# Maintain proper vacuum control for milking

UNIVERSITY PARK — You've probably heard that it's important to have the correct size vacuum pump for your milking system. Now, how are you going to control it, asks Penn State dairy specialist Steve Spencer.

Milking system performance is dependant upon both pump size and vacuum regulator characteristics. The purpose of the vacuum control is to prevent the vacuum for exceeding a predetermined set-point. The control admits air to the system to prevent the vacuum from increasing above this setpoint. A good control must consistently reutrn to set-point day after day, Spencer explains.

A good control must also have a rapid response rate (a fraction of a second). It must compensate for the short bursts of air that are constantly admitted to the system. such as putting on teat cups.

The most important control characteristic is that it must be able to sustain the vacuum under load. Suppose you have a 100 CFM pump. The control should keep nearly the same vacuum level on the system whether five CFM is going through the regulator of 100 CFM is moving through it.

Perhaps you've heard it said that

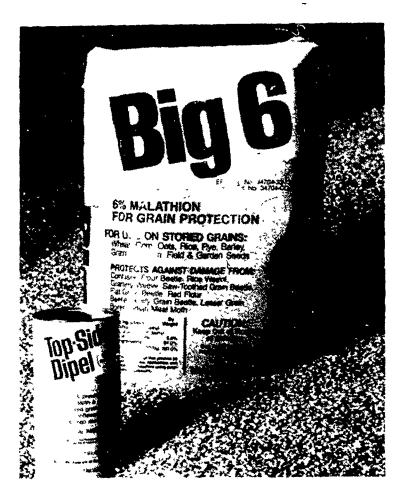
if you can hear air going through the regulator that everything is okay. That is just not correct. Some regulators leak so badly that it's the leak that you hear, he emphasizes.

There are several types of controls to choose. Generally, the newer, diaphram-type controls are the most sensitive, have excellent load handling range capacity and have precise set-point return characteristics. Some of these controls have a fairly maintenance requirement.

Spring-loaded types vary in their ability to control vacuum correctly. The spring loaded controls with large valves and springs can do a good job of vacuum control.

Dead weight controls do a fair job of vacuum control on small (3-4 units) systems. The lever weight controls normally have the poorest control characteristics. It is probably good judgment to replace

Regardless of the type of control, make sure they are kept clean, especially the operating valve. Keep them away from the exhaust of the vacuum pump. Install all controls in a clean area with an adequate pipe size to the vacuum pump



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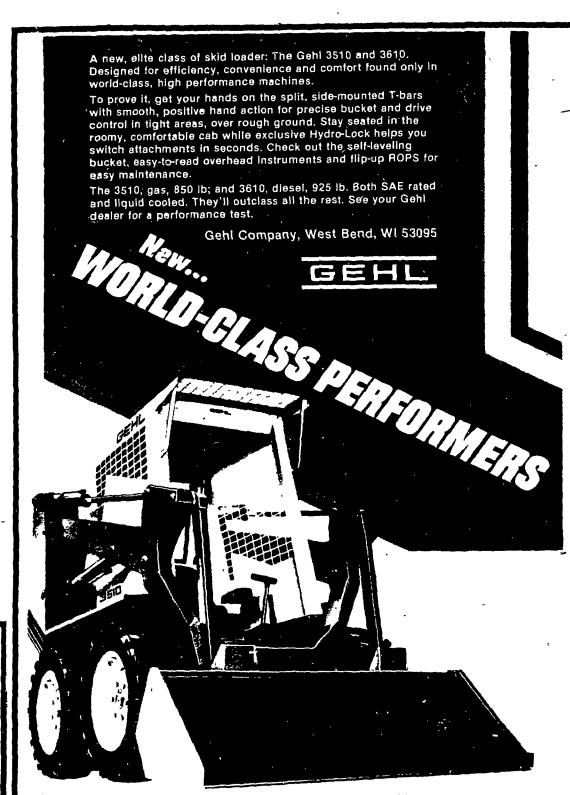
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