### OREGON STATE AGRICULTURAL COLLEGE

#### EXPERIMENT STATION

J. T. Jardine, Director.

Circular of Information No. 41

Breed

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The breeding work carried on by the Poultry Department has required the formation of a system of pedigree records suitable for the orderly recording of all important data. The present circular describes this system. Few private poultry breeders would be justified in using a system as detailed as this one, but it is thought that any breeder can, by the elimination from the College system of such parts as he may not need, evolve a system of his own that will well care for the particular kind of work he may be doing.

### The Numbering and Lettering of Bands

All bands contain a letter and a number as: A27, H95, K24, L1358, etc. The letter indicates the year in which the bird was hatched. A = 1910, B = 1911, H = 1917, K = 1920, M = 1922, etc. The number designates the various birds hatched in any one year. K24 indicates bird number 24 hatched in 1920; K30 indicates bird number 30 hatched in 1920, etc.

All birds are both leg banded and wing banded. In order to differentiate between these two series of band numbers, the letter is placed before the number on the leg bands and after it on the wing bands. Thus K24 is a leg band while 341K is a wing band. As will be explained later, in our system there is no fixed numerical relation between the wing and leg band numbers on any one bird.

## Breeding Book

BREEDING BOOK

The Breeding Book is that record which shows which individuals constitute each breeding pen each year. It is made up upon the following form.

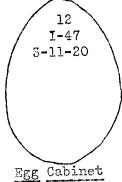
Hen No.	Record	Body Wt.	Egg Wt.		Dam	Record	Body Wt.	Egg Wt.	or to	2	Body Wt.	Sires Dam	Record	Body Wt.	Egg Wt.
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Commencing at the top of the page the hens are listed alphabetically and numerically in the leg band series (H133, H134, I53, I195, I196, J68, J136, etc). On the remaining columns are filled in as indicated by the column heads.

Near the bottom of the page a record is made of the male or males mated to the hens given at the top of the page. If only a yard mating is being made, this arrangement is all that is necessary. If stud mating is practiced in the yard, it is necessary to add an additional column to the right and place opposite each hen the number of the male to which she is mated. In either case the pedigrees of the males are given at the bottom of the page in the proper columns.

### Marking Eggs

When hatching eggs are saved from any breeding pen, they are marked with the yard, hen numbers, and date as follows:



The egg cabinet is a large chest of drawers so divided into slots that there is a separate slot for the eggs of every hen. The edges of the drawers are marked with the hen's numbers, said numbers being arranged in the same alphabetical and numerical sequence used in the Breeding Book. As will be seen later, it is important to preserve this same sequential arrangement of hens or eggs wherever listed.

## Incubation Record

When it is desired to set, the incubator trays are taken to the cabinet and filled, an accurate record of the eggs set being entered in the first two columns of the following form:

Orego	on Ag	ricu	ltur	al Col	lege	and	Exp	perin	nent	Station	- Poultry Depa	rtment
						IN	CUB.	ATIOI	N REC	ORD		
Incul	pator	No.	gan hijiday gana	agrice date - colpressor de la color	Name	of	Inci	ıbato	r	ggang and the second	Attendant	ng canhain alban daha ang angar ng kanata an an alban ng talah
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Pen	•	P I redução como como com	E	ggs	Marity is a Proping to support					Chi	cks	
Eggs from		Т		d Out	Je	п	ng	ed	les	n.i	Wing Band Nos. Given	Remarks
HEN No•	Set	Inf.	D.G.	D.G.	% Fertile	Broke	or Missing	Hatch	Cripples	Dea <b>d</b> Shell		
							***************************************					
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The eggs are then incubated in the usual manner. Those tested out as Inf(ertiles) or D(ead) G(erms) on the 7th or 14th days, are recorded in the columns provided for that purpose, as are also any that are broken.

On the 18th day, the eggs remaining are placed in pedigree compartments; that is, the eggs from each hen are placed in separate wire containers so made as to fit into the incubator trays. In order to make certain of identifying the resulting chicks, a small tag is placed on each compartment, giving the yard, hen number, and number of eggs placed therein.

It is important to place the eggs in the pedigree compartments in such order that the resulting chicks are pedigreed in the same order that their Dams appear on the Incubation Record. This procedure will be found to be not quite so economical of space in the incubators as placing in the eggs without regard to sequence, but it has such a simplifying effect upon all of the following office work that it is well worth while.

When the hatch is over it is necessary to band each chick as it is taken from the pedigree compartment. The number given each is recorded in the proper column of the Incubation Record. These bands are wing bands, though our practice is to place them on the leg at first, transferring to the webb of the right wing at the age of three to five weeks.

### Chick Pedigree Book

The chick Pedigree Book is a list of all chicks in any one year, they being arranged in the numerical sequence of their wing band numbers. This list is made out upon forms having the following arrangement:

					CI	HICK Ye	PEDIGI ar	REE B	00K		
Wing Band	Leg Band	Sex	Dam	Eggs lst Yr.	Iggs Weight	Sire	Sire's Dem	Eggs 1st Yr.	Igg Weight	Date Hatched	Remarks
						स					

The wing band numbers, date hatched and dam, used in the above form are obtained from the Incubation Record. The remaining pedigree material comes from records which will be explained presently. The Chick Pedigree Book is indispensable in sorting or culling young stock.

### Leg Banding

In the fall the pullets are placed in the laying yards. They are leg banded for convenience in trapping, the band number given being entered into the proper column of the Chick Pedigree Book.

The only males ever leg banded are those actually used in the breeding pens. These are banded so that pedigrees can be written and contain only numbers of the one series, the leg band series.

### Egg Record

For each yard or pen, whether pullet or adult, monthly Egg Record sheets are made out upon the following form:

House No. Variety	OREGON AGRICULTURAL COLLEGE Poultry Department	D - Dead B - Broody
Month Year	EGG RECORD	0 - Taken Out M - Moult Began
Test.	ed Recorp	X - Broken Egg
		R - Returned
		SS - Soft Shell
		V - Double Volk

Hen No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	3/	Monthly Total	Total Forwid	7, 0	Began	Laying
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All hens in the yards are listed on these sheets, being arranged in the usual alphabetical and numerical order. As the hens are trapped their records are recorded upon the proper line of these sheets. At the end of each month the sheets go to the office.

# Annual Egg Record Book

For each hen each year there is made out and kept in the office, a page in the Annual Egg Record Book. This page has the following form:

Pen No.

Hatched

Adult Brand No.

Year

Breed

Wing Band No.

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		Tot	als	
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Upon this sheet are recorded the eggs credited on the monthly Egg Record for each hen. These sheets are placed in loose leaf binders each year, and are arranged in those binders, according to yards. At the end of the laying year, the eggs are totaled and entered under "Remarks" and also upon the Summary Card for Bird.

## Summary Card for Bird

For every bird there is a Summary Card which contains much information about the individual for which it is written, and also serves as an index by containing the page numbers of other records which contain more data about the same individual. This record has the following form:

	regon Corv		Orego			reed .		•••••	Leg Band	•••••
	SUMMAR	Y CARD	FOR I	BIRD	S	ex	• • • • •	• • • • • •	Wing Bar	ıd
(ear		uction  Total		of Sird	Egg Wt.	Bird Ya <b>r</b> d		Mating No.	Pedigree	(S
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2									-	( ( D
3									(6	(
4									(S,	(
5										( (S
6			_							(D(
7					-				- (	(D
8										(S
9	-									(S( (
lO Dispo	sition	•	•		шуш, махионаружанайн өзгөч				(D	( (D (
Date Remar										( ( (S
Pr	oducti	on		1	Egg Wt.			Tatch .		(D(
E-L	N-B	F-S	C-P	A-Q	T-0	<u>  W-1</u>	J	H-D		(D
				1						

These sheets are placed in loose leaf binders by years. That is all the A's are in one book (being therein arranged in numerical order), all the B's in another book, etc. This makes it possible to turn directly to any number desired without knowledge of the yard, sex, breed or anything but the number.

The first six columns contain data that are self-explanatory. The columns headed "Yard" and "Year" contain the data necessary for the immediate location of the individual's Annual Egg Record sheet for any particular year, as in the record the sheets are filed by yards. The column headed "Mating No.", refers to the mating cards which will be discussed presently.

The pedigree given at the right of the page is of great value in writing pedigrees. Knowing the sire and dam of any chick, one can turn directly to their pedigrees and from them quickly write the pedigree of the chick.

The symbols and spaces in the lower left corner provide a place for recording data concerning the five egg production factors, the egg weights, body weight, and hatchability factors as they are used in our breeding project. An explanation of these symbols and their use follows:

- E-L. E stands for early maturing while L denotes late maturing, the division being set at 200 days of age to first egg in the case of Rocks and 185 for Leghorns.
- N-B. N means non-broady while B denotes broady. Sometimes the B is followed by a figure as B-2, the figure denoting the number of times the bird went broady.
- F-S. F and S stand respectively for fast and slow and refer to the rate of lay. The birds which laid 22 or more eggs in any calendar month of their first year are said to have a fast rate while those laying 21 or less are slow.
- C-P. C denotes that a bird laid continuously from date of first egg through March 1st. P means that a bird took a pause of 10 days or more during that period. A number following the P shows the number of pauses taken.
- A-Q. A designates a persistent layer, one which laid well into the twelfth month of her laying year. Q stands for quitter or a bird which stops laying during or before the eleventh month of her laying year.
- T-0. T and O stand respectively for satisfactory and unsatisfactory egg weights, the division point being set at 22:00 ounces to the dozen. The weights given represent an average of the weekly weighings during March and April of the pullet year. When a figure is used instead of the symbol, it is the actual numerical average expressed in ounces per dozen.
- W-U. W and U denote respectively satisfactory and unsatisfactory body weight. The division point for Rocks being 5 pounds while that used for Leghorns is 4 pounds. The weights are taken during March or April of the pullet year and are expressed in pounds and ounces.
- H-D. H and D represent satisfactory and unsatisfactory hatchability, the division point being 60% of all eggs set. The figures given are for the year in which the birds concerned were hatched.

The data given for males in the cases of Body Weight (W-U) and Hatchability (H-D) are actual measurements of the individual and his performance. Maturity (E-L), Rate (F-S), and Egg Weight (T-O) are an average of his female ancestors, the dam counting 50%, the Sire's Dam 25% and the Sire's Sire's Dam 25%. If any of these three ancestors has been broody the male is marked broody. Pause (C-P) and Persistency (A-Q) are recorded like the majority of the three female ancestors named.

# Mating Card

The Mating Card, illustrated next, is a record which brings together all of the results of the mating between the two birds whose numbers appear at the top of the sheet.

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Hatch No.	Date Hatched	No. Eggs Set	Infertile	Dead Germ	Dead Germ	Broken or	Missing	Hatched	Cripples	Dead in Shell	Wing Banded	Leg Band <b>ed</b>	Sox	Died	0ulled	Marketed	Sold as	DI GCUCI	MISSING	Date	1st Year Record	Age in days	at 1st ogg	BI	N-B	F-S	C-P		K,000	Bo	H-D Hatch	
																							-									

The left half of the form is a copy of the Incubation Record, except that each wing band number is written on a separate line. On the Incubation Record each hatch appeared on a separate sheet. On this record all hatches are brought together, making it possible to determine at a glance whether the mating was successful.

The right half of the form provides space to follow each individual's performance for the first year and thus ascertain if the mating was a success as judged by the "progeny test". The data for each individual are recorded by means of the symbols already described, giving all the members of the family on one page where they can be studied easily as a group.

The Mating Cards are kept in loose leaf binders, by yards and years. In other words they have the same arrangement as do the Annual Egg Record Sheets. In addition to this they are numbered consecutively from the front to the back of the binders, and this number is entered in the proper column of the Summary Card for Bird, which serves as an Index.

#### Other Forms

The Department has a number of other forms used for specific purposes which form no necessary part of the cycle of pedigree breeding records, and for that reason will not be included here.