Alternative Housing Structure for Livestock and Poultry in Micronesia

Manuel Duguies (Guam: Research and Education Grant)

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Title: Alternative Housing Structure for Livestock and Poultry in Micronesia

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Manuel Duguies, principal investigator for the Western SARE project, feeds chickens in the container van.

Situation

The typhoons that strike Guam and Micronesia as often as two or three times a year, with winds between 50 and 130 miles per hour, can easily blow away structures made of light materials. Buildings for poultry producers are particularly susceptible, which has discouraged many producers from constructing permanent facilities.

Converted container vans could provide the structural soundness that producers need to maintain their chicken flocks.

Brooders raised in a container van

Objectives:

- Study and demonstrates container vans as alternative poultry housing structures
- Demonstrate the impact of such housing on the Pacific region poultry industry
- Encourage producers to revive the poultry industry
- Increase producer awareness about animal welfare
- Produce educational materials about the project in different dialects in the region

Chicks raised in a container van

Actions

In the first year of the project, a 20-foot container van was used to house and raise, from brooding to layer, 50 Brown Nicks (a cross between Rhode Island and White Leghorn) chickens. Dried hay and dried banana leaves were used as litter and bedding material, and 5-gallon plastic pails were used as feeders and waterers. Another batch of Brown Nicks was raised from brooding to layer in typical open pens. Performance of the two batches was recorded and compared at the end of a six-month production cycle.

In years two and three of the study, two 40-foot container vans were added, each housing 100 chickens from brooding to laying for a 20-month production cycle. Production records were maintained and analyzed on feed conversion, growth rate, disease incidence, bird behavior and mortality rate.

The chickens, like these pullets, grew at a uniform rate

Results

The performance of the chicks, from brooding to pullet stage inside the containers was rated as satisfactory:

- Morbidity and mortality rates were within standard performance for poultry houses in the Pacific
- The growth rate of the chicks was uniform
- There was no incidence of disease or behavioral problems

The satisfactory performance carried through to the laying stage:

- The birds began laying at 22 weeks
- Peak production occurred at eight weeks after the onset of laying
- The birds exhibited no behavioral problems

Although no super typhoon struck Guam during the grant period, the results proved that chickens could be raised inside container vans with satisfactory results. It's important that the vans be properly secured to the ground. And temperatures can be lowered inside the vans by cutting back the sides to increase air movement and circulation.

Plastic 5-gallon buckets were fashioned into low cost feeders and waterers

The chickens began laying at 22 weeks

Potential Benefits

The project opened more alternatives for housing in typhoon-prone areas, including condemned school or tour buses. It also showed how plastic containers can be converted to cheaper yet practical means of feeding and watering poultry and that dried banana leaves can be used as bedding for floors and nests, demonstrating how local resources can be used for raising poultry instead of buying expensive imported products