

Guide for Poultry Raisers

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If you keep a poultry flock and aim to make money on it, your success will depend on efficiency in producing high quality eggs and meat.

To make your investment pay out, and to give you a fair return for your labor, your flock should be 250 hens or more.

This circular outlines the basic requirements for a successful poultry enterprise. It does not give you many of the production details you'll need to know. But you can get this additional information in the form of many state and federal publications that are available to you. A list of some of these is included at the end of this circular.

It is important that you keep your poultry operations flexible enough to make use of the latest practical research results. Experiment stations in North Dakota and other states, as well

as the U.S. Department of Agriculture, are bringing out new information on poultry problems regularly. You will be money ahead to keep informed on these developments.

Following are the recommendations of North Dakota Agricultural College:

YOUNG STOCK.

1. Secure production bred chicks backed by breeding for egg production from a hatchery operating under the National Poultry Improvement Plan. Chicks should be from hens that are pullorum-typhoid passed or from pullorum-typhoid clean flocks.
2. Get your chicks early--February, March, or early April.
3. Get chicks from hatchery near your home. This means less disease hazard and assures good stock.

EXTENSION SERVICE

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BROODING AND REARING EQUIPMENT

1. Brooder house should be tight and insulated for early brooding; open enough for warm weather brooding.
2. Stove and hover may be gas, oil or electricity (follow manufacturer's instructions). However, do not brood over 350 chicks per hover.
3. Use an accurate thermometer. Keep temperature 93 to 95 degrees, 2 inches from floor at edge of hover for first week. If weather allows, lower heat 3 to 5 degrees each week until down to 65 degrees, or until chicks no longer need heat. Keep a thermometer on wall to check house temperature.
4. Brooding space should provide 1/2 square foot per chick to 6 weeks; 1 square foot per chick to range age.
5. Feeder space - up to 4 weeks of age allow 1 linear inch of feeder space per chick: 4 to 12 weeks of age, 2 linear inches feeder space per chick: 12 weeks to maturity, 3 linear inches feeder space per chick.
6. Water space
Two quart-size jar type waterers per 100 birds for first 3 weeks. Have at least 4 per conventional hover unit.
3 to 12 weeks, the two 3-gallon fountains.
On range, one large 8-gallon fountain per 100 birds, or fountains or troughs fed from water line or barrels.
7. Chick guard - paper, wood or metal to prevent drafts and to keep chicks from straying. Use for first 5 to 7 days.

RANGE EQUIPMENT

1. Range shelter is needed to protect against predators and elements.
2. Shade is needed for rest areas during hot days.

FEEDING

1. Growing chicks need 20 to 21 percent protein in ration to 8 weeks. Then reduce the protein so from 12 to 24 weeks the ration averages about 16 percent protein.

APPROXIMATE AMOUNT OF FEED CONSUMED BY 100 PULLETS

Age-Weeks	Pounds per Week	Accumulative total
1	10 pounds	10 pounds
2	20 "	30 "
3	30 "	60 "
4	40 "	100 "
5	50 "	150 "
6	60 "	210 "
7	70 "	280 "
8	80 "	360 "
9	90 "	450 "
10	100 "	550 "

After tenth week increase in feed consumption will be about five pounds per week (11th week 105 added to 550 = 655 - etc.)

The following table gives approximate pounds of mash and grain per 100 pullets from 0 to 24 weeks of age.

	Mash	Grain
0 to 4 weeks	100	-
4 to 8 weeks	234	26
8 to 12 weeks	285	120
12 to 24 weeks	855	855
	1,474 lbs.	1,001 lbs.

2. Good tender grass range does much to reduce the use of the high protein mash. Grass is effective in keeping your flock healthy, disease-free.

LAYING STOCK

Profit you get from laying hens depends on many factors. The following need the most attention from the average farm poultryman:

HOUSING

1. House should be tight, free from drafts and have an adequate ventilating system.
2. Window space should be at least 1 square foot of glass for each 15 square feet of floor space.
3. Floor space 2-1/2 to 3-1/2 square feet per hen.
4. Roost space 65 to 75 linear feet depending on breed.
Roosts should be spaced 12 inches apart.
5. Feeder space--at least 3 linear inches; preferably 4 inches per hen. Provide hoppers for free-access to grit and oyster shell.
6. Water space--at least one 8-gallon waterer per 100 hens. Where automatic float or continuous flow waterers are used, one for 200 hens.
7. Nest space--20 individual nests or two 2-foot by 4-foot or one 2-foot by 8-foot community nest per 100 birds.

● REPLACEMENT OF LAYERS

1. 100 percent replacement of hens each year is recommended for all breeds.
2. Provide temporary housing for yearling hens at pullet housing times. Keep old hens until molt before selling in fall. This gives you more big eggs when eggs are high in price, yet permits 100 percent replacement of old hens.
3. House pullets early, when they reach 5 to 10 percent production.

● LIGHTS FOR LAYERS

1. Use lights to bring pullets into egg production and to stimulate continuous production.
2. Provide 13 to 14 hour light day--use lights either morning or evening, or a combination of morning and evening light.
3. Use a timer control for lights.
4. Use one 60-watt bulb for each 200 square feet of floor space.
5. Locate lights above waterers and feeders.

● PRODUCTION RATE

1. Rate of lay should be 65 percent or better.
2. Eggs per hen per year, at least 200.
3. Keep death loss down, not more than 12 percent.
4. Low mortality and high rate of lay mean more profits for you.

● CULL NON-LAYERS

Cull to eliminate non-layers. Continuous culling is advised. Cull close during early summer months.

● CANNIBALISM

1. Debeak chicks at 7 to 14 days. Debeaking is the only cure.
2. Debeak pullets when put into laying house.

● FEEDING

1. A laying hen needs a complete ration containing at least 15 percent protein for maximum egg production.

2. Figure how much grain and mash are needed with this Pierson square.

Mash-20 percent protein	ration 15%	5 lbs. mash 1.1 ratio
Grain-10 percent protein	protein	5 lbs. grain
Mash-26 percent protein	15	5 lbs. mash 1.2 ratio
Grain-10 percent protein		11 lbs. grain

3. Average yearly feed consumed by hens of different weights and egg production:

Eggs laid in year	4 lbs. hens	5 lbs. hens	6 lbs. hens	7 lbs. hens
0	57	65	73	81
50	64	72	80	88
100	71	79	87	95
150	78	86	94	102
200	86	94	102	110

4. Average amount of feed used per day and per dozen eggs by 100 hens at different weights and egg production.

Eggs per 100 hens per day	Feed for 4 lb.hen		Feed for 5 lb.hen		Feed for 6 lb.hen		Feed for 7 lb.hen	
	per day	per doz eggs	per day	per doz eggs	per day	per doz eggs	per day	per doz eggs
0	15.6	----	17.8	----	20.0	----	22.2	----
20	18.5	11.1	20.7	12.4	22.9	13.7	25.0	15.0
50	22.8	5.5	25.0	6.0	27.1	6.5	29.3	7.0
60	24.2	4.8	26.4	5.3	28.6	5.7	30.8	6.2
70	25.6	4.4	27.8	4.8	30.0	5.1	32.2	5.5
80	27.0	4.1	29.2	4.4	31.4	4.7	33.6	5.0
100	29.9	3.6	32.1	3.9	34.3	4.1	36.5	4.4

FLOCK HEALTH

Sanitation - Clean and disinfect buildings and equipment before using for new stock. "An ounce of prevention is worth a ton of cure".

Isolation - Sparrows, rodents, equipment, new stock and people may carry and spread disease and parasites. Keep young stock on rotated ranges and completely separate from the adult flock.

Ventilation - Many diseases require filth and moisture to thrive. Dry, but not dusty, houses cut down disease problems.

Medication - Various medicines are available for use in water and feeds. Most are used for immediate control, but do not use continuously as a substitute for good disease-control management.

●CONTROL OF LICE AND MITES

Insect	Insecticide	Concentration	How to apply	Time to apply
<u>Body Louse</u>	Lindane 20% emulsion Lindane 25% wettable powder	3 pts. per 5 gallon of water 2 lbs. to 5 gallons water	Spray over wall, roosts, nests & litter. as above	as needed as needed
<u>Red Mite</u>	Lindane 40% nicotine sulfate creosote & wood preservatives	as for lice as directed on container	as for lice paint roosting areas paint roosting areas	as needed twice 14 days apart once or twice a year
<u>Northern Fowl Mite</u>	40% nicotine sulfate *sulphur	as for red mite 2 lbs. per 100 sq. ft. of floor space	as for red mite mix in floor and nest litter	as for red mite Repeat when needed

*Will not work if temperature of house is below 50 degrees F.

PRODUCE AND MARKET QUALITY EGGS

●PRODUCE CLEAN EGGS

1. Use clean nesting material
2. Gather eggs 2 to 3 times per day (more if necessary).
3. Confine hens from housing time until sold.

●MAINTAIN EGG QUALITY

1. Gather eggs in wire baskets.
2. Cool eggs in cool, moist basement, or in egg cooler.
3. Sell eggs at least twice a week.

●SELL QUALITY EGGS

Sell your eggs on a graded basis if possible. The increased average return is worth the extra effort.

●NORTH DAKOTA AVERAGE EGG PRICES

(U.S. Department of Agricultural Marketing Service)

1949 - 36.5 ¢
1950 - 28.7
1951 - 36.1
1952 - 30.5
1953 - 36.0
1954 - 26.7

North Dakota Agricultural College Circulars
(Available from Information Dept., NDAC,
or county agents)

- A-100 Range Shelter for Chickens
- A-140 More Money for Eggs
- A-146 Cannibalism - Its cause and Prevention
- A-151 Feed Your Layers Right (revised 1953)
- A-176 Cull Your Hens
- A-189 How to Clean Eggs
- A-201 Brooding Strong Chicks
- A-202 Proso Millet for Hens and Turkeys
- AE-36 A Poultry House Plan

Farmers Bulletin, No. 1524 (Available from U. S. Department of Agriculture)