



A Management Program for Raising Breeder Duck Flocks

All domestic poultry, including waterfowl, should be maintained on a quality commercial type feed. Feed quality, the amount of feed consumed, and the rate of body weight gain are extremely important in determining the rate and number of eggs produced. In the past, breeder ducklings raised on a restricted diet with specific target weights with age had superior egg production characteristics over breeder ducklings given feed continuously. A restricted or limited diet controls the nutrient intake to prevent the gain of excess body fat. Excessive body fat in hens interferes with the function of the reproductive tract. The reproductive tract can actually be blocked or pinched off as abdominal fat increases. Recent work with breeder Pekin ducklings has shown that overweight hens on the average produce approximately 20% fewer eggs than feed restricted hens during a typical laying cycle.

Recommended body growth rates and feeding schedules for young breeder ducklings are shown in [Table 1](#). Feed in [Table 1](#) is calculated as pounds of feed per 100 ducks. A developer diet ([Table 2](#)) should be fed until the ducks begin to lay eggs. After egg production commences, a breeder diet should be utilized.

The amount of feed in [Table 1](#) may have to be adjusted according to the environmental temperature. During a severe cold spell, an additional 2-5 pounds of feed per 100 ducks may be required to maintain adequate growth or egg production. The drakes may have to be temporarily separated to achieve optimum body weight gain for both sexes. Drakes tend to be very aggressive in feeding behavior which can result in uneven feed consumption and weight distribution among hens and drakes. Be sure to have enough feeding space to reduce competition at feeders.

Since drakes are aggressive, they can often injure or even kill hens. Thus, a large number of drakes is not necessary to maintain a quality breeding flock. A ratio of four to one or five to one hens to drakes should be adequate to maintain fertility.

The reproductive performance of ducks is regulated by the length of daylight. Lighting programs generally use a combination of natural daylight and artificial lights to stimulate and maintain egg production and fertility in breeder flocks. Lighting schedules for replacement and recycled duckling breeder flocks are discussed in the following sections.

Replacement Flock

Hatching of breeder replacement flocks should be in June or July to rely on naturally decreasing daylengths in the following weeks. These ducklings should be raised separately from older breeder flocks to ensure proper nutrition, disease control, and lighting management. A good rule of thumb to follow is never grow-out young breeder birds on naturally increasing daylengths (Dec. 21 to June 21) or constant long daylengths using artificial lights (ie. 14 or 16 hours of light per day). When ducklings are hatched in June

or July, use natural daylight until the ducklings are 22 weeks of age and then turn on the time clocks for the artificial lights to extend the light per day to 14 hours (photostimulation). At 24 weeks of age increase the daylength to 16 hours of light per day. If you are located in a section of the country which has a natural daylength longer than 16 hours, set the time clock to match the longest natural daylength. After sunset, one footcandle of artificial light intensity at the height of a duck's head is adequate to stimulate and maintain egg production. One footcandle is actually very dim light. If you held this document at arm's length under one footcandle of light, you would barely be able to read it.

The purchase of a good commercial duckling feed for the breeder flock is highly recommended. A developer diet ([Table 2](#)) is required until 22 weeks of age and then switch to a layer feed. The main ingredients of the developer diet (15.5% crude protein, 1330 Kcal/lb metabolizable energy (ME), and 1% calcium) are adjusted to promote growth of the skeletal and muscle systems. The concentrations of ingredients in the developer diet aid to prevent excess feed consumption and unnecessary body fat gain. As shown in [Table 2](#), crude protein and calcium are increased in the breeder or layer diet to supply the additional needs for egg production. Give newly hatched ducklings continuous feed for one week.

Recycling a Flock

If the intent is to recycle, the following steps are recommended. In November or December, turn off the time clocks for the artificial lights to completely switch to natural daylengths. In December the natural daylength is at its shortest length (remember that reproduction is stimulated by long daylengths).

Completely remove all feed (sweep the troughs clean) from the breeder flock, but give ducks full access to water. The goal is to induce a molt and reduce body weights by 30%. About 50% or slightly more of the flock will drop most of their primary feathers. Take an average body weight after one week and again at nine days after feed removal. Either extrapolate with a weight loss curve over time or continue taking an average body weight every two or three days until a 30% decrease in body weight occurs. Some mortality may occur during the recycling period due to diseased birds. After the 30% body weight loss occurs, give the flock 27 pounds of molt diet feed ([Table 2](#)) every other day and follow the feeding schedule in [Table 3](#). The crude protein and ME of the molt diet will maintain the recycled ducks' musculature and body size. The level of calcium (2.5%) in the molt diet is adjusted to replenish body reserves. When egg production commences, switch to the breeder diet.

The daily lighting program is very important during recycling of the breeder flock. After the flock has molted and given feed again, note the daylength of the natural day. Increase that length of daylight by 30 minutes per week using time clocks and artificial lights. This is called a step-up lighting schedule. Alternate the increase in daylength each week from the morning to the afternoon. In other words, increase the daylength by 30 minutes in the morning one week and again increase the daylength by 30 minutes in the evening during the next week. Do not exceed 16 hours of light per day unless you need to match a longer daylength in your area. Again, one footcandle of light intensity should be adequate. Follow this lighting schedule until the first egg appears. Switch to the breeder diet and increase the daylength to either 16 hours of light per day or to the longest natural daylength in your particular area. Follow the feeding schedule shown in [Table 3](#) for a recycled flock.

Keep in mind that the performance of your breeder duck flock depends upon the management programs you practice. These guidelines should enable the typical breeder flock to maintain quality egg production from one to two years.

Table 1

Mallard, Muscovy, and Pekin Duckling Target Weights and Feeding Schedule

	Weights (lbs.)		
Age (weeks)	Females	Males ¹	Feed (lbs./100 ducks)
0	0.12	0.13	Continuous ²
1	0.20	0.25	13 every other day
2	0.50	0.55	13 every other day
3	1.00	1.10	15 every other day
4	1.80	2.00	15 every other day
			17 every other

5	2.10	2.25	day
6	2.70	3.00	17 every other day
7	3.50	4.00	21 every other day
8	4.54	5.00	21 every other day
9	4.73	5.20	23 every other day
10	4.87	5.43	23 every other day
11	5.02	5.69	24 every other day
12	5.16	5.74	24 every other day
13	5.31	5.90	24 every other day
14	5.46	6.10	24 every other day
15	5.53	6.25	24 every other day

16	5.63	6.35	24 every other day
17	5.71	6.43	24 every other day
18	5.80	6.53	24 every other day
19	5.88	6.72	24 every other day
20	5.97	6.91	24 every other day
21	6.07	7.00	24 every other day
22 Begin 14 hours/light/day	6.18	7.14	25 every other day ³
23	6.26	7.23	25 every other day
24 Begin 16 hours/light/day	6.35	7.32	27 every other day
25	6.42	7.40	27 every other day
26	6.50	7.50	32 every day

27	--	--	32 every day
28	--	--	36 every day
29	--	--	36 every day
30	--	--	40 every day
31	--	--	40 every day
32	--	--	40 every day
33	--	--	40 every day
34	--	--	40 every day
35	--	--	40 every day
36	--	--	40 every day
37	--	--	40 every day
38	--	--	40 every day
39	--	--	40 every day
40	--	--	45 every day
41	--	--	45 every day
42	--	--	45 every day

43	--	--	45 every day
44	--	--	48 every day to end of laying cycle

¹ Pekin or Mallard males will be slightly lighter than Muscovy male weights shown in this table.

² Developer diet

³ Breeder diet

[Back to Top](#)

Table 2	
Basic Diets for Breeder Ducklings	
Developer	
Nutrient	Amount
% Crude protein	15.5
Metabolizable energy, kcal/lb.	1330
% Calcium	1.0

% Available phosphorous	0.5
% Lysine	0.72
% Methionine/Cystine	0.51
Breeder	
Nutrient	Amount
% Crude protein	19.0
Metabolizable energy, kcal/lb.	1300
% Calcium	3.3
% Available phosphorous	0.42
% Lysine	1.0
% Methionine/Cystine	0.66
Molt Diet	
Nutrient	Amount

Metabolizable energy, kcal/lb.	1300
% Calcium	2.5
% Available phosphorous	0.45
% Lysine	0.73
% Methionine/Cystine	0.60

[Back to Top](#)

Table 3

Target Weights and Feeding Schedule for Recycled Duck Flock

	Weights (lbs.)		
Week after 30% Weight Loss	Females	Males	Feed (lbs./100 ducks)
1 Begin molt diet			27 every other

and step-up lighting schedule	6.35	7.32	day
2	6.42	7.40	27 every other day
3	--	--	32 every day
4	--	--	32 every day
5	--	--	36 every day
6 Switch to layer diet at first egg and increase daylength to 16 hrs.	--	--	36 every day
7	--	--	40 every day
8-16	--	--	40 every day
17-20	--	--	45 every day
20	--	--	48 every day
21	--	--	to end of laying cycle

Prepared by
Gary S. Davis and Ken E. Anderson, Extension Poultry Specialists
North Carolina State University
11/91 PS Facts #10

[Back to Top](#)



[Site Map](#) | [NC Cooperative Extension](#) | [NC State](#)

Last Modified: May 29, 2007
Questions/Comments to [Webmaster](#)