Versatile collapsible rabbit cage

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Summary

The cage was designed for holding and breeding rabbits, and can also be used for holding cats for short periods. Single cages can be joined back to back: this larger cage can also be used for breeding rabbits, and the longer-term holding of cats. When not in use cages fold into compact units, saving storage space and labour, as many cages may be autoclaved, boiled or steamed at once. Repair, maintenance and replacement costs of the cages are lower than for conventional cages.

With the growing acceptance of international standards for rabbit cage sizes, smaller cages are being replaced by more spacious accommodation. This trend improves the comfort of the rabbit, but increases the problems of transport, storage, cleaning and sterilization. Labour costs already account for some 30–35% of the total cost of a commercially-bred animal (Festing, 1976), so that saving in cleaning time is economically attractive. The cages described here can fulfil a variety of housing functions depending on how the racks are assembled, while being light, easy to carry and to clean.

Materials and methods

Cage body

The 6 panels of the cage are of equal size (50 cm square) to reduce manufacturing costs. The side, door, back and roof panels are made of 2.8 mm diameter galvanised wire mesh, 25 x 50 mm apertures, with the longer dimension in the horizontal plane. Any of these panels could be made of sheet metal or fibreglass if preferred.

The ideal mesh for the floor was difficult to determine, and canvassing many experienced rabbit keepers produced a wide variety of suggestions. Eventually, 2.4 mm diameter flat wire mesh with 19 mm square apertures was chosen, on the grounds that faecal pellets would fall through easily, and if the legs of very young rabbits slipped through the mesh the holes would be large enough to allow the leg to be withdrawn without breaking. Sore hocks have not been a problem with this mesh.

The cage is suspended in a rack, and the side and back panels are connected to the roof by rings which act as hinges when the cage is collapsed.

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Collapsible designs often suffer from a lack of stability when erected. This problem has been overcome by the method of connecting the vertical panels. The back, door and sides each have projecting eyes on the edges near the top and bottom. The only exception is the corner formed by the opening side of the door which is held in apposition to its adjacent panel by the door latch when closed. The eyes of adjacent panels are aligned and secured with a pin of about 40 cm long which holds the panels together by passing through 2 eyes on the side panel and 2 on the door (Fig. 1).

Fig. 1. Collapsible cage showing attachment of adjacent panels by pins and eyes.
The removable floor has projecting lugs which rest on the bottom wire of the side and back panels.

**Trays**

Collection trays for faeces and urine under the cages are 12.5 cm longer than the cage and 6.75 cm wider.

**Racks**

Each rack consists of 4 verticals and horizontal shelves, bolted together so that racks as well as cages can be dismantled for cleaning and storage. The shelves have angle iron supports for the trays and cages. Normally 6 single cages and their trays would occupy a rack.

**Double-sized cage**

The racks can be arranged back-to-back (saving a pair of verticals) and cages joined to form a cage of double the usual depth. (Fig. 2). The back panel of each cage is flipped up and over so as to rest on the top. The pins are inserted through the eyes to connect the side panels of one cage to the side panels of the other. One floor grid is turned through 180° so the projecting lugs do not interfere with those of the apposing floor grid. This double cage can be used for weaner rabbits, as a breeding cage (by inserting a nesting box), or for holding a cat or kittens.

**Accessories**

Detachable sheet-metal urine deflectors, 50 x 16.5 cm, can be hooked on to the wire mesh of the sides, back and door. The food hopper can easily be removed, as it is held in position by a wire loop which slips over the top of the hopper. Lugs on the side of the hopper project through the wire mesh and prevent it moving up or down. Automatic watering nipples are used, with drip-collecting pipes projecting beyond the collecting tray to prevent flooding (Fig. 2).

**Manufacturing and maintenance costs**

The manufacturing cost of the cages and racks compares favourably with more conventional types of rabbit caging. There are significant savings in the costs of storage, cleaning, sterilization and transport, as when collapsed each cage measures only 50 x 50 x 6 cm (Fig. 3).
Maintenance costs are low as worn or damaged parts can be replaced without scrapping the entire cage. An unserviceable side panel for example, can be removed and replaced.

In some cases, the number of verticals (legs) needed can be reduced by bolting the horizontal shelves of an additional rack on to the side of a single rack of 6 cages. In this way 12 cages can be suspended from 6 verticals rather than the normal 8. This ‘adding on’ can be extended as far as space will allow, saving 2 verticals at each junction. There will, of course, be an accompanying reduction in mobility.

Conclusions
This cage and racking system has been in use for over 3 years. It has proved economical and successful for the breeding and holding of rabbits and cats. The labour involved in cleaning cages is less than for standard cages and the storage space required for empty cages and racks has been considerably reduced. Contamination and fouling of the rabbit room has been lessened due to the urine deflectors and the ‘over-size’ trays. In our assessment, the health of the rabbits has improved since the introduction of these cages.

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Reference

Ein vielseitig verwendbarer, zusammenlegbarer Kaninchenkäfig

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Zusammenfassung