New Surge Quarter Take-Off Milker Reported

The Surge QTO or Quarter Take-Off milker, a new concept in milking, has been developed by Babson Bros. Co. Research.

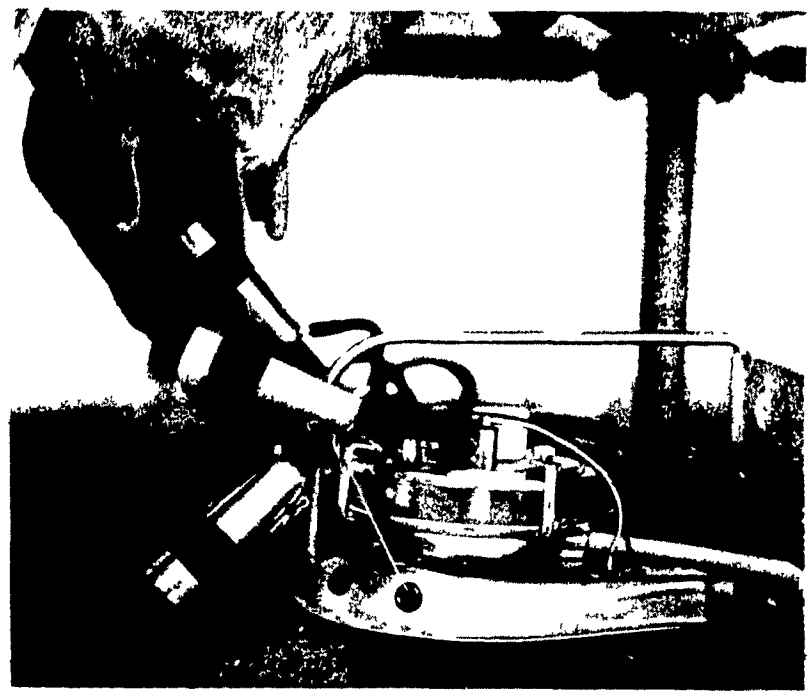
Built around the proven Surge principle of tug and pull and fast efficient milking, the new unit automatically removes the test cup when each quarter is milked out.

Results from almost one million milkings to date show advantages in labor efficiency while maintaining top milk production and good overall udder health.

Babson Bros. Research and Development Department began testing their first automatic take-off milker in 1958. Continuing research on the concept led to the development of the current model.

The milking unit is governed by a solid state electronic control. Individual electrodes sense the milk flow from each teat. When the milk flow ceases, the low voltage sensing circuit is broken which signals the removal of the teat cup.

Actual removal is accomplished when an air powered cylinder draws the teat cup downward. Vacuum is shut off at the stem of the inflation allowing the teat cup to drop off. The operator can check the status of the QTO with the help of indicator lights on a control unit.



With the new Surge QTO milker, each teat cup removes itself automatically when the milk flow ceases. When the flow stops, a pneumatic cylinder is activated, pulling down on the teat cup, shutting off vacuum at the inflation stem, allowing the teat cup to drop off.

"While the QTO is an important part of overall parlor mechanization," states Bob Dawson, product manager for Babson Bros. Co., "it is not recommended as a substitute for capable manpower. Rather, we see the QTO as a tool enabling the competent milker to milk more cows without sacrificing good milking practices."

"Although our field tests were designed to gather data on the new milking concept, we also gained considerable information on the basics of better cow milking," Dawson continues.

"For example, our test data shows the average time difference between first and last quarters milking out to be one minute and fifty-seven seconds. We conclude from this that any automatic take-off device that doesn't operate on a quarter basis will either overmilk the fast milking quarters or do an incomplete milking job on slower quarters."

"Automatic prep-stalls were present in seven of nine test installations," notes Dawson. "The absence of automatic prepping had an effect on operator efficiency and limited the number of cows milked per hour."

Experience gained in field test installations indicates that certain milking parlor designs offer higher operator efficiency. Double row Diagonal stall parlors with six QTO units and double row Sawtooth parlors with eight QTO units per man have milked the highest number of cows per operator, per four.

As high as 68 cows milked per man hour was recorded at one of the field test locations. This figure is based on actual cow milkings and does not include time consumed in switching production groups.

In addition to parlor design, it is apparent that certain support equipment effects cow flow and, therefore, overall efficiency. Some of these are: holding area design, crowd gates, prep stalls, power gates and doors, and design of cow entrances and exits.

The basic concept of the Surge QTO milker is to keep emphasis on both good cow milking and operator efficiency. In the last ten years, dairymen have dramatically increased their output per man hour. Both automation and increased production per cow played a role.

In order to make further progress, research needs to keep both aspects in mind. Since the major cost of milking cows is labor — ranging from 76 to 82 per cent — the labor saving potential of the Surge QTO should be of considerable value and interest to dairymen, Babson officials believe.

Babson Bros. Co. points out that availability of the Surge QTO to dairymen in 1972 will likely be of a limited nature. A 20-page research report covering all aspects of development and testing will be available April 1, 1972. Write Babson Bros. Co., 2100 South York Road, Oak Brook, Illinois 60521.

2 U.S. Dairy Inspectors Retire

The Eastern Area Office of the U. S. Department of Agriculture's Dairy Inspection and Grading Branch has lost through retirement its two top staffers, who have behind them a combined total of nearly 50 years of federal service.

They are: Donald P. Weber, Area Supervisor since 1959, and Arthur H. Kuecker, Assistant Supervisor since 1958.

The Eastern Area Office, part of the Dairy Division, operates inspection and grading servies for butter, cheese, dry milk, and other manufactured dairy products. It covers an area of 16 states from Maine to Florida.

The location of the office has *just been transferred from New York City to Syracuse, N Y., where the new Acting Area Supervisor is Leroy C. Iverson.* The Assistant is Gordon Monson.