

The Effect of Closed Air Admission Holes on the Health of the Udder of Dairy Cows

— By —

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DURING previous experiments carried out on the station herd of dairy-cows (Hopkirk and Palmer-Jones, 1942) it was noted that clinical mastitis seemed to develop following blockage of the air admission hole of the claw. It was decided therefore that two bails in the milking shed should be allotted to two groups of eight cows each for the 1941/42 season, the one group being milked with open air admission holes, and the other with no air admission to the claw. As in the previous season's work, the vacuum was stepped up by increasing from 10in. through 15in. to 19in. From August 18, 1941, to September 15, 1941, the herd was accumulating and the cows as they calved were milked at 10in. vacuum. On September 26 the

herd was divided into the two groups decided upon, taking into consideration prior history and the state of the quarters, and was kept at 10in. vacuum until October 13. On this date the vacuum was increased to 15in. and kept there until January 4, 1942. From this date till May 27, 1942, the herd was milked at a vacuum of 19in.

A weekly examination of the herd was carried out to observe the bacterial flora present, and the quarters were also classified by leucocyte assessment as described in the previous paper. Quarters in class A are free from mastitis, those in class C are affected with clinical or sub-clinical mastitis, while class B are an intermediate group. The results are summarised in the table, which shows the percentage of

quarters in each group which fell into the various classes during successive periods of the experiment. Although there is a tendency for the quarters in class C in the open hole group to increase towards the end of the experiment, there is a steady and much greater increase in the class C quarters in the closed hole group. Very little clinical mastitis occurred in either group, but as class C quarters show a marked tendency to become clinical, it may be concluded that closed air admission holes, especially when milking at high vacuum, predispose towards the development of mastitis. Dairy-farmers are therefore advised to inspect air admission holes regularly and to clear them from obstructions when they are found to be closed.

Reference: Hopkirk, C. S. M., and Palmer-Jones, T. "Mastitis in dairy cows. Bacteriological and leucocytic survey of the laboratory herd through four seasons." N.Z. J. Science and Tech. in press.

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PERCENTAGE CLASSIFICATION OF QUARTERS BY LEUCOCYTE ASSESSMENT.
Open Holes.

| | Prior to Experiment. | 10 in. | 15 in. | 15 in. | 19 in. | 19 in. |
|------------|----------------------|----------------------|-----------------------|--------------------|---------------------|---------------------|
| | 18/8/41 to 15/9/41. | 22/9/41 to 18/10/41. | 20/10/41 to 27/11/41. | 4/12/41 to 5/1/42. | 12/1/42 to 16/3/42. | 23/3/42 to 27/5/42. |
| A. | 67.0 | 57.7 | 50.9 | 47.2 | 40.0 | 21.9 |
| B. | 25.0 | 25.0 | 34.8 | 38.3 | 40.9 | 50.7 |
| C. | 8.0 | 17.3 | 14.3 | 14.5 | 19.1 | 27.4 |

Closed Holes.

| | | | | | | |
|------------|------|------|------|------|------|------|
| A. | 68.2 | 56.1 | 45.3 | 39.6 | 23.3 | 5.6 |
| B. | 20.7 | 20.2 | 17.9 | 32.6 | 30.3 | 33.1 |
| C. | 11.1 | 23.7 | 36.8 | 27.8 | 45.9 | 61.3 |

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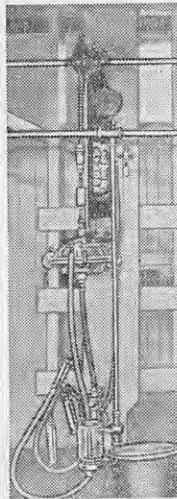


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