

# *Is Colostrum Important?*

Colostrum or "first milk" is the thick, yellow secretion from the mammary gland that's present immediately after birth. Produced in the mare's udder during the last two to four weeks of gestation in response to hormonal changes, colostrum contains concentrated immunoglobulins (antibodies) from the mare's serum. Colostrum and its protective antibodies are present in the mare's milk for only the first day after foaling; these maternal antibodies are necessary to protect the foal against infectious diseases. The best-quality colostrum is produced in the first eight hours post-foaling. Ideally, the foal will receive at least two pints of mare's milk within the first 12 hours of its life.

But for various reasons, a foal might not receive the colostrum it needs:

- The foal is too weak to stand and nurse unassisted. Then, colostrum might need to be milked from the mare and fed via tube to the foal.
- A foal is capable of nursing, but does not receive sufficient colostrum because the mare had premature lactation. That is, she leaked "first milk" and colostrum before the foal was born. By the time of foal delivery, all the colostrum was gone.
  - Testing of the colostrum reveals an inadequate immunoglobulin content.

There are other reasons to collect colostrum. If a mare is at risk of dying, colostrum should be collected from her. Additionally, one might opt to collect colostrum for storage in a colostrum bank as "insurance" for mares which deliver a foal, then don't have sufficient quantity or quality of colostrum. Many large breeding farms collect and store colostrum for these reasons. One gathers colostrum by milking the secretion from the teats. This is an easy procedure that takes only a few minutes and can be done by anyone. Grasp the teat between the thumb and forefinger and gently squeeze and force the milk downward within the teat canal (the cavity inside the teat).

No special equipment is required other than clean hands and a clean container in which to collect the colostrum. Clean, plastic, screw-top containers or sealable plastic bags are preferred so they are easy to open when frozen.

After the colostrum is collected, it can be stored in any freezer for up to a year (when frozen at -4° Fahrenheit/-20° Celsius).

Frozen immunoglobins are stable for much longer, but the overall quality of the colostrum deteriorates over time. Just prior to use, thaw stored colostrum at room temperature or in warm water. Do not thaw by microwave as essential antibodies can be destroyed.

Because colostrum is only available for the first 12-24 hours after a mare foals, it's crucial to work within that timeframe. After that, normal milk production takes over and the amount of immunoglobulin is diluted by the normal milk secretion.

It is preferable to collect colostrum shortly after the healthy foal has nursed the mare for the first time, because over time the concentration of immunoglobulins will be diluted by increasing milk production. After the foal has nursed, approximately one pint can be obtained safely from the mare without risking any colostrum deficiency to her foal. Only eight to 10 ounces of colostrum should be collected--one time--from each mare per foaling so as not to deprive the foal.

It should be noted that if colostrum is stored in a colostrum bank where it might be administered to foals from other mares, it is essential to have the colostrum tested prior to freezing for the presence of specific antibodies to equine red blood cell types Aa and Qa. These are the most common blood types that result in a colostrum cross-match abnormality known as neonatal isoerythrolysis (NI or jaundiced foal). In that situation, the anti-Aa or anti-Qa antibodies in the colostrum bind to those specific blood types on the foal's red blood cells, thus causing the removal of those antibody-coated red blood cells from the foal's blood circulation and resulting in anemia and jaundice.