# Possible chicken meat production by Ex-Ovo embryo culture system and the application for poultry biotechnology.

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**Objectives:** Chicken meat and egg are one of the most excellent animal proteins. Mass production of poultry meat or eggs have been raising chickens. However, poultry husbandry raising chickens is always at risk of infectious diseases, such as the avian flu. To overcome these problem, experimental challenges has been conducted producing chicken meat within the laboratory using embryo culture system. Chicken strain factors on embryogenesis during the ex-ovo culture was analyzed.

**Materials and Methods:** In the present studies, an ex-ovo culture system using chicken eggshell as a surrogate apparatus has been carried out. The fertilized eggs were collected after oviposition. The eggs were store in an conventional egg storage. The ex-ovo cultures have been performed using white Leghorn (WL) or Barred Plymouth Rock (BPR), respectively. The eggshells were bro- ken and the fertilized eggs were transplanted into the surrogate eggshells. These eggs were cultured in the surrogate egg shells.

**Results and Discussion:** The fertilized eggs off WL and BPR could be developed normally in the ex-ovo culture system using the surrogate eggshells, respectively. However, mortality of the developing embryos from WL has been increased as compared to that of the BPR. In 21 day of the culture, a chick of BPR could be hatched. The hatched chick with good health was obtained from the surrogate egg shell. The chick was raised in the same experimental incubator. The chicken has been raised in health condition. The chicken was slaughtered and the meat and bone were obtained. The meat were cocked as deeply fried. The fried chickens hold nice texture and excellent taste. These results suggested a novel chicken meat production system within the laboratory.

**Key words:** Chicken meat, Eggs, Embryo culture