

Humidity Control for Ostrich Egg Incubators

Ostrich are large flightless birds. It is the largest living species of bird and can run up to about 70 km/h, the fastest land speed of any bird.

It lays the largest eggs of any living bird. The market value of an Ostrich egg can be as high as US\$1000 to US\$1500 and a fully-grown Ostrich (proven breeder) could fetch almost US\$15000 to US\$20000. Almost every part of the Ostrich – the bones, the feathers, the hide, is commercially viable. Commercial breeding or Ostrich farming is a viable and profitable business in many countries such as Australia, Kenya South Africa, the U.S.A. and even Malaysia.

Ostrich, Kiwi and Emu breeders are increasingly using state-of-the-art hi-tech incubators. Research facilities have been set up to ensure profitable production.

**Effects of Uncontrolled Humidity**

- Poor humidity control in the incubator results in high mortality rate of Ostrich during breeding

Causes of Uncontrolled Humidity

In Ostrich Breeding Areas, the eggs are placed in a holding cabinet for several days. The conditions maintained inside the cabinet are 50% RH at 10°C (50°F) to prevent weight loss. The eggs are then placed in the incubators, in specially designed trays. A batch of eggs takes about 44 days of incubation to hatch. During this period, for effective incubation, strict temperature and humidity control becomes paramount to prevent mortality.

Usually, fresh air is introduced into the incubator, at about 72 CMH (42 CFM) per 100 eggs. This air contains more moisture than what's recommended inside the incubator. Hence, moisture control becomes extremely necessary. Also, the weight loss of the eggs should be controlled during the incubation period to prevent wet, sickly chicks. Accurate, effective humidity control allows for higher hatching potential and quality chicks as they are birds from a semi desert habitat. Air conditioning alone or refrigeration type dehumidifiers cannot achieve such stringent conditions. Ideally, Bry-Air Desiccant Dehumidifier is installed in conjunction with air-conditioner (which maintains the temperature) to maintain the required humidity conditions inside the incubator.

General Recommendation

The optimum incubation conditions for the Ostrich are in the range of 36-37°C dry bulb temperature at 25±5% RH. (Wet bulb temperature 19-23°C)

Bry-Air Solution

“Desiccant dehumidifiers from Bry-Air provide the ultimate in air quality whilst controlling humidity in the incubators.”

The Bry-Air Dehumidifier not only maintains the required humidity level but also ensures cleaner production environment, as the unique desiccant provided in the dehumidifier, selectively filters out bacteria and other spores. As moisture is removed in the vapour phase, no moisture is formed as in the refrigeration process. Therefore, there are no areas of high humidity near cooling coils, and no 'free water surfaces' which can harbor the growth of mold and bacteria.