

YaiKuula saves guinea fowl eggs for hatching

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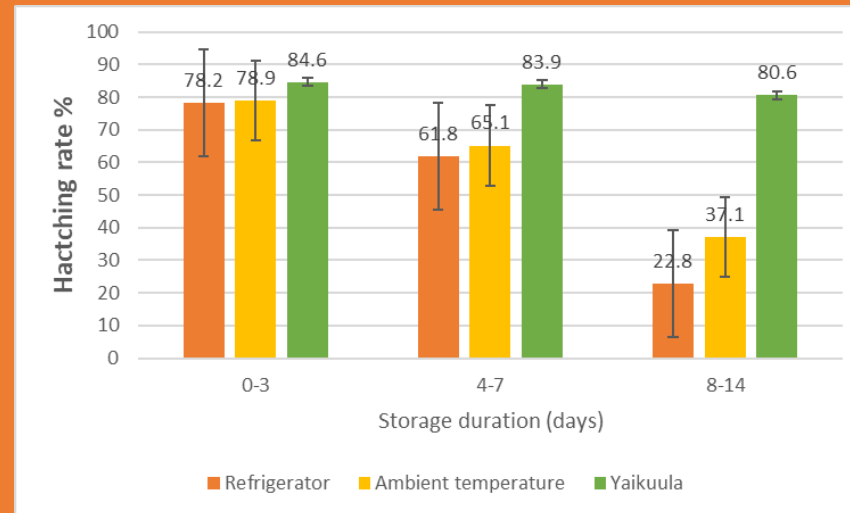
Introduction

- Poor small holder farmers often raise up to 50 heads of fowls, all species and ages combined.
- Guinea fowls lay more eggs than chicken, but are poor brooders and chicken hens are used to hatch their eggs;
- Storing the eggs at high ambient temperature results in losses, lower productivity and profitability. The need was a storage system to maintain viability until a sufficient number is reached for synchronized hatching under natural or artificial means.

Methods

1. A low-cost evaporative cooling device (YaiKuula) was developed and its efficacy test for preserving the viability of eggs for hatchability against two other storage conditions (ambient temperature and electric refrigerator). Three storage periods were tested (0-3, 4-7, and 8-14 days).
2. Viable guinea fowl eggs were simultaneously hatched by chicken hens.

YaiKuula preserves guinea fowl egg viability for hatching by chicken hens, especially for long storage (8-14 days) periods



Results

- YaiKuula storage performed better than both the negatives control (room temperature) and surprisingly the positive control (electric refrigerator).
- YaiKuula storage also outperformed the negative and positive controls with respect to early and late mortality rates. Our preliminary explanation is the comparatively high moisture content associated with the YaiKuula storage environment.

Future opportunities

- Further studies are needed to confirm the role of moisture content in the storage environment.
- Further studies are also needed to determine the best model to integrate the device in community hatchability programs.
- Usability studies are needed to fine-tune the YaiKuula design before rolling it out among the general public.

