

# Colostrometer™

## ***Biogenics***

### **Overview**

The **Colostrometer™** is a practical field method for the rapid determination of colostrum quality prior to feeding the newborn calf. This simple field method helps insure the successful transfer of immunity.

**Quality Control Program:** A quality control program can be instituted that starts with vaccinating dams, properly collecting, assessing & storing colostrum, and ends with feeding newborn calves the proper volume and quality of colostrum at optimal times. Colostrum that does not measure-up may be separated and fed to older calves that have already been given an initial dosage of high quality colostrum.

**Timely Results:** One of the primary reasons the **Colostrometer™** has become such a valuable tool to dairymen is that it allows the timely feeding of only high quality colostrum to newborn calves during their optimal absorption time frame of not more than 24 hours after birth.

**Volume Versus Quantity:** An adequate amount of antibodies (Ig) must be absorbed by the newborn calf within 24 hours of birth in order to ensure the calf has received adequate protective levels. Two factors are responsible for determining the quantity of Ig available to the calf: 1. Concentration of Ig in the colostrum 2. Volume of colostrum available. Between these two factors, the newborn calf should be fed between 150 to 200 grams of Ig within the first 24 hours.

The **Colostrometer™** provides the dairyman with the ability to assess the quality of the colostrum by measuring the quantity of antibodies present. If the colostrum sample registers in the green zone, or between 140 to 50 mg/ml, then a total volume between 1.5 liters (1.5 quarts) to 3 liters (3 quarts) should be fed to the newborn calf, respectively, to achieve a total of at least 150 grams of Ig.

### **Operating Instructions**

**1.** Collect only first or second milking colostrum into a clean and dry container. Make sure the udder is clean and that no foreign debris is allowed into the collection container.

**Remember:** The precolostral calf is highly susceptible to disease, so every effort needs to be extended to insure the calf is not exposed to unnecessary bacteria or foreign contamination during feeding.

**2.** Transfer approximately 250 ml (or about 1/2 quart) of standard room temperature (70°F/21°C) colostrum into the included 250 ml plastic jar.

**3.** Make sure the colostrum is filled to the top of the 250 ml plastic jar, and then remove all remaining foam and scum from the surface.

**Tip:** Overflowing the plastic jar with colostrum will insure that most of the foam and scum will automatically be removed.

**Tip:** Any size container may be used as long as the instrument is not surrounded by any foam or scum, can float freely, and the scale can be accurately read.

**4.** Gently lower the **Colostrometer™** into the 250 ml plastic jar (or any suitable container) filled with colostrum, allowing excess colostrum to overflow the cylinder, until the instrument floats freely.

**Tip:** Since colostrum is extremely sticky, try and avoid allowing the instrument to dip lower than necessary, and thus, wetting the unsubmerged portion. By over-wetting the unsubmerged portion will produce slight differences in quality readings.

**Tip:** If the unsubmerged portion of the instrument becomes wetted, then carefully raise the instrument several inches up (avoid removing the instrument completely) and wipe with a clean tissue or cloth; then carefully re-lower into the colostrum trying to avoid having too much colostrum accumulate on the neck of the instrument.

**5.** With the instrument floating freely in the 250 ml plastic jar full of colostrum, determine the quality of the colostrum by reading the color coded scale immediately above the unsubmerged portion of the instrument.

**Green Results—FEED.** If the colostrum registers in the green zone, then it is of sufficient quality to feed to newborn precolostral calves.

**Yellow Results—Do Not Feed.** If the colostrum measures in the yellow zone, then it may be used to feed postcolostral one- or two-day old calves.

**Red Results—Do Not Feed.** If the colostrum reads in the red zone, then it should only be used to feed postcolostral two-day and older calves.

**Temperature Rule of Thumb 1:** If the colostrum is fresh from the dam, and registers at the border between yellow and green, then that colostrum, if cooled to standard room temperature, will always register well into the green zone. Go ahead and Feed!

**Temperature Rule of Thumb 2:** If the colostrum is fresh from the refrigerator, and registers on the border of yellow and green, then that colostrum, upon warming to standard room temperature, will always register well into the yellow or red zone. **Do Not Feed to Newborn Precolostral Calves!**

**6.** Immediately rinse instrument in cold water to remove scum, and then wash with soap and warm water prior to storage in plastic jar.

**Tip:** Any excess scum will cause the instrument to weigh more, and thus, float deeper in the colostrum and may result in false negative readings.

Warning: The **Colostrometer™** is designed for the qualitative assessment of colostrum and/or to estimate the quantity of total gamma globulin.