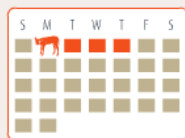


MONITORING COLOSTRUM PROTOCOL EFFECTIVENESS

Why Serum Total Protein:

1. Measuring serum total protein gives us an indirect measurement of passive transfer to make certain that we are managing the Quality, Quantity and Quickness of colostrum care and feeding.
2. Take samples at 1-5 days of age.
3. Collect samples from hydrated animals fed within past 2 hours.



Procedure for Collecting Samples

1. Use red-top blood tubes or syringes without anti-coagulants and label with calf number.
2. Restrain the calf and remove a sample that is 5-6ml.
3. Centrifuge the samples to separate the serum OR set tubes upside down and allow clot to form and stick to the lid at room temperature. Gently turn tube over after one hour and remove the lid bringing the clot with it.
4. Place several drops of serum on the refractometer lens.
 - a. For handheld refractometers, place sample on the large glass lens before closing the lid.
 - b. For automatic refractometers, place the sample on top of the lens cup after cleaning properly with sterile water.
5. To read the hand-held unit, look through the eyepiece into good light and read the level at the marked line. The automatic units will provide a reading once activated.



Values

1. The range of readings will likely be 4.0 to 7.0
2. Indication of successful passive transfer is a value $>5.5\text{g/dL}$
3. $5-5.4\text{g/dL}$ is moderate passive transfer
4. $<5\text{g/dL}$ is considered failure of passive transfer
5. If the refractometer uses a Brix scale: $>7.8\%$ is considered successful passive transfer.
6. Other factors influence serum total protein. Averages from groups of calves should dictate success of a program and not necessarily individual values.

Hints

1. Avoid sampling dehydrated calves as the values will be falsely elevated.
2. Allow blood to separate or centrifuge it and only use serum for the test. Avoid taking readings on samples with excess blood as this will also give false elevated readings.