Raising the Orphan Foal

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Raising an orphan foal takes commitment and can be a wonderful experience for the humans involved, but the number one priority should be the long term welfare of a foal that will grow up into an adult that could live for 30+ years. It is as much about providing for its physiological health as for its psychological wellbeing.

Colostrum

Colostrum is the first milk produced by the mare following birth and is high in immunoglobulins, which are proteins produced in response to infection by microorganisms. Foals are born devoid of immunity, so it is critical they acquire their initial immunoglobulins from colostrum in order to fight any infections.

Successfully managing a foal’s health following birth is immensely improved if they receive adequate colostrum from the dam at birth. However, in order to be effective, colostrum can only be absorbed for a short time after birth. If a foal hasn’t received sufficient quantities from the mare, it is recommended to supply colostrum to young foals within 16 hours from birth. Stock often keep frozen mare’s colostrum on hand for such emergencies. Otherwise, powdered bovine colostrum can be used to provide a level of passive immunity to foals.

After providing colostrum, the mare starts to produce normal milk to nourish the foal. Horse milk is unique in composition, as can be seen by the comparison with cow milk table.

In an emergency - if your vet is unavailable, will be delayed and/or it is not possible to get foal milk, cow’s skin milk powder can be used as an emergency option. Long-term use is to be avoided as it will fail to give the foal the nutrition he or she requires.

Hand rearing

Foals should be housed in a clean, draught-free environment, and have continuous access to equine companions, a grazing paddock, and fresh drinking water. Milk should be warmed to about 30°C and fed every two hours for the first week; reducing this to every four hours by the end of the second week. After one month, reduce feeding frequency to every six hours. Initially, foals may be fed from a bottle and teat, however, they should quickly be taught to drink from a bucket.

During the hand rearing period, body weight should increase by about 1.5 kg per day. Typical foal growth charts and feed guidelines can be obtained from manufacturers of milk replacer products. Over-feeding can cause diarrhoea, so large deviations from the suggested feed amounts are not advised.

When the foal is about two months old, he or she should begin to show interest in solid food. Introduce a commercial starter feed into the foal’s diet and slowly reduce the volume of milk replacer fed.

At this time, the foal should be allowed to self exercise in a paddock, and have access to both hay and pasture. Carers tend to swear foals quickly, but ideally they should not be weaned before six months of age.

Composition of horse milk

Horse milk is relatively dilute, with a low solids and energy content compared to cow’s milk. This allows for a controlled growth rate of the foal, without putting excess body weight on too quickly. This is important because normally a foal’s height increases faster than bodyweight and, therefore, proper nutrition is essential during this rapid bone growth phase.

For example, at one year of age, foals reach about 90% of their adult height, but only about 60-75% of their final adult weight. An excessively rapid weight gain (from too high an energy milk) may be responsible for an increased incidence of skeletal problems in young foals.

Fat

Fat is utilised as an energy source, but the quantity is limited, which helps restrict excessive weight gain. Fatty acids are also used for cell wall structure and brain development. The fat content of horse milk is vastly different to that of ruminants, such as cows and goats. For example, horse milk is particularly high in the omega 3 and 6 fatty acids (20% alpha-linolenic acid), whereas the fat from cow’s or goat’s milk contain much lower levels of these fatty acids and are not ideal substitutes for young foals.

Carbohydrate

Carbohydrate provides the majority of energy in horse milk. The carbohydrate is mainly lactose, which is readily digested by intestinal enzymes in the foal.

Protein

Protein supports growth and development of the foal. The protein consists of about 50% whey protein, compared to only 20% found in cow’s milk. Whey protein has a high biological value for growing foals, due to its elevated quantities of essential amino acids (particularly lysine and threonine).

Cow’s milk or similar products (such as skim milk powder) are, therefore, not an ideal substitute for foals because they do not contain the whey protein profile of natural mare’s milk.

Table 1. Milk composition comparison

<table>
<thead>
<tr>
<th>Composition</th>
<th>Horse</th>
<th>Cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solids (grams/litre)</td>
<td>109</td>
<td>127</td>
</tr>
<tr>
<td>Energy (kJ/100ml)</td>
<td>2000</td>
<td>2800</td>
</tr>
<tr>
<td>Carbohydrate %</td>
<td>57</td>
<td>38</td>
</tr>
<tr>
<td>Protein %</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>Fat %</td>
<td>14</td>
<td>30</td>
</tr>
</tbody>
</table>

ABOVE: Initially, orphan foals may be fed from a bottle and teat, however, they should quickly be taught to drink from a bucket. Photo by Katy Driver

- Hand rearing
- Composition of horse milk
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FROM THE EXPERTS

- Carbohydrate provides the majority of energy in horse milk.
- Protein supports growth and development of the foal.
- Foals are based with the nutrition he or she requires.
- Long-term use is to be avoided as it will fail to give the foal the nutrition he or she requires.
- Raising an orphan foal takes commitment and can be a wonderful experience for the humans involved, but the number one priority should be the long term welfare of a foal that will grow up into an adult that could live for 30+ years. It is as much about providing for its physiological health as for its psychological wellbeing.

Photo by Katy Driver
Spring tips

Appropriate handling of foals when they are young becomes increasingly important as they mature. Problem behaviours and subsequent labels are simply the result of social development. When raising orphan foals, social development and establishing a sensible relationship with human carers are just as important as adequate nutrition and physical health.

**Safe handling**

The orphan foal will need to be handled just the same as any other foal. However, with orphans, it is vitally important to resist the temptation of playing with the foal as if he or she were a large toy.

To avoid these problems, the orphan foal should be kept in a large paddock with other foals and allowed to be a horse amongst other horses. This will give the foal a chance to develop normal horse socialisation responses. Separating a foal from other horses could result in it developing a fear of conspecifics, or animals of the same species. Human interaction should be minimised at meal times, possibly using a bucket feeding system, rather than bottle feeding. Water, pasture, roughage and specific dietary feeds, such as milk substitute pellets, should be provided ad libitum even from an early age.

**Social development**

When raising orphan foals, social development and establishing a sensible relationship with human carers are just as important as adequate nutrition and physical health.

Due to the intensive human involvement associated with hand rearing foals, orphans frequently display behaviours that demonstrate they are becoming dangerously bonded to the human. Behaviours we may label as ‘cute’ when they are young, such as following the human anywhere, suckling on their clothing and initiating play, which can include striking, rearing, mounting the human and various versions of chasing games, can become increasingly dangerous as the foal grows in size and weight.

Most often, what is once seen as behaviour similar to an affectionate dog, quickly morphs into labels such as “lacks respect” and “walks all over humans” as the foal matures and the risks associated with these behaviours increase significantly. These behaviours and subsequent labels are simply the result of poor handling when the foal was a youngster.

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When raising orphan foals, social development and establishing a sensible relationship with human carers are just as important as adequate nutrition and physical health.

Coprophagia

Not everyone’s favourite smelly topic, but coprophagia, or the act of eating faeces, is a normal behaviour in foals that mostly occurs during the first few months of life. It is usually the faeces of the dam that they will consume.

It is thought that coprophagia in foals serves to provide nutrients and introduce normal bacterial flora to the gut. Therefore, it is recommended that hand reared foals be supplied with fresh faeces from a healthy adult equine for normal coprophagia.

社会责任

适当处理幼驹问题变得越来越重要，随着它们的成长。问题行为以及随后的标签只是社会发展的结果。当抚养孤儿驹时，社会性和与人类养育人建立一种合理的关系同样重要，正如营养和身体健康一样重要。

**安全处理**

孤儿驹的驹必须被处理得恰到好处，就像任何其他驹一样。然而，对于孤儿驹，非常重要的是抵制玩弄驹作为大型玩具的诱惑。

为了避免这些问题，孤儿驹应该被放在一个大的围场与其他驹一起，并允许它成为其他驹中的一员。这将给驹一个机会去发展正常驹的社会化反应。将驹与其他驹分离可能导致它发展对同一种物种的恐惧。与驹互动应该在喂食时被最小化，可以使用桶喂食系统，而不是用奶瓶喂食。水、牧草、粗料和特定的营养饲料，如奶替代料，应该被自由提供。

社会性发展

当抚养孤儿驹时，社会性发展和建立与人类养育人之间一种合适的关系同样重要，正如营养和身体健康一样重要。

由于人类的密切参与，与手养育驹有关的行为通常被认为是“可爱”的，当驹年轻时，它们可以追随人类到任何地方，吸吮养育人衣服上的乳汁，发起与人互动的玩耍等。驹长大后，这些行为会变得越来越危险。人类的互动应尽量避免在喂食时，最好使用桶喂食系统，而不是用奶瓶喂食。水分、牧草、青料和特定的营养饲料，如奶替代料颗粒，应被自由提供，甚至从驹很小的时候就开始。

驹最常见的是将行为视为与犬类似行为，但副食，或驹吃便便的行为，是正常行为，因为驹在头几个月的生命中大多会发生。它们通常吃的是母驹的便便。

据了解，驹吃母驹的便便可以提供营养并引入正常的细菌群落到胃中。因此，建议手养育驹被提供新鲜的驹的便便，来自健康成年驹作为正常副食。

“ orphaned Equids are very common with orphans. So, if you are faced with having to handle an orphan, try and get it fostered with another suitable mare as soon as possible or, at the very least, ensure he or she has direct contact with other horses and foals, and train him the same as you would any other foal."

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