# Different Poultry Housing Options for Chickens to Determine Fastest Growth Rate, Project Number FW19-344

This workshop is possible thanks to a grant from Western SARE, Montana State University

## Workshop 1, July 18, 2020

**Agenda for the day:**

- Introductions
- Initial talk by Julius with topic focuses for the workshop as
    - Raising broilers (from chick to processing for meat)
    - Types of feed and how much to feed
        - Costs of different feeds
    - Different caging options, please see data below for our results
        - Costs of materials
    - Age of processing
    - Locations to purchase chicks
- Construction of 2 WARE caging systems
- Question and answer session

*Refreshments are available throughout the workshop, please help yourself

**Speaker for the day: Julius Ludoviko of J. Ludoviko Farms**

Julius is a well-known producer on O'ahu of broiler chickens which he provides throughout the state to restaurants and direct to consumers. He and his wife, Jaime, run the operation together, along with their children. Prior to working on the farm, both Julius and Jaime worked for non-profits/in the corporate world. They are happy to be producing food for the community along with spend more time as a family. Julius was one of only two people in the state who have a custom except processing facility, something that is needed in the state of HI in order to process broilers for sale to the public. He was instrumental in ensuring that our broilers were processed for this experiment and allowed our ranch and volunteers to see how the process is complete. Julius has years of experience in the industry and is excited to be speaking with you folks today about how to raise and process broilers for meat consumption!

**Double D Research:**

Our research focused on weights of broilers over time. We took weekly measurements of the broilers to see the difference in growth rates between two caging systems. We did this in order to determine if one of the two caging types we used, the Hubbell Bubble (also known as "Large) or the WARE caging style (also known as "Small) had enough of an effect on growth rates in order to prefer one caging type over the other. The small caging type had less room for the broilers to move around in but took up less space and still allowed the broilers to be on grass. The second large caging type allowed for much more space but was very difficult to move and took up a lot more surface area. Both had additional advantages and disadvantages which will be further discussed throughout the workshop.

**Two caging types were used for the experiment:**

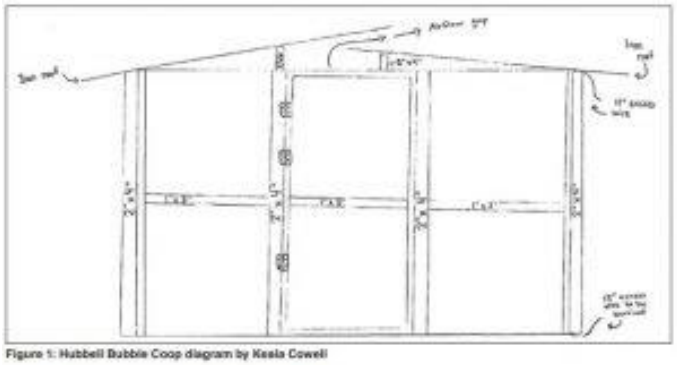
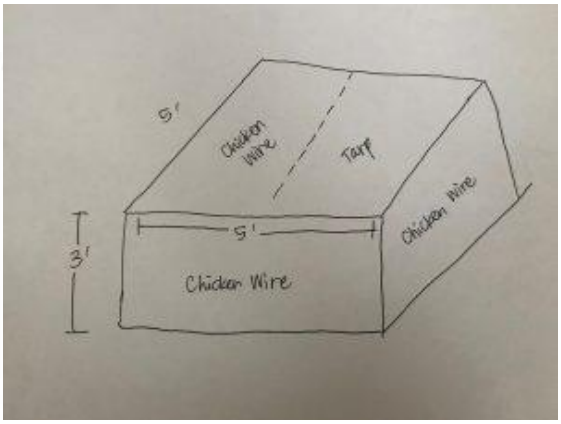


Figure 1: Hubbell Bubble Coop diagram by Kasia Cowell




Hubbell Bubble materials roughly $200 while WARE caging is roughly $100. These figures were at the start of the experiment. Since the COVID-19 outbreak, the cost of lumber has increased, thus increasing the price of the materials for the Hubbell Bubble.

**Additional Initial Costs:**

- Costs of feeders $7/feeder plus shipping minimum
    - One feeder system per 15 broilers
- Costs of watering systems $15/waterer plus shipping minimum
    - One watering system minimum per 15 broilers

**Ongoing Costs:**

- Chicks $2-3, price goes down as number of broilers goes up
- Food $21/bag, each bird will consume roughly 2.5-3 lbs. of feed per lb. gained
    - We chose to work with J. Ludoviko farms for their broiler mix, additional feed types are available, we fed free choice, available 24/7
- Water
    - Cost dependent on location, clean, fresh water needed daily and available 24/7
- Labor (if hiring farm worker)
    - Cost dependent on individual operation

**Results:**

Week 8 Small (WARE) 2/8 Large (Hubbell Bubble) 6/8

| | Round 8 | Round 7 | Round 6 | Round 5 | Round 4 | Round 3 | Round 2 | Round 1 |
|---|---|---|---|---|---|---|---|---|
| Small | 87.3 | 92.9 | 102.2 | 97.4 | 84.7 | 76.4 | 66.8 | 43.7 |
| Large | 99.9 | 99.9 | 108.5 | 88.5 | 94.4 | 91.3 | 85.1 | 39.1 |

Carcass: Small 3/8 Large 4/8 Tie 1/8

| | Round 8 | Round 7 | Round 6 | Round 5 | Round 4 | Round 3 | Round 2 | Round 1 |
|---|---|---|---|---|---|---|---|---|
| Small | 81 | 74.7 | 78.9 | 65.5 | 68.25 | 58.1 | 50.2 | 31.5 |
| Large | 81 | 72.4 | 83.7 | 57.5 | 73.8 | 73.4 | 62.9 | 30.8 |

**Future plans:**

- Create a modified Hubbell bubble with wheels or on a sled
    - Though free range broilers are a ideal, there are so many wild chickens in the area that we would not implement a free range plan on our ranch-in the past our egg layers for personal use were free range and followed wild chickens off the property and didn't return

**Takeaways:**

- Larger caging system harder for predators to enter
- Smaller caging system much easier to move
- Larger caging system showed better growth rates overall
- Larger caging style allows for more movement into shady areas during hottest times of the day
- Larger caging gives more surface area of grasses and weeds
- Chickens who were in the larger caging appeared to have consumed less broiler mix and more grass and weeds
- Chickens in the larger caging system showed less signs of stress during weighing-less vocalizing, less struggle while being picked up, less running away when being picked up
- Economic costs are high so it is important to have a very strategic business plan
    - In order for costs in HI to be viable, must be producing the maximum number of chickens allowed for a custom exempt facility
- Having LGD's greatly helps with predator reduction

**Additional Resources:**

- Full data and results of the experiment can be found on the Western SARE website in the future at: https://projects.sare.org/search-projects/ Type in FW19-344 in the project number box
- Additional projects regarding broilers can be found at that website and typing "broilers" into the project title box