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Thoroughbreds

How to Create Them

With Breeding Chart in
Two Colors

Price \$1.00

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J. W. SHRYOCK, MISSOULA, MONT.

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Introduction

But few persons engaged in raising live stock of any kind, or those engaged in raising poultry, understand how to improve their breed or how to produce thoroughbreds of a particular strain. The reason why there is not a more intimate knowledge of the subject is because those who know, find it profitable to guard the secret.

To breed a strain or line it is necessary to inbreed. Mixing blood relations has always been abhorrent to man, but aside from this, the mixing of blood relations in the human family, has its psychological side. It is generally conceded that mind exerts a material influence over matter. The animal possesses very limited reasoning power, hence psychology can have no bearing upon, or influence in, the creation or formation of

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tissue in the lower animals. They possess no innate knowledge of the subject. This point is abundantly illustrated in the rabbit and chicken. As soon as sex develops in a litter of rabbits; in fact, as soon as they are weaned, the doe no longer exercises maternal instinct over them. If allowed to remain until sex develops, the doe will mate with son and brothers with sisters. In the wild or natural state, blood relationship is not a consideration. The U. S. government has practiced inbreeding in its tensest form at its experiment stations, carrying it to the tenth or twelfth generation without the least sign of deterioration.

To avoid deterioration in a strain, it is only necessary to keep up the supply of new blood, not from the outside with blood you know nothing about, but from your own herd, which is represented in the chart by the middle line of progeny indicated by

the letter X. This breeding chart is applicable to all kinds of poultry or animals, but for illustrative purposes the rabbit will be used. What is said of the rabbit applies to chickens, guinea pigs, etc.

Pedigree is a myth when applied to rabbits or poultry breeding because of the many generations in a short period of time. The pedigree of a rabbit only goes back three generations; that is the one issued to you.

It is blood that tells, color and weight being right, and it is the surest way to get what you want.

In purchasing thoroughbreds, when color and weight are right, it is more satisfactory to know the blood proportions than to buy the name of sire or dam because of winning a blue ribbon.

How to Create New Strains of Poultry or Live Stock

The chart shows four lines of descent and one line of new blood. The two lines on the right show a preponderance of male blood and the two lines on the left show a preponderance of female blood in each group or litter. The line in the middle, 1X to 5X, represents one half the blood of each of the original male and female, (A and B), and is a supply of new blood to be drawn upon in keeping up the blood and vigor of the strains, instead of resorting to the outside for blood you know nothing about and may not give satisfaction.

The progeny of the X's must never be crossed one with the other, no matter if they do present superior specimens. They must be mated with one of the other strains. To

mate one X with another X for three or four generations spells failure and in chickens this also means fewer eggs and a very small per cent of them will be fertile. You cannot make up the deficiency by feeding or by using any artificial remedy. Breed by the chart and you will find that artificial egg production remedies are an unnecessary expense.

The black lines on the chart represent the male B, and the red lines the female A.

The fractions in red represent the proportion of female blood (A), and the fractions in black the proportion of male blood (B), in the group immediately above them. The letter A on the left represents the female or doe and the letter B on the right the male or buck, from which you wish to produce a strain of rabbits of good blood.

If the doe A possesses a preponderance of female blood from her parents that is great-

er than the preponderance of male blood in buck B, received from his parents then the progeny from such a mating will show the characteristics of the doe. If the preponderance of male blood in the buck B received from his parents is greater than the preponderance of female blood in the doe A then the progeny will take on the characteristics of the buck. The doe may possess a greater amount of female than male blood which may be from 1-16 to 15-16 and the same applies to the buck, (see chart). If female blood predominates in the pair the characteristics of the doe will be inherited by the progeny, and vice versa if male blood predominates. If a doe from E is mated to a buck from P there will be a preponderance of female blood in the mating; if a doe from H is mated with a buck from Q there will be a preponderance of male blood in the mating. In the first mating the progeny will

possess the characteristics of the dam and in the second mating those of the sire.

Information as to the proportion of blood in rabbits or chickens you purchase is never given you; they are all thoroughbreds in the eyes of the seller. There are very few breeders that know the blood status of their stock, other than that they purchased their originals for thoroughbreds or because their parents won a blue ribbon at the fair.

To start a strain of rabbits, if you have not the desired material on hand, you should get the best you can buy from a reliable and trustworthy breeder (such breeders are very few in number). Because you are quoted \$25 for a buck or \$20 for a doe, it is no indication that rabbits at those figures are any better than you can get for seven to ten dollars from a reputable dealer. The high price is a bait for those who think they are getting a superior article for a su-

perior price, or because of the blue ribbon fad. Because of taking a prize gives you no certainty that the prize winner will be duplicated in its progeny, unless the breeder understands blood breeding and practices it.

Your first step in strain breeding is to mate A with B, which will give you $\frac{1}{X}$. Mate a buck from $\frac{1}{X}$ back to its dam, A, and the result will be C. Mate a buck C back to A and you get E. Mate a doe from $\frac{1}{X}$ back to its sire B and you get D. Mate a doe from D back to B and you get H. Now by mating the does and bucks of C and D you get $\frac{2}{X}$, again one-half the blood of A and B. If you mate E and H or F and G, you obtain the same result--one-half the blood of A and B--and the same result obtains all the way down the chart with similar matings. By studying the chart you can figure out the amount of male and female blood you will obtain by any mating you may make and know before making it

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whether the result will be profit or loss. The chart illustrates how you can increase the proportions of blood in the progeny or strain you wish to develop up to $\frac{15}{16}$, which is as near to thoroughbreds as you can approach. In England $\frac{3}{4}$ blood in cattle breeding is called full blood.

I append a table showing the amount of blood of each of the original pair A and B resulting from the different matings.

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TABLE

BLOOD				BLOOD			
A + B =	$\frac{1}{X}$	$\frac{1}{2}$ A	$\frac{1}{2}$ B	G + $\frac{2}{X}$ =	J	$\frac{9}{32}$ A	$\frac{23}{32}$ B
$\frac{1}{X}$ + A =	C	$\frac{3}{4}$ "	$\frac{1}{4}$ "	F + G =	$\frac{3}{X}$	$\frac{1}{2}$ "	$\frac{1}{2}$ "
$\frac{1}{X}$ + B =	D	$\frac{1}{4}$ "	$\frac{3}{4}$ "	E + $\frac{2}{X}$ =	L	$\frac{11}{16}$ "	$\frac{5}{16}$ "
C + A =	E	$\frac{7}{8}$ "	$\frac{1}{8}$ "	H + $\frac{2}{X}$ =	M	$\frac{5}{16}$ "	$\frac{11}{16}$ "
D + B =	H	$\frac{1}{8}$ "	$\frac{7}{8}$ "	E + H =	$\frac{4}{X}$	$\frac{1}{2}$ "	$\frac{1}{2}$ "
E + A =	F	$\frac{15}{16}$ "	$\frac{1}{16}$ "	L + M =	$\frac{5}{X}$	$\frac{1}{2}$ "	$\frac{1}{2}$ "
H + B =	G	$\frac{1}{16}$ "	$\frac{15}{16}$ "	K + $\frac{4}{X}$ =	O	$\frac{21}{32}$ "	$\frac{11}{32}$ "
E + C =	K	$\frac{13}{16}$ "	$\frac{3}{16}$ "	N + $\frac{4}{X}$ =	R	$\frac{11}{32}$ "	$\frac{21}{32}$ "
H + D =	N	$\frac{3}{16}$ "	$\frac{13}{16}$ "	K + M =	P	$\frac{9}{16}$ "	$\frac{7}{16}$ "
F + $\frac{2}{X}$ =	I	$\frac{23}{32}$ "	$\frac{9}{32}$ "	L + N =	Q	$\frac{7}{16}$ "	$\frac{9}{16}$ "

The following matings will also give you half bloods of A and B:

$$I + J \quad O + R$$

$$K \times N \quad P + Q$$

$$L \times M$$

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You will note that F and G possess the highest blood proportions of A and B which is the nearest to full blood obtainable by any mating that can be made. By mating either strain or line with the X lines of progeny you will keep up the vigor of a strain and maintain the characteristics desired.

Don't forget the preponderance of blood when mating, especially when it comes to the question of color. You should keep a record of your matings showing the blood proportions. If you place a doe or litter from K in pen 6 make your record entry read $A_{16}^{13} B_{16}^3$ with date of birth. The same information placed on the number card of the pen will often save looking up the record.

Lack of this knowledge of new blood accounts for much discouragement and many failures in the poultry business. It accounts for poor layers and so much testing out of incubators. Many try to remedy the lack of egg production and deterioration of the flock by feeding, using artificial remedies

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and occasionally adding a new male bird, all of which will not bring the desired results. You must use system, produce new blood on both the male and female sides, if you want eggs and fine chickens. It cannot be done artificially with artificial remedies. Take nature into your confidence; let her rules and laws work for you and you will obtain a liberal supply of eggs and good stock without the artificial remedies so liberally exploited today, which are an unnecessary expense and fail in the end.

Suppose you wish to start a new strain of rabbits, mate a white angora buck possessing half and half male and female blood, with a steel grey Flemish doe of similar blood qualifications and the progeny will be white with a grey streak one or two inches wide the whole length of the back, with spots on either side, and grey on the head and ears. To breed a strain of them follow the chart.

NOTE--In making the plates for the chart the fractions giving the blood proportions in F, I, G and J have been reversed. Those in black should have been in red, and those in red, black. In considering these four letters, don't forget the colors in the chart are reversed.

Mating for Sex

Sometimes it is desirable to secure more males than females, or more females than males.

To do this it is only necessary to note the proportions of male and female blood in the matings you wish to make. If the male possesses three-quarters female blood and the female one-half, the majority of the progeny resulting from the mating will be female. If the male possesses three quarters male blood and the female one-half, the resulting progeny will have more males than females. If the male possesses three-quarters female blood and the female three-quarters female blood there will be but one or two males in the resulting litter. Reverse the blood proportions and make it male preponderance instead of female and there will be but one or two females in the resulting litter. This information is valuable to the breeder and it cannot be obtained in any other work.

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