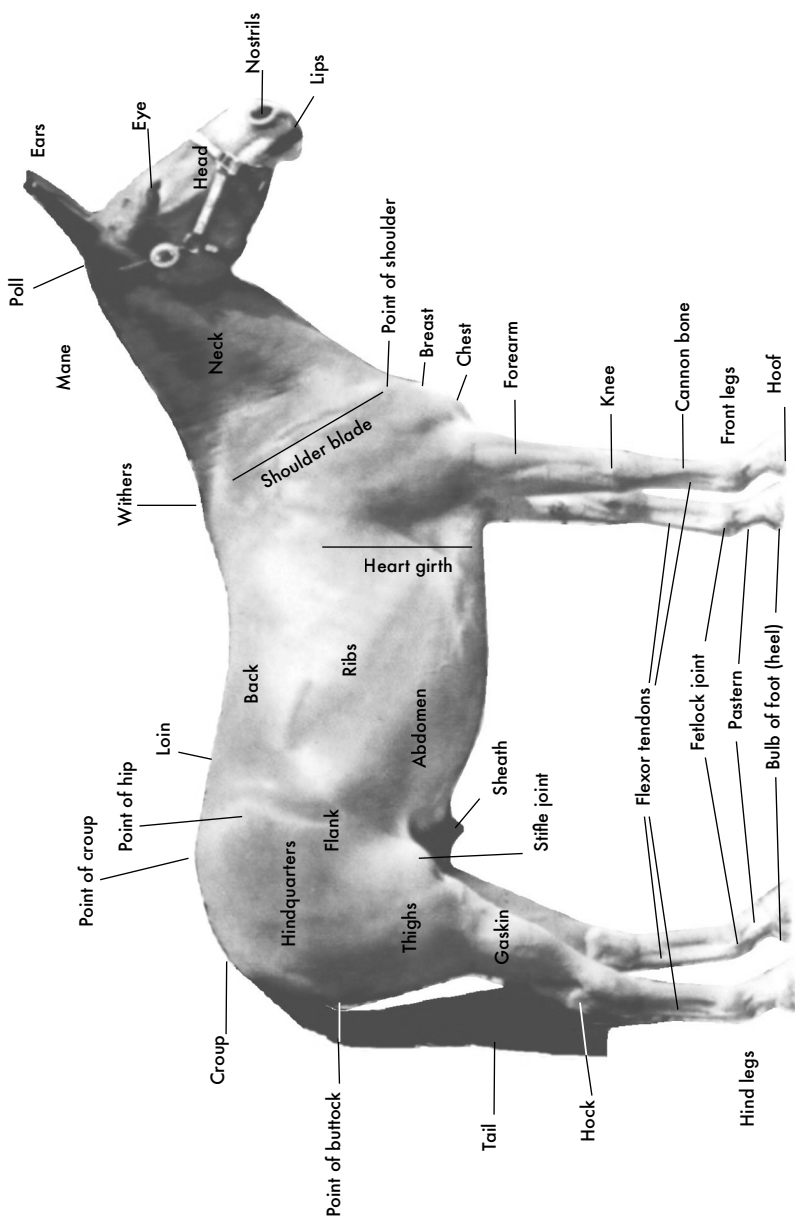
Within the different breeds of horses and donkeys there are some that are specifically bred or naturally display, additional variations of gait.

Mules can inherit these abilities and should not be penalised provided the gait is maintained in the balanced, rhythmic manner required of all gaits.

The most common additional gaits are a pace gait at the walk or trot.

## Temperament

Mules should have a kind, friendly temperament, they should also display an abundance of presence, be energetic, but gentle.



# **Types of Mules**

There is a great difference between the concepts of general conformation and type. For example the general conformation of a good performance horse does not change with breed type. So regardless of breed or type, basic conformation standards and faults are the same for all equines. On this set of general rules the special ideals of the breed or type are imposed. There is a very noticeable difference between the looks of the ideal Arabian, the ideal Welsh Pony, or the ideal Cob, yet these differences are in breed/type. As with horses it is acceptable to have two mules appear entirely different but both conform to basic conformation standards. The differences are then defined within their individual types.

## **Saddle and Carriage Mules**

These types should essentially show the same quality of conformation that would be expected of the best saddle horses and ponies and carriage horses and ponies. The mule should be assessed first on how well it meets these universal standards of conformation and then consideration can be given to the purpose for which the mule has been bred and its parentage.

## **Draft Mules**

These mules should be strong, heavily muscled and very wide in the chest. They should be very deep in the shoulder, have large strong hocks and wide long hips. It is perfectly acceptable for a draft mule's hind limbs to be slightly turned out, as long as it is turned out uniformly through the femur, stifle, hock, cannon, fetlock and pastern. It is acceptable for a draft mule to have a heavier head with a slightly roman nose but it should still be elegant and in proportion with the rest of the animal.

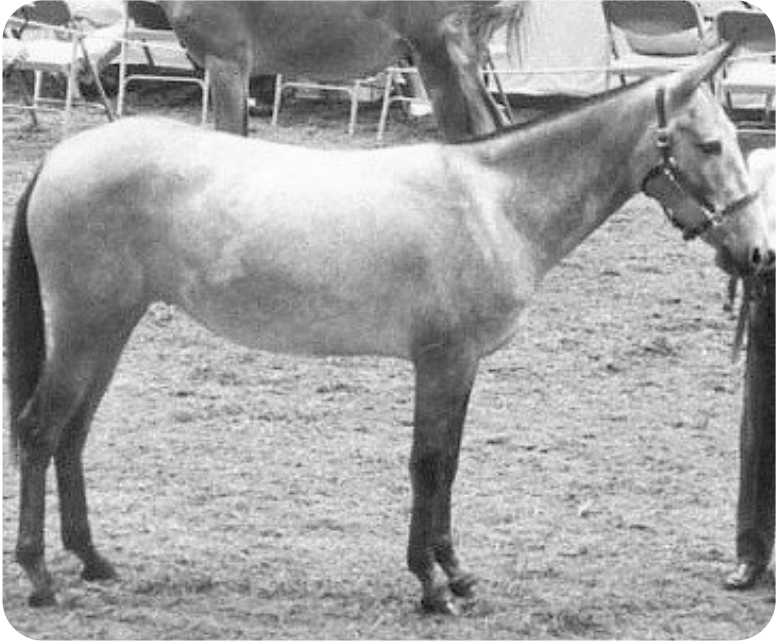
## **Note for photos**

There are many types and sizes of mules depending on the sire ( e.g. Mammoth, Teamster, English, Miniature) and dam.(e.g. Welsh pony, Timor, Clydesdale, Thoroughbred, Quarterhorse, Appaloosa).

The types of mules illustrated here are a selection of types. They are not showcased as perfect mules but to illustrate how varied in type mules can be.



**Young Draft Mule**



**Hack Mule**



**Hack Mule**



**Pony Mule**



**Pony Mule**

# Breeding A Mule

Breeding a mule has extra challenges because it is a hybrid animal. The mule's parents have different numbers of chromosomes and the way these chromosomes pair up is random. This means that although it is possible to try to influence the outcome there is no way to predict it so mules bred from the same parents can be completely different.

It is helpful when considering breeding a mule to try to understand the differences between the mule's parents

## Horses and ponies

Evolving as a plains dwelling animal living in the grasslands, their main defence for survival was flight. Having a timid, nervous, flighty behaviour protected them in the wild and was made possible by having a structure designed for sprinting with long, agile legs. This structure was backed up internally with a respiration and circulation system set up for running and an incredibly fast reaction time allowing for explosive movement.

## Donkeys

Most donkeys descend from the African wild ass where their natural habitat was rocky and precipitous. Blind flight might allow a horse to survive but for a donkey such behaviour could be lethal in rough terrain. When donkeys sense danger they choose one of three options: Flight / Standing still knowing it is safe / Attack. The donkey has physically evolved to survive in this habitat with small tough feet, good strong legs and a way of going that allowed it to move through rough terrain easily and safely. This is backed up with stamina and strength, and an ability to cope with high temperatures, limited water and poor pastures.

## The Mule

When breeding a mule there is going to be elements of both parents but it is more desirable to have predominantly

- the behaviour of a horse or pony
- the anatomy of a horse or pony



- the physiology of a donkey

## **Behaviour**

Good mules inherit a lot of their behaviour from horses or ponies. It is very important to have the flight instinct as it is necessary to get a forward moving mule that does not need constant urging. Some of the donkey behaviours can be helpful in moderation, like thinking rather than reacting when threatened, being less likely to panic and more likely look after themselves.

## **Anatomy**

The more horse or pony like the mule is generally the better, ignoring the fact that it will probably inherit longer ears from the jack. Inheriting the neck, shoulder and good withers from the horse or pony helps with vertical or lateral flexing through the neck and to keep a saddle in place. A consideration of breeding a good riding mule, whereas the wither will not necessarily be as pronounced in the smaller pony mule it is still desirable. The horse's body, limbs and feet help provide the mule with quality movement, agility and speed.

## **Physiology**

Good mules will inherit the donkey's extraordinary stamina and strength, the ability to withstand high temperatures and the ability to go long periods without water. Mules also have the ability to stay in good condition in poor pasture where horses could not survive, a longer life span than a horse and a toughness of limbs.

## **Selecting the mare**

When looking for a suitable mare to use to breed mules the first and most critical consideration is the mare's temperament. A great temperament is essential as the mare will impart this to the mule both in inherited and learned ways. Aside from the basic nature the mule is born with, a lot of the mule's attitudes are formed in the early days with the mare as it watches and imitates the mare's ways of coping. It is also important the mare has a good temperament to allow safe easy handling of both the mare and the foal.

After considering temperament select the best quality mare you can find. The type of mule you are hoping to breed may influence whether you choose a mare of a particular breed, but good quality mules can come from any breed as long as the mare is of good quality and refined.

Some of the physical characteristics that are desirable in the mare are:

**Head** Clean cut, wide between the eyes; big nostrils; wide between the jaws.

**Eyes** Large and kind.

**Neck** Strong well set on; not short necked or thick – never chose a ewe-necked mare.

**Withers** A prominent wither is generally very desirable when looking to breed a saddle mule, however this may not be an option with some smaller pony breeds.

**Shoulders** A good length and angled around 45°.

**Legs** Clean, straight, good pasterns.

**Feet** Large and open

**Topline** Strong with well set on tail; (avoid weak loins and goose rumps)

**Body** Well ribbed

**Movement** long free stride essential.

## Selecting the jack

It is considered that for breeding mules a lack of prepotency (the ability to pass on their qualities) in the jack is desirable as the mare's characteristics must dominate. What is really wanted from the jack is the physiology but because the breeding process lacks guarantees it is preferable for the jack to have some desirable characteristics as follows:

**Temperament** A good, kind temperament both for safe easy handling and to help ensure the mule has a great temperament

**Overall Conformation** Strong, well made

**Size** The height and solidness of the jack is personal preference and may help determine the height and solidness of the mule

**Head** Straight profile

**Legs** Straight and strong with plenty of bone. When breeding a mini mule the jack should have extra good bone.

**Feet** Large as possible

**Movement** Alert agile and a long swinging stride active

Overall the rule is to use the best mare and jack available to give the best chance of breeding a good quality mule. To help this both parents need to be quiet, kind and intelligent.

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