

# Parlor performance basics

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Several factors, including the number of milkers and desired milk quality, interact to determine parlor efficiency. One of the most important efficiency factors is maximizing total pounds of milk produced. The best method to evaluate this is to calculate milk production based as a per stall, per hour of operation number. This number can be calculated in any parlor or stall barn system, whether or not meters or milk-monitoring devices are installed. The information needed is the time in hours and tenths of an hour, the total amount of milk produced during the milking, and the number of units. The calculation is made by dividing the total milk produced by the number of milking units, and the resulting milk weight is then divided by the total time. On many dairies, total cows milked per day or per hour is commonly used as a proxy for pounds of milk output, but too often is used as the only measure. When cows are not prepped properly, throughput can increase even though less milk is produced! This is not the desired goal for any herd.

In simplistic terms, increasing milk per stall per hour can be achieved in three ways:

- 1) Increasing production per cow
- 2) Increasing the average milk flow while units are attached
- 3) Decreasing the amount of time units are attached to cows.

Production per cow may be influenced more by other factors, such as nutrition and cow comfort. Cows milked calmly after adequate stimulation give more milk, and will milk out quicker and more completely. To achieve high maximum milk weights harvested in the parlor or barn on a daily basis requires excellent pre-milking udder preparation procedures that ensure high quality milk and excellent mastitis control. Consistency of the udder preparation procedures and routine are the most important factors for maximizing both parlor throughput and milk production.

Management's goal should be to bring cows to the milking parlor as clean as possible at every milking and in as calm a manner as possible. Cows handled in a calm manner move slower with less manure splash on the backs of their front legs, lower body and, most importantly, on the teats and udder floor than do cows that are pushed aggressively to the parlor. Calm cows will more willingly enter the parlor and will have better primary oxytocin letdown during udder preparation. A primary goal for any dairy is to have good stockman-

ship and cow handling. Animals thrive when handled in a quiet, calm manner in an environment where they feel safe.

Maximum flow rates and fast, complete milking are more often achieved when cows are consistently prepped and units are attached to plump, full teats. Adequate oxytocin requires at least 10 to 12 seconds of teat contact time during stripping, washing or drying teats. Units should be attached as close as possible to 90 seconds after the teats are first touched during the preparation procedure. On many farms, when milkers "slow down" and follow the SOP (standard operating procedure), the overall milking will speed up and the milker's job becomes easier because there are fewer liner squawks and fall-off requiring milkers to go back to adjust or re-hang units. Consistency in udder preparation is a critical factor on many dairies. Variation between milkings and milkers are significant issues. SOP's are required, and all milkers must appreciate that how they perform the procedures and the routines during milking will impact both the overall udder health and profitability of the farm. Milkers have control over how clean teats are when units are attached. The level of mastitis is directly related to the number of bacteria present on teats and teat ends when the units are attached.

Guidelines for milk per stall per hour are:

1. 2X parlor herds > 150 pounds/stall/hr (68 kg)
2. 3X parlor herds > 110 pounds /stall/hr (50 kg)
3. 2X stall barn herds > 275 pounds/unit/hr (125 kg)
4. 3X stall barn herds > 240 pounds/unit/hr (109kg)

Goals for parlor efficiency can be described as follows:

- Have cows enter the parlor and occupy the stalls calmly, yet quickly.
- Have a milk-harvest technician begin an excellent udder preparation routine as soon as the first cow is in position. By following this recommendation, cows will have adequate stimulation of the udder for excellent oxytocin letdown and the teats will be clean, dry and stimulated when the units are attached.
- Have the unit applied to the cow as close as possible to 90 seconds after the start of udder preparation. Immediately after attachment, units should be properly adjusted.
- Have the cow milk out quickly and completely.
- Have the unit removed immediately upon cessation of milk flow.

- Have the cow exit calmly within a minute of unit removal.
- Have the next cow occupy the same stall calmly yet quickly to begin the process again.

Another key factor in parlor efficiency is to minimize the time between unit removal from one cow to attachment of the same unit to the next cow. Problems can occur for a variety of reasons, including:

- Delays in cow entrance into the parlor from the holding area
- Delays entering the parlor and occupying the parlor stall
- Delays between the time when the cow occupies the parlor stall and unit attachment
- Delays when exiting the parlor
- Delays due to an empty holding pen between groups of cows
- Delays from attachment of the first unit on a side to the last unit on the same side
- Delays due to long unit-on time for one cow, holding up the rest of the side
- Delays due to equipment factors decreasing milk-flow rate (i.e. low vacuum due to milk path issues, detacher settings, and overall system performance, i.e. pulsation system analysis)
- Delays due to inadequate stimulation during the udder preparation process that decreases the milk flow rate.

One common recommendation to producers is to make the take-off settings “less aggressive.” Less aggressive means to remove units sooner than typical factory default settings. Aggressive milking is when liners are opening and closing on teats with very low milk flow. While less-aggressive take-off settings are always in the best interest of the cows and their teat ends, changing settings will only result in improved parlor performance if one side of the parlor still has units milking while milk harvest technicians finish attaching on the other side.

Parlor performance can only be evaluated by being in the parlor during milking to review the procedures used to prep one cow and the routine employed to milk groups of cows. Although it is important to review records in automated facilities, this is never the best method to evaluate parlor performance. Careful observations of cow behavior not only as they enter the parlor, but also as they are touched and handled during udder preparation, as units are attached and through-out milking, are necessary to fully understand parlor issues. Always walk the entire dairy facility to observe manure management, cow comfort, and cow handling procedures. Failure to evaluate the entire dairy will often lead to faulty recommendations made to the producer regarding parlor performance.