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How effective is all this?
This system, when incorporated into most existing facilities (with only minor facility modification), can maintain axenic mice in the gnotobiotic state. The static filter and the cage overlapping effectively keep dust particles—which are the “microbiological taxis”—out of the system. Accordingly, this is really a miniature isolator, an “island,” a protected microenvironment within any macrosenvironment.

Does it really work? Even immune-suppressed mice have been successfully maintained in this system adjacent to mice contaminated with Pseudomonas, Pasteurella, Citrobacter, Aerobacter Klebsiella, and Staphylococcus aureus without any transfer of organisms.

What are the applications of the MICRO-ISOLATOR System?
It’s ideal for the maintenance of a stable limited defined-flora mouse colony... for either animal production or research. It is also a first-rate quarantine housing system because animals from different sources with differing microbiological profiles can be quarantined in the same room without cross-contamination. (The barrier works in both directions: keeps contaminants in or out.)

What are the other advantages?
This caging system is rigid, durable, easy to handle, uses minimal rack space, is easy to sterilize, and because the top fits snugly on a standard 29.2 x 19 x 12.7 cm mouse cage, it doesn’t dislodge when cages are pushed together (the way other filter caps sometimes do).

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Institutions now using this system report that hypoxia is not a problem. Additionally, ammonia level is not a problem if the population density per cage is kept at three to four mice and bedding changed every three or four days... especially when relative humidity can not be well controlled. (Ammonia can be totally eliminated from the colony if defined-flora mice without urease-positive aerobic bacteria are used.)

What else do I need to make the MICRO-ISOLATOR System work?

To effectively maintain the isolation of the animals at all times, cages must be opened and serviced within a Class II Biohazard Hood and aseptically supplied with sterile feed, bedding, and water. (For additional guidance on the use of this system, please consult the references below.)

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References


See also: abstracts of papers Nos. 32 and 35 of papers presented by R. S. Sediacek and R. P. Orcut at 32nd Annual Session AALAS, Salt Lake City, Sept. 20-25, 1981.
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