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Dairy Guidelines

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HOW TO CLEAN MILKING MACHINE VACUUM LINES

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Clean vacuum lines are essential for proper operation of the milking machine and for sanitary production of milk. Vacuum lines can become clogged with rust, dirt, and half-dried or fermented milk. These conditions can cause faulty machine operation, corrosion of the pipe, and possible contamination of milk. Clogged or leaky lines reduce the operating vacuum level and slow its recovery rate when machines are changed from one cow to the next. Both effects result in longer milking time per cow with greater chance for udder injury, which may lead to mastitis.

Corrosion and clogging in vacuum lines develop gradually. Milking machine operation may not be noticeably affected until the lines are almost fully clogged. A definite time schedule for cleaning should be established to keep vacuum lines in proper working condition. Cleaning at least once a month is recommended. If milk is accidentally drawn into the lines by upset or overfilled milkers, the lines should be cleaned after that milking.

Equipment Needed

1. Stanchion hose
2. Household lye or non-foaming washing powder
3. Bucket and hot water
4. Wooden paddle (to mix cleaning solution)

Method

1. Remove and thoroughly clean the sanitary trap; replace in the line.
2. Make up 2 gals. of cleaning solution. Use one of the following:
 - (a) Dissolve $\frac{1}{2}$ of a 13-ounce can of household lye in 2 gals. of hot water.
 - (b) Dissolve non-foaming washing powder into 2 gals. of hot water. Follow manufacturer's recommendations for the correct amount to use.
3. Start vacuum pump.
4. Draw the cleaning solution into the stall cock nearest the pump. (If lines are cleaned monthly, draw only half this volume through each stall cock.) Recover the cleaning solution from the sanitary trap after the full 2 gals. have been drawn into the lines.
5. Repeat step 4, going from the stall cock nearest the pump to the second, third, fourth, etc., to the end of the line. When the solution becomes dirty, make up a new one.

6. After the cleaning solution has been drawn through each stall cock, rinse the vacuum line by drawing a half pail of clean, hot water through each stall cock, starting at the stall cock farthest from the pump.
7. After rinsing, drain the line and stall cocks thoroughly. Leave the pump operating, with the last stall cock or drain plug open, for at least 5 minutes to assist in drying the line.

Precautions

Cleaning vacuum lines is not difficult, nor does it take much time. However, some precautions are necessary.

1. Never draw more cleaning solution or rinse water into the lines than the sanitary trap will hold. If the trap is overfilled, the solution will be drawn into the pump. A safe practice is to empty the trap after each 2 gals. of cleaning solution or rinse water has been drawn through the lines.
2. Make certain that ample rinse water is used after the cleaning solution. Unless the cleaning solution is completely rinsed from the lines, it will corrode the pipe.
3. Do not use galvanized or aluminum pails for lye solutions because they will be corroded. Plastic, stainless steel, or enameled containers are suitable.