

The recycling and processing method on hatched waste eggshell of goose ⁽¹⁾

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Abstract

The hatched waste eggshell was produced at avian hatching industry, and the waste was also a problem for the industry. The waste could be a resource, if it was processed and recycled. The purpose of this study was to set up an easily process to recycle the hatched waste eggshell. The steps of recycling process include washing, immersing, removing the shell membranes, drying and then smashed into powder. The recovery rate of the recycled eggshell powder was $83.3 \pm 2.9\%$. It means that this process was a useful method for the hatched waste eggshell recycling. The thickness of the recycled geese eggshell and composition of the recycled eggshell powder was also determined. The thickness of the recycled geese eggshell was 0.51 ± 0.04 mm (mean \pm SD). The ash, calcium and magnesium of the recycled eggshell powder was $96.53 \pm 0.05\%$, $38.19 \pm 0.65\%$ and $0.15 \pm 0.021\%$, respectively. Phosphorus and magnesium were not more than 0.2%. The major composition of the recycled eggshell powder was CaCO_3 , and the calculated value of CaCO_3 was 95%. It seems that the recycled eggshell powder can be a calcium carbonate resource.

Key words: Geese, Eggshell, Eggshell powder.

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