

Duck Breed Trial – 2018

Purpose:

The purpose of this trial is to compare the performance of 2 different duck breeds. We compared the Jumbo Pekin duck against the Grimaud Hybrid Pekin duck, both in pastured settings. The trial is primarily assessing which breed had a better feed conversion rate, and secondarily, other observations concerning raising ducks on pasture.

Overview of Trial:

Mirror Image Farms at Fertrell received 51 Jumbo Pekin ducks (“Jumbo”) and 51 Grimaud Hybrid Pekin ducks (“Hybrid”) from Metzger’s Hatchery on June 13, 2018. Both were fed the standard organic soy-based ration, from Panorama Feeds. We added Niacin to their water through day 30. The ducks were raised in as similar situations as practically possible, and were butchered on July 31, 2018, at 49 days.



Ducks in a shelter. 19 days old.

The ducklings were in the brooder till day 16, when they were moved out to pasture. From day 16 to day 29 they were in 5'x10' shelters, approximately 25 ducks in each shelter. The shelters were moved twice a day to new pasture. On day 29, we moved them out of the shelters and used netting fence to keep each group contained in a roughly 600 square foot area. They were given a structure that provided shade. Every 2-3 days, the whole set-up was moved, to give them new, fresh pasture.

Mortality:

In the brooder, in the first 5 days, 2 Jumbo ducklings died. On day 30, the day after we introduced them to electro-netting fencing, one of the Hybrid ducks got tangled in the netting, and died later that day. (After that incident, we didn't electrify the netting any more.) On day 30, one of the Jumbo ducks died. Total mortality in the Jumbo group was 3 out of 51. Total mortality in the Hybrid group was 1 out of 51.



Ducks in the netting fence, with shade structure. 38 days old.

Trial Results:

Live Weight Averages

	Jumbo	Hybrid
49 days old	7.6 lb	7.7 lb

Carcass Weight Average

Jumbo	5.4 lb
Hybrid	5.5 lb

Feed Conversion

	Total feed	Feed per bird	Feed conversion; finished carcass weight
Jumbo	831 lb	17.1 lb	3.14
Hybrid	802 lb	16.7 lb	3.03

Duck Care and Other Observations:

This was the first time we raised ducks. We learned a lot through observation, trial and error.

Water

We started with our standard set-up for chicks in the brooder; feed trays and 1 gal waterers. Water was the greatest difference between raising chickens and raising ducks. Besides drinking water, ducks need water to clean out their nostrils, towards the base of the beak. They also use it to clean themselves, entirely, dipping their heads or entire body in the water if possible. The ducks would walk between the feeder and the waterer; eating, then drinking and cleaning their beaks, and then back to eating. Their water became dirty very quickly, and made the area around much more wet than with chickens. We were cleaning out wet bedding from large sections of the brooder every other day, and couldn't seem to keep up with their dry bedding needs.



Ducklings using 1-gal waterer in brooder. 3 days old.



Ducklings using 3-gal waterer in brooder. 14 days old.

In the brooder, a few ducks started getting infected eyes. Once we realized they needed to get their entire beak, faces and heads in the water, we kept giving them larger watering systems as they grew. From the shallow 1 gal waterers, we up-sized to 3-gal waterers, which had a deeper tray. Once they went out on pasture, we used trough waterers, which had 3-4" of water in them. In the shelters, we also

used 5-gal jugs, with sections cut out of the wide sides, with about a 6" depth. This gave them even more space to immerse their heads, and the eye infections cleared up at this point. Once they were out of the shelters, and in the netting, the waterer was the bottom of a 55-gal barrel, 10" high, filled by a hose with a float valve. This was the best system we developed, allowing them to drink and clean themselves, but also light enough to easily empty and move.

The water that they washed in was the same water they drank, so they rarely were drinking 'clean' water, since it got dirty so quickly. A 'flowing' system, where clean water is constantly entering, and dirty water constantly draining, such as a stream, would be ideal for this need. In our situation, we frequently emptied out their bottom-barrel waterers 3 times a day.



Barrel bottom waterer on pasture. 31 days old.

Duck Behavior and Trial Limitations

We found ducks to be similar to turkeys in that they roam as a group, and they 'herded' or flocked together when we rounded them up, as opposed to scattering like chickens do. Also like turkeys, they're excellent grazers and forages, eating more grass than chickens.

This leads them to being prime candidates for free-ranging in larger areas than our current netting fence system allows. Since we were running a trial where we needed to keep two groups separate from each other, we kept them in their netting fence, except for brief times when we were moving the netting, feed, watering, and shade system set-up. If we only had one group, we would've given them larger areas to range, which presumably would've increased their forage intake, and also spread out the manure and grazing impact.

Butchering Timing

Plucking the ducks' feathers can be one of the most challenging parts of processing the duck. There are specific times that they have less pin feathers. We butchered the ducks at 49 days old, which is one of those times. The butcher we use was hesitant to help us butcher, but during the process said that these are the easiest ducks he's ever cleaned.

Conclusions:

There was no significant difference in weight or feed conversion between the two different breeds of ducks that we trialed, the Jumbo Pekin and Hybrid Grimaud Pekin. The Jumbo group had a slightly higher mortality rate at 6%, compared to the Hybrid mortality rate of 2%.

Potential Future Changes and Further Questions to Explore

- We spent more labor on the ducks than we do on chickens and turkeys, particularly in keeping the brooder dry, while also offering the water access needed. One way we would like to improve our labor efficiency while meeting the ducklings needs is in building a mobile brooder. The potential brooder, built on running gear, will have open flooring, using the plastic grids used in conventional houses. The food and water will be on the plastic grids, the 'wet' side, so that all the resultant water will fall through the floor. A section of the brooder floor will be covered, so that clean bedding can be at this section, the 'dry' side. The dry side might even be

raised, or have an edge to it, keeping the bedding from spilling into the 'wet' area, and so that the ducks won't track water into it with their feet. The brooder can be moved around, spreading the impact of the manure and water.

The second thing that the mobile brooder would do, is allow for the ducks (or other poultry) to have access to pasture before they've old enough to spend the night outside the brooder. The ducks could leave the brooder during the day and graze and forage, and return (or be chased/herded) into the brooder at night, and in marginal weather.

- With the ducks having such great foraging abilities, we want to improve our system to allow them to forage more, and farther, than our current system allows. In a non-trial setting, we could open up the netting fencing, and allow them to forage in the pasture at large. Hawks and aerial predators may be an issue. However we've found with our other poultry, when we situate them in close proximity to our larger livestock (pigs and cattle), we don't loose poultry to predators. Perhaps we would release the ducks during the day when we're working in the area, and close them up in their netting fence at night. We would like to see the extent of their grazing abilities, and also what type of impact they might have on flies and other pests.



Ducks on pasture. 38 days old.

About the Researchers

Joella Neff along with her husband Tyler Neff, operate a diversified, pastured livestock operation which includes pastured organically-raised chickens, turkeys and ducks, pastured hogs, grassfed beef, and pastured rabbits. They farm 55 acres, including land at The Fertrell Co., where they run side by side farm trials. Joella has her B.A. in Geography from Millersville University. Before farming full time with her husband, Joella worked for a non-profit land preservation organization for 7 years, where she visited over 500 farms on a regular basis, and worked with farmers in land stewardship that included writing Ag. Erosion and Sedimentation Control Plans and Manure Management Plans. Tyler partnered with his father for 10 years in running the family farm that included conventional dairy, crops, and broilers. He then started farming on his own, with a more wholistic, perennial/pasture-based mindset. He planted 4 acres of fruit and nut trees, and began raising livestock on pasture.