

Analysis and Development of a Poultry Hatching Machine

Abstract

The egg-hatching machine comprises a several main factors that has been adapted and developed in this machine. The main factors are temperature, humidity, turning orientation and ventilation. The development of the machine without considering these factors will lead to failure or low percentage of hatching success. Therefore, these important factors must be included and adapted to machine. The best temperature for egg incubation is 37.8 °C or 100 °F and for relative humidity is from 55% to 65%. For egg, turning and orientation can be done from 2 to 6 times daily. The angle for turning is from 30° to 90°. The use of forced-air incubation method in this machine instead of still-air incubation had helped to regulate the air and supply oxygen to the eggs in the chamber. Besides considering all factors, other supportive factor that will help to increase the percentage of hatching success also must not be neglected. The supportive factors are location to place the machine, insulation for preventing heat loses and hygiene or cleanliness of the machine. Although these supportive factors are not the main parameter for egg incubation, these factors also need some attention as they also one the keys for hatching success.