

Overview of Pastured and Free-Range Poultry

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Background: In California alone there are a total of 816 commercial poultry producers with less than 3,000 laying hens (CDFA, 2016). While these facilities only account for approximately 192,000 of the over 11 million commercial laying hens in California (i.e. less than 2%), it is important to recognize that the majority of these farms employ non-conventional husbandry practices such as free-range and pastured poultry production as opposed to conventional caged and/or aviary indoor systems.

What is Free-Range? In a general sense, free-range is a loose term for any system that does not use cages and provides access to an outdoor area that is fenced in and may also have some type of netting/fencing over it. Free-range chickens are housed in a stationary indoor space with nest boxes, perches and often unlimited access to the fenced and/or netted outdoor space.

What is Pastured Poultry? While free-range birds can be on pasture, having birds on pasture falls into the category of pastured poultry. Advantages to raising poultry on pasture include reductions in feed cost relative to free-range birds not on pasture and changes in the nutritional content and characteristics of eggs. Specifically, eggs from pasture-raised hens have been reported to have higher levels of omega-3 fatty acids, vitamin A and vitamin E (all thought to be beneficial to human health).

Pastured poultry is similar to free-range with respect to access to the outdoors except the birds are typically housed in a mobile coop with nest boxes, perches and shelter. The mobile coop is mobile because if the coop and the flock were left in the same area, eventually the pasture would be denuded by the poultry. Hence by having a mobile coop you can easily move the coop as necessary to a new patch of pasture and let the older patch recover. In a typical pastured system the birds spend the night in the mobile coop and only have daytime access to pasture. Keeping birds “locked up” at night reduces mortality from wildlife and is therefore more secure than giving your flock “24-7” access to the outdoors. Many mobile coops have slatted floors which allow the manure to drop down to the pasture. While this is ideal from a fertigation perspective, those same slotted floors can also be a port of entry for wildlife which can be predators and transmitters of disease to your flock and their eggs. In addition, poultry often congregate under the slotted floors during the day to seek shade and shelter. If some chickens are also in the coop those chickens often defecate on the birds underneath them increasing the transmission of diseases within the flock. For these reasons solid floors are often ideal. However, if you use slotted floors, consider recommending multiple shade and shelter structures (e.g. trees or man-made structures) near the coop to draw the birds away from the mobile coop. This has the added advantage of increasing the area the birds are defecating in.

As the name pastured poultry implies, you need to have pasture to have “pastured poultry.” While chickens do eat grasses, most of the nutritional value they get is from the seeds and insects in the pasture which are more common in diverse environments. Therefore, if your grass does not have much variety consider reseeding it with a commercial pasture seed mix.

As noted earlier most pastured poultry operations utilize a pasture rotation system to prevent denuding/overgrazing of their pasture and to fertilize the land in a systematic way. While there are no set guidelines as to when or how often to rotate pasture, the simplest rule is to never let the pasture grow below 2 inches. Based on that rule and allowing a minimum of 2 square feet per bird on the pasture you can experiment and develop a rotational system that works.

General Rules: The following are some general rules that can be applied for free-range and pastured poultry management. Note: There currently is no consensus regarding stocking density between the different auditing groups and hence for our purposes we are providing guidelines that are the most inclusive.

The stocking density for the inside of the coop should be at least 1.5 square feet per bird. For outdoors provide at least 2 square feet per bird. However, different private auditors have different requirements

If you use the fertilized land as cropland, it is very important to keep food safety in mind. According to the USDA's National Organic Program (NOP), touch crops, crops that are harvested from the ground (ie. carrots, lettuce), should not have raw manure applied on to them less than 120 days before harvest. In the case of no-touch crops, (i.e. crops that have no direct contact to the ground like fruit trees), they should not have manure applied on to them less than 90 days before harvest. The purpose of these recommended lag times is to avoid bacterial cross-contamination between raw manure and crops that will be used for human consumption.

Wildlife Control: Perhaps the biggest hurdle faced by free-range and pastured poultry producers is wildlife control. Anecdotal and survey based observations indicate that predation is the number one cause for mortalities in these systems. Consider the following preventative measures

- Using hardware cloth (less than or equal to 1/4in. wide) instead of chicken wire for fencing Hardware cloth is thicker and more difficult for wildlife to break through
- For permanent fencing, two to three feet of hardware cloth can be dug underneath the ground for extra protection. This makes it harder for predators to dig under your fence. In addition, apply gravel where the fence line meets the ground (6 inches deep and across).

Big picture remember that fences are only as strong as their weakest link. So for example, if you have a gate that has a gap between the bottom of the gate and the ground you should realize that wildlife will find it and use it.

Provide multiple shade options including trees and man-made structures. These structures encourage your birds to graze over more land and provide shelter from aerial predators (ie, hawks and owls).

While netting and fencing can help keep wildlife out, a combination of management practices is really needed to optimize predator and pest control. After all, like with other aspects of poultry ownership, there is no silver bullet for wildlife control. Therefore, other options to consider include.

Devices that use reflective material such as wildlife repellent tape, scary eyes and terror balloons can scare other birds and some predators as well.

Coyote/fox decoys can scare off wildlife such as waterfowl (avian influenza reservoirs). However, adaptation to these decoys has been reported. Therefore, it is important to move them around regularly and maybe even take a break from using them.

Electronic bird repellents use bird sounds to scare off other problem birds. Usually they come with some sort of random order mode to prevent adaptation to sounds. They were originally used for vineyards but have been helpful in other animal operations.

While the above recommendations can be used in free-range or pastured poultry operations the use of portable electric fences are often used in pastured systems to outline the borders of a new pasture specific to where the mobile coop has been moved. The goal here is to fence off an area of at least 2 square feet per bird and to mitigate wildlife intrusion. Keep in mind that this kind of fence is less than ideal in that it doesn't keep all wildlife out but it can help keep larger predators out of the grazing area.

Free-range and pastured poultry farming are becoming more common for backyard enthusiasts and commercial producers alike.