A superior method of depopulating end-of-lay hens from enriched (colony) cages

Problem

The egg industry has long practised depopulation by carrying inverted hens by their legs, several in each hand, for long distances from cages to transport modules outside laying houses. This process is aversive to hens and very arduous for catching teams. In view of this, our network was motivated to search for an improved welfare-friendly method of depopulation that would overcome these problems to the satisfaction of workers, producers, processors, welfare groups and consumers.

Solution

A method of moving hens from the house aisles, immediately in front of their cages, was developed, tested and put into practice in large FC houses on two farms. This required the design of a suitable trolley, fitted with four swivel wheels, to convey depopulated hens within existing transport drawers to the transport modules outside. It was essential that this trolley should fit within the aisles and be readily manoeuvrable through and out of the house. Outside a slightly raised platform was required, together with front location plates, to enable the trolley to be closely aligned and docked with the waiting module so that the drawers could be smoothly transferred into it from the trolley using a pushing rod.

Application box

Theme: Depopulating
Production system: Furnished cages
Stock: End-of-Lay hens
Equipment: Specialist trolleys, each to hold 4 drawers, designed to dock with existing transport modules

Benefit – outcome

- Improved wellbeing of hens and catching team.

- Indications of reduced injured and dead hens on arrival at processing plant.

- Catchers liked the new method and it seemed to ease their workload.

- Time to load hens similar to traditional catching method but with potential to reduce with experience of the new method.

- The flat trolley roof can be used as a platform to reach hens in cages on upper tiers.

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Practical recommendation

- Catching teams should receive training to load drawers and move trolleys before using this new method, since all members are required to catch and load hens and to manoeuvre and dock trolleys with modules.
- Those involved in the transfer of drawers to modules should be alert to the need of precise docking, smooth transfer and care to avoid any trapping of hens' heads, wings or claws during the process.
- Sufficient trolleys need to be available and someone in the team needs to check that empty drawers are rapidly fed back into vacant trolleys to avoid any holdup in loading.
- Consideration should be given to additional developments – see next section.

Points to consider

1. The development of a pushing device to transfer all 4 drawers together, full or empty, to and from trolleys to transport modules would be worthwhile. This could speed up loading.
2. If 1 were successful, it should be possible to remove the requirement for strenuous manual pushing by the use of a small pushing machine, or a frame mounted on the front of equipment already in use to move modules; this could further speed up loading.
3. Robotic (possibly pneumatic) means of removing hens from cages and placing them into drawers located in trolleys. This could almost eliminate the difficult and arduous catching of hens in cages.
4. The use of trolleys for depopulating non-cage egg production systems. This would require some sort of rail structure within the house or the pre-clearance of litter from certain areas of barn or aviary systems.

Further information

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For further information on End-of-Lay transport and processing have a look at the HenHub:
www.HenHub.eu

About this technical note and the Hennovation project

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Hennovation project: This technical note was developed as part of the Hennovation project. The project ran from January 2015 to August 2017. The project enabled practice-driven innovation through the establishment of innovation networks of farmers and within the laying hen production industry that were facilitated to proactively search for, share and use new ideas to improve hen welfare, efficiency and sustainability.

Project website: www.hennovation.eu

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