



## Teat Scoring

Teat scoring, better described as teat end scoring, is a useful tool to measure the effectiveness of the milking machine and parlour routine. It should be carried out at regular intervals so that changes can be tracked over time. Ideally all cows should be scored, or if time does not permit, at least 20% of the herd, or 80 cows should be scored, whichever is the highest number.

**What is being assessed?** Basically, the amount of protrusion of tissue from the teat canal, which is sometimes called callosity, or hyperkeratosis. Several different scales have been developed, but all attempt to measure the same thing: the amount of protrusion from the teat canal. Scales are usually divided into 4 categories: very good, (no ring on teat end), reasonable (smooth or slightly rough ring), poor (rough ring with clear evidence of protrusion 1-3 mm from teat orifice), very poor, (very rough ring with mounds of old keratin tissue extending 4mm or more from teat orifice).

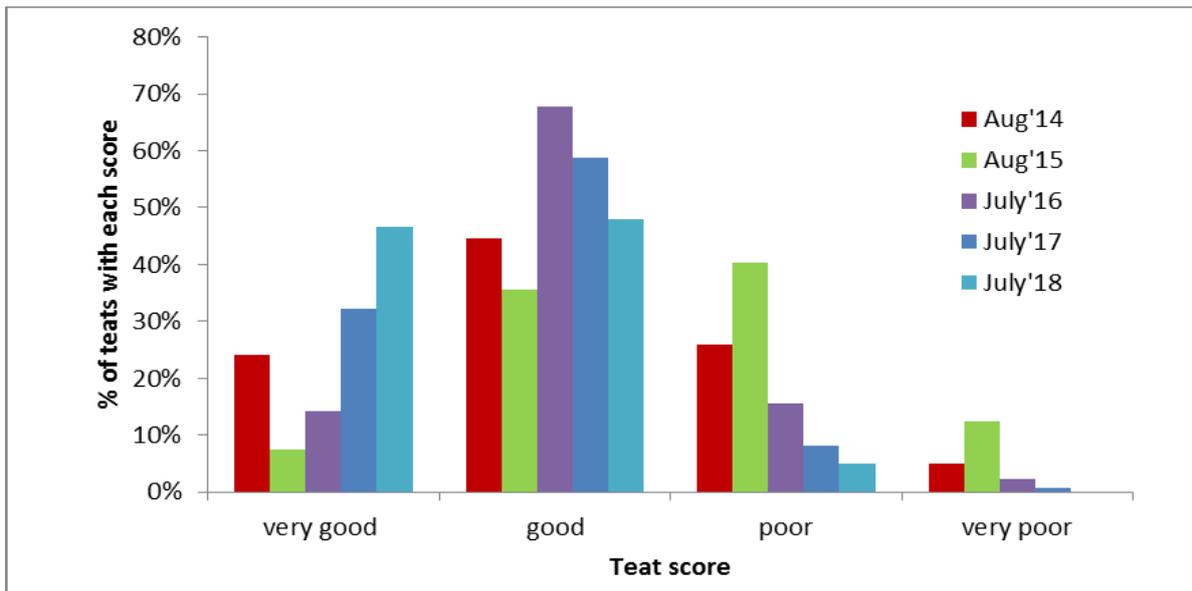
**Why measure teat end scores?** It is a reasonably objective measure of the impact of the milking equipment and milking operators on teat end damage. The teat canal is very important in mastitis prevention and should close tightly between milkings. Damage to the teat canal increases the likelihood of infection occurring, which may eventually manifest itself as clinical mastitis. Various research trials have been carried out to assess the impact of teat end damage on clinical and subclinical mastitis. In summary, cows with poor teat scores are more at risk of developing udder infections. Where there are 20% or more of teat ends scored poor, or very poor, corrective action is required, or where there is a significant downward trend from the previous teat scoring event.

**What are the causes of teat end callosity, or hyperkeratosis?** There are several factors that increase the likelihood of callosity developing. The main factors include high vacuum levels, excessive on time and incorrect liner size, leading to high level of teat compression during liner closure. Other things to look out for are; colour of teats after milking, with red/blue colour indicating a problem, ringing or swelling at base of teat and hard teat ends, all indicative of sub-optimal milking equipment.

Milking equipment is in constant use and should be serviced regularly. It is the most important piece of machinery on a dairy farm. Ideally, a dynamic milking test should be carried out as part of a service, where the parlour is tested during milking and not just between milkings, which is normally the case. Small changes can have big impacts over time and therefore, it is important that teat scoring is carried out to see the effect on teat ends and what is the direction of travel over time.

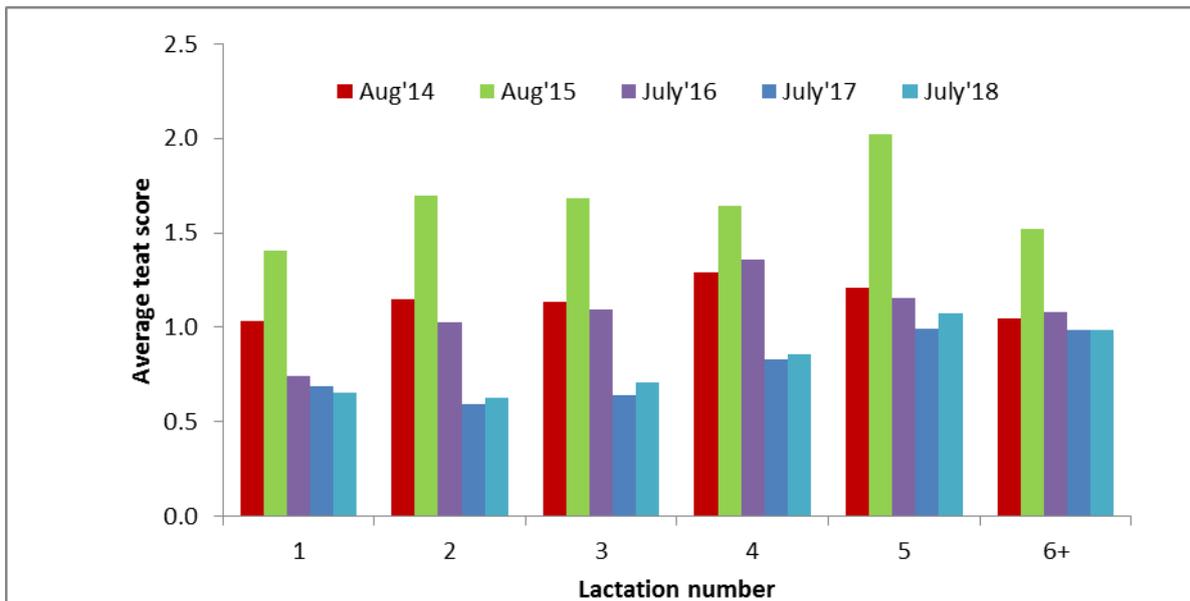
The CAFRE Dairy Herd is teat end scored annually when all cows are in milk, just before the first cows are dried off for the next calving season. Results are presented in the graphs below. The diagrams from the link below are used as template to assess teat end scores.

<https://www.qualitycounts.umn.edu/sites/qualitycounts.umn.edu/files/w-mp-3.pdf>



**Figure 1.** Distribution of teat scores by category for Future Herd over past 5 years.

Majority are good or very good. The August 2015 scores were out of step with the others. Following on from these results, the parlour manufacturer/dealer was brought in to ascertain what was wrong and put it right. Several tweaks were made, including adjusting the minimum milk flow for cluster removal and ensuring that automatic cluster removal was more aligned with vacuum shutoff. These small changes combined resulted in much better teat end scores from then on.



**Figure 2.** Impact of lactation number on teat scores (average of 4 teats). (0 = very good, 1 = good, 2 = poor, 3 = very poor)

Generally older cows have poorer teat scores, but if the milking parlour and milkers are operating properly, the impact should be minimal. Again notice the green bars standing out for August 2015 data.