N.P.A.

INFORMATION BOOKLET # 1

PROJECT ON GENETICS

PREPARED IN 1950-1 AS A PROJECT
OF THE NATIONAL PIGEON ASSOCIATION
RESEARCH COMMITTEE
PHOTOS FROM THE GENETICS DEP'T., UNIV. OF WISC.

NPA

National Pigeon Assoc.

also publishes Standards
for all recognized breeds.

Consult American Pigeon Journal
for latest information.

This 1980 revised reprinting
sponsored by W. F. Hollander, Robert J.
Mangile, and Johnnie L. Blaine.

THE INK SPOT, INC. - BURRTON, KS. 67020

RESEARCH

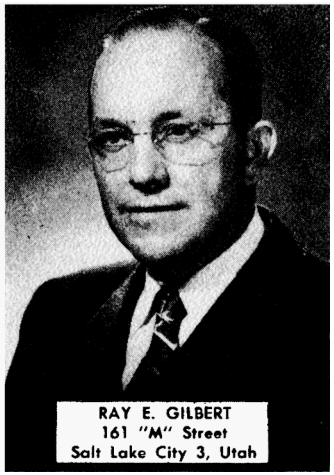
When it was my honor to be elected president of the N. P. A. in 1947, I was imbued with the desire to make our organization outstanding in leadership, and renowned for service to the pigeon fraternity. A keystone in my plans was research, that scientific digging for facts that has so changed out modern world.

Service--Leadership--Research became the motto of the N. P. A. It is a motto which no other pigeon organization had used, or feels covetous about. We are proud of it.

For four years Dr. Willard F. Hollander has been chairman of our N. P. A. committee on Research. His digest reports have appeared from time to time in the American Pigeon Journal, in the American Racing Pigeon News, in All-Pets Magazine, and in our Yearbooks. They have dealt with a variety of timely topics, from feeding problems to parasites, and from breeding problems to "eye-sign." Numerous anonymous members of the committee, both in and out of the U. S. A., have assisted in the work.

This information booklet, the first of its kind, grew out of a display at the Des Moines 1951 National Show. It is a source of intense satisfaction to me that it is the result of my faith in and encouragement of just such a project. I am grateful to all who have participated in bringing it to publication.

RAY E. GILBERT, President
National Pigeon Association
1951



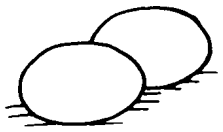
Later: Genetics Department.,
Iowa State University
Ames, Iowa 50010

d. 9/26/78

What is GENETICS ?

IT HAS BEEN CALLED
the Science of HEREDITY, Experimental Breeding, Mendelism.

IT IS CONCERNED WITH
Pedigrees, Inbreeding, Crossing, — Systems of Mating; Eggs and Sperms, Fertility, Sterility; Growth and Decline, vigor and weakness, normal and abnormal —



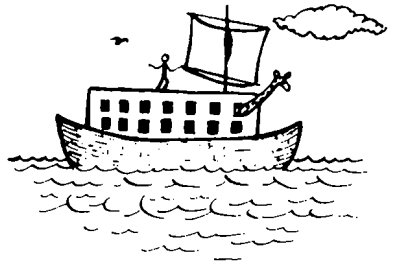
THE ARCHITECTURE OF LIFE

Breeds VARIETIES STRAINS

WHAT ARE THEY ?
HOW IMPORTANT ARE NAMES ?
HOW MANY ? HOW OLD ?

IF THERE ARE 70 NAMED BREEDS, WITH AN AVERAGE OF HALF A DOZEN COLOR VARIETIES FOR EACH, THEN THE TOTAL IS OVER 400 VARIETIES.

DID NOAH TAKE ALL THESE ON THE ARK ?
IF NOT, WHICH ?
AND WHENCE CAME THE REST ?

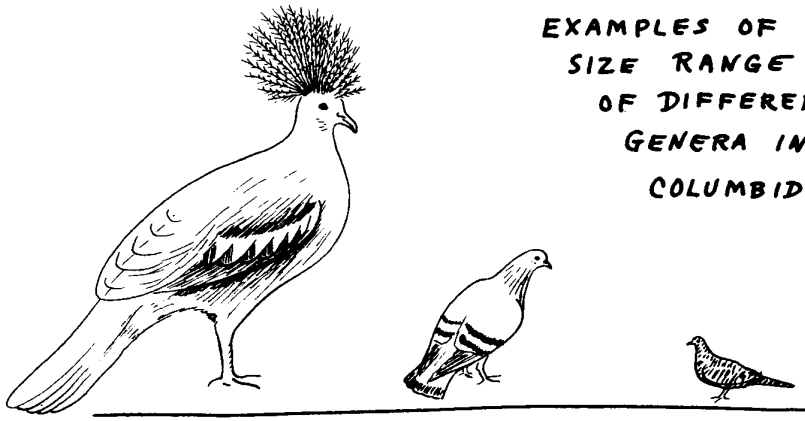


SPECIES and GENERA

ALMOST EVERY REGION OF THE TROPICAL AND TEMPERATE ZONES IS INHABITED BY ONE OR MORE KINDS OF WILD PIGEONS OR DOVES

SEVERAL HUNDRED OF THESE WILD KINDS HAVE BEEN NAMED AND CLASSIFIED IN MUSEUMS. ALL ARE LISTED IN THE GREAT "FAMILY COLUMBIDAE" (PIGEONS AND DOVES)

EXAMPLES OF SIZE RANGE OF DIFFERENT GENERA IN COLUMBIDAE



CROWNED PIGEON (GOURA) OF NEW GUINEA

ROCK PIGEON (Columba) OF EUROPE, ASIA, AFRICA

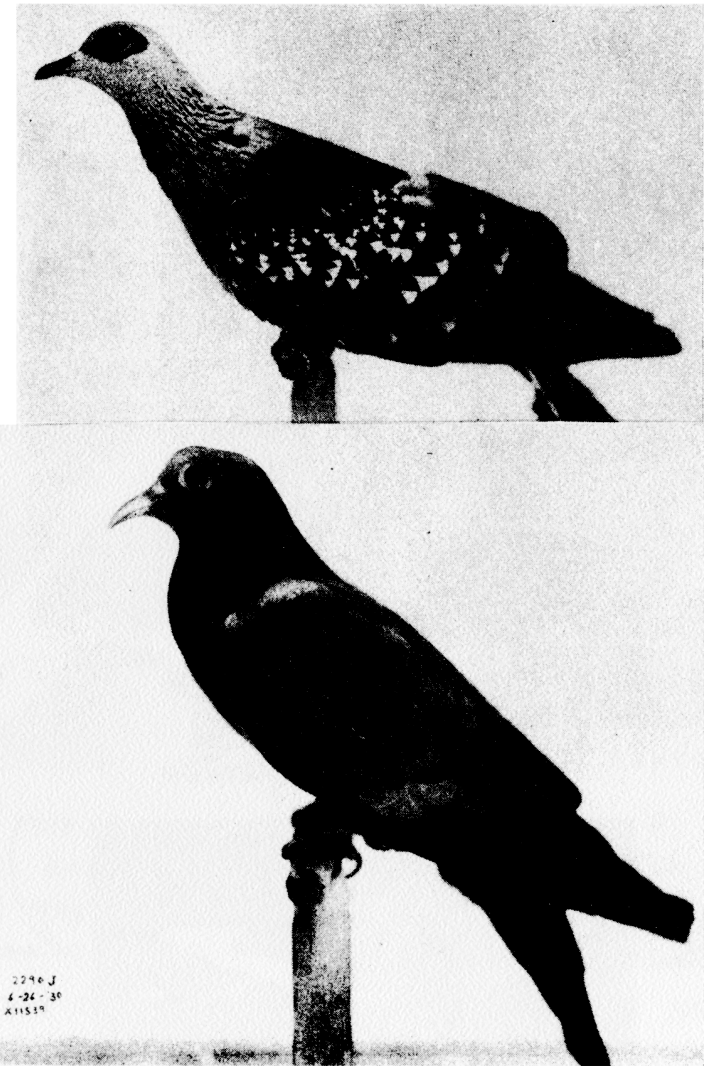
ZEBRA DOVE (GEOPELIA) OF THE PHILIPPINES

TWO WILD SPECIES :

TOP — THE TRIANGULAR-SPOTTED PIGEON (COLUMBA GUINEA) OF AFRICA

BOTTOM — THE STOCK DOVE (Columba oenas) OF EUROPE AND ASIA.

BOTH CAN BE CROSSED WITH DOMESTIC PIGEONS, BUT MOST FEMALE HYBRIDS ARE STERILE, MALES PARTLY SO.



"Mules" STERILE HYBRIDS

ARE THE COMMON RESULT
WHEN MARKEDLY DIFFERENT
SPECIES OR GENERA ARE CROSSED,
even tame ones.

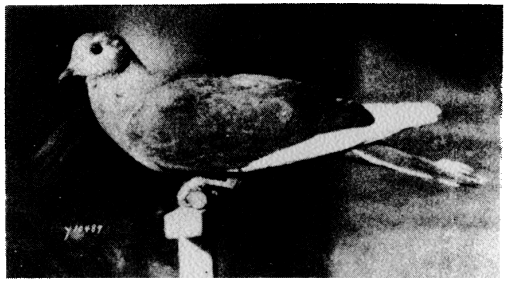
SOME CROSSES ARE IMPOSSIBLE —
SIZE OR HABITS ARE TOO CONTRASTING,
OR IF FERTILE EGGS RESULT, EMBRYOS DIE.

BLOND RINGNECK DOVE
(Streptopelia risoria)

MOTHER

BALDHEAD L.F.C.L. TUMBLER
(Columba domestica)

FATHER



REVERSION

MOST BREEDERS HAVE LEARNED THAT CROSSING BREEDS IS THE WAY to get MONGRELS. MONGRELS ARE USUALLY WORTHLESS IN COMPARISON WITH THE PUREBRED PARENTS, THOUGH THE MONGRELS ARE MORE VIGOROUS, MORE FERTILE, AND GOOD SQUAB PRODUCERS.

MANY BREED CROSSES PRODUCE OFFSPRING WHICH CLOSELY RESEMBLE WILD ROCK PIGEONS.

CHINESE OWL
(Blue bar)

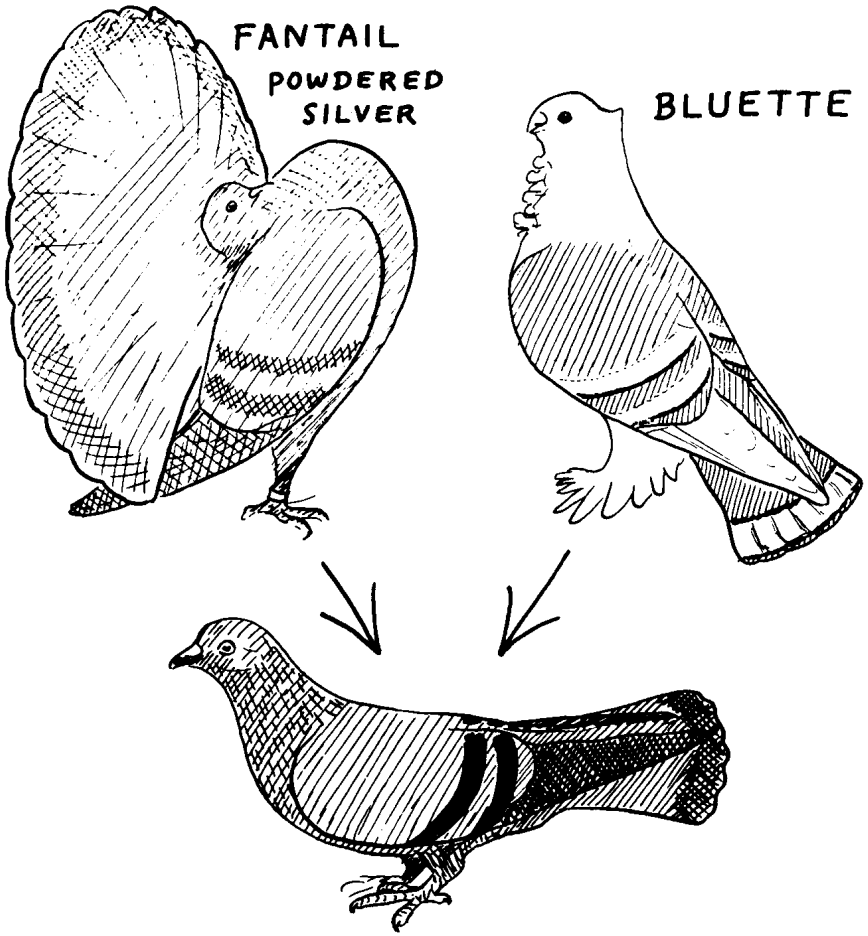
STRASSER
(silver barless)

(Blue bar)

THIS RESULT WAS FIRST DISCUSSED BY DARWIN WHO CALLED IT "REVERSION TO THE WILD TYPE." IT MAY OCCUR IN THE FIRST GENERATION OF SOME CROSSES, IN THE SECOND GENERATION OF SOME OTHER CROSSES, OR NOT AT ALL. REVERSION HAS BEEN EXPLAINED BY STUDIES OF THE CHARACTERISTICS.

Reversion

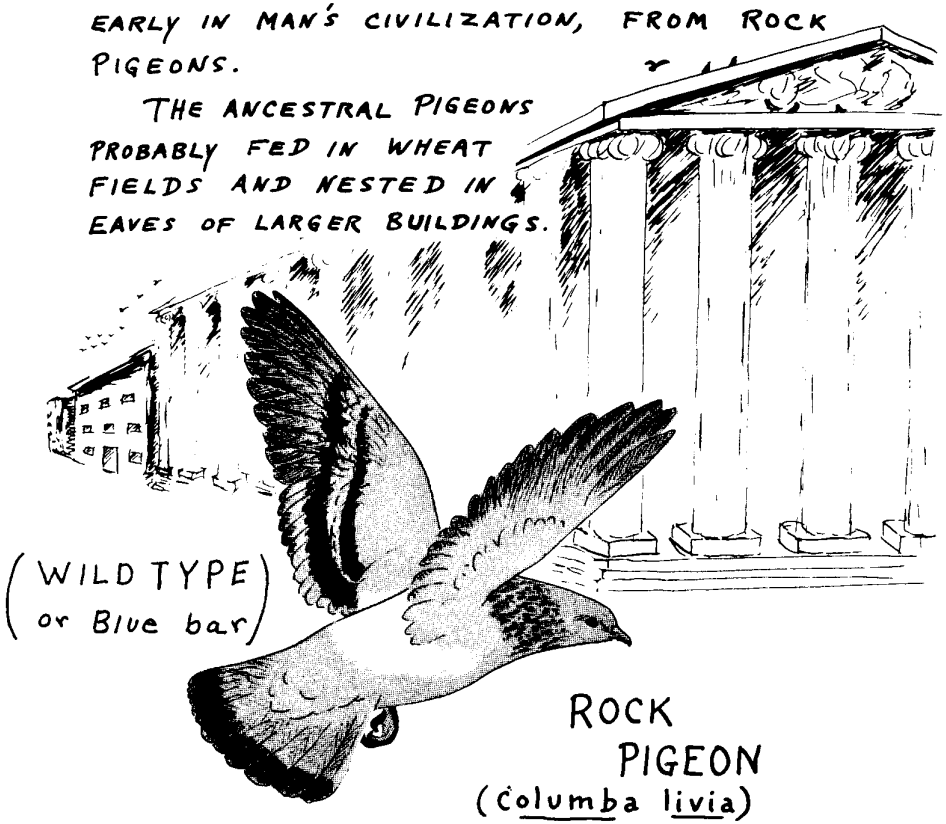
EXAMPLE



ORIGIN

BECAUSE OF THE FACTS OF REVERSION, AND BECAUSE OF THE BASIC SIMILARITIES IN ANATOMY AND BEHAVIOR, DOMESTIC BREEDS ARE THOUGHT TO HAVE ORIGINATED, EARLY IN MAN'S CIVILIZATION, FROM ROCK PIGEONS.

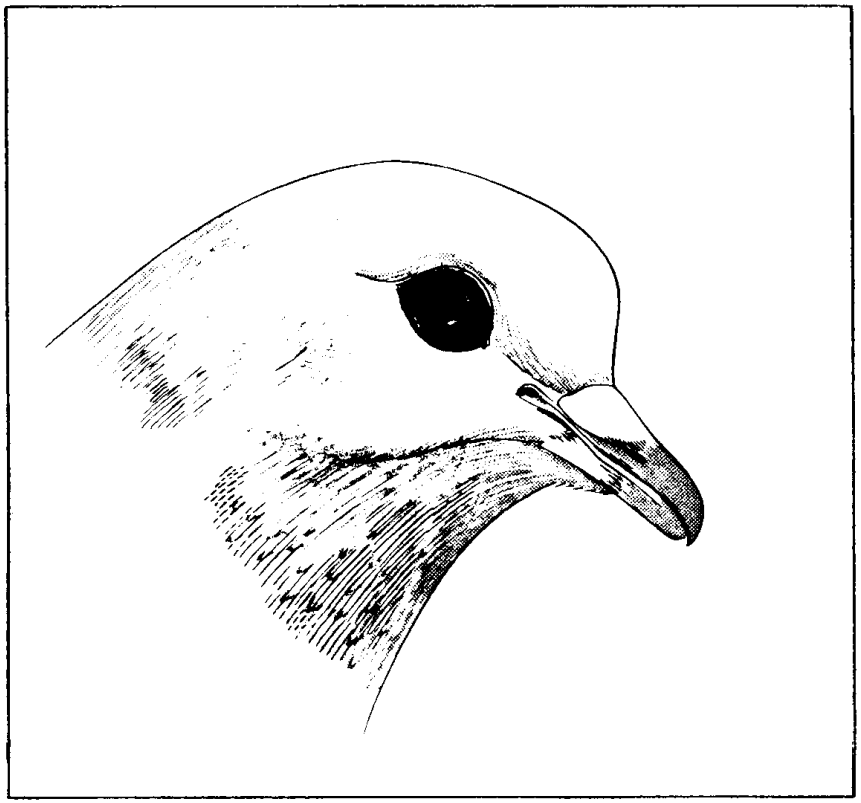
THE ANCESTRAL PIGEONS PROBABLY FED IN WHEAT FIELDS AND NESTED IN EAVES OF LARGER BUILDINGS.



ROCK PIGEON
(columba livia)

IN PIGEON GENETICS HAS BEEN USED AS THE STANDARD OF REFERENCE.

PORTRAIT OF A MALE ROCK
(STANDARD NORMAL)



NO ESSENTIAL GENETIC MODIFICATIONS OF THE HEAD ARE FOUND IN SOME MODERN BREEDS, SUCH AS FANTAILS, POUTERS, AND TOY VARIETIES (ICE PIGEON, SUABIAN, etc.)

COMMON STREET PIGEONS IN MOST CITIES OF THE WORLD ARE PRACTICALLY IDENTICAL WITH WILD ROCK PIGEONS.

SELECTION

WE CAN ONLY SURMISE, BUT IT SEEMS LIKELY THAT EARLY IN CIVILIZED REGIONS SUCH AS EGYPT, BABYLONIA, AND PERSIA SOME PIGEONS WERE BRED AS PETS.

PERHAPS THE START OF IT WAS A WHITE SQUAB, A NOVELTY THAT CAUGHT SOMEONE'S EYE.

DURING MANY CENTURIES OF DOMESTIC LIFE, UNDER THE WATCHFUL CARE OF GENERATIONS OF EARLY FANCIERS, PIGEONS MUST HAVE PRODUCED NUMEROUS NOVELTIES AND FREAKS. THE PEARL EYE, THE SHORT BEAK, FEATHERED FEET, THE CREST, AND VARIOUS PLUMAGE COLOR VARIATIONS MUST HAVE BEEN ASTONISHING WHEN THEY FIRST APPEARED. INSTEAD OF EATING SUCH NOVELTIES, THE BREEDERS SAVED AND BRED FROM THEM, AND HAD THE MORE ORDINARY KIND FOR DINNER.

SELECTIVE BREEDING OF NOVEL TYPES CAN ACCOUNT FOR THEIR PERSISTENCE; WITHOUT THE BREEDER'S HAND, DOMESTIC PIGEONS MONGRELIZE AND BREED FEATURES ARE DISPERSED.

(SEE "REVERSION")

INDEPENDENCE

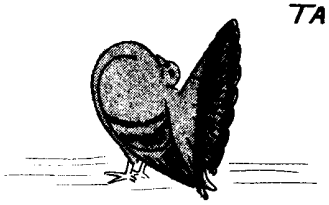
COMPARATIVE STUDY OF BREEDS AND RESULTS OF MONGREL MATINGS SHOWS THAT TRAITS CAN BE SEPARATED OR COMBINED.

CREST IS INDEPENDENT OF COLOR; THEY MAY BE IN DIFFERENT PIGEONS OR IN A SINGLE ONE.

NEITHER OF THEM AFFECTS BEAK LENGTH; SHORT BEAK IS INDEPENDENT.

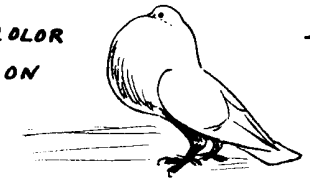
ALL POSSIBLE COMBINATIONS OF THE TRAITS HAVE BEEN PRODUCED OR SEPARATED.

ALL ARE INDEPENDENT OF FEATHERED FEET, OF THE FANNED TAIL, ETC.



THEREFORE IT IS PERFECTLY POSSIBLE TO PRODUCE A FANTAIL WITH A CREST AND WITH FEATHERED FEET;

SIMILARLY ANY COLOR CAN BE "PUT" ON A CROPPER.



THESE ARE ONLY A FEW EXAMPLES.

IN GENETICS IT IS THEREFORE ASSUMED THAT SUCH TRAITS ARE SEPARATE CHANGES FROM THE ORIGINAL ROCK PIGEON.

BREEDING TESTS

TO ANALYZE INHERITANCE, THESE STEPS ARE NEEDED:

(1.) LIST THE DIFFERENCES BETWEEN THE STANDARD WILD TYPE AND THE TYPE TO BE TESTED.

(2.) CROSS WITH THE WILD TYPE, BOTH SEXES.

(3.) COMPARE A DOZEN OR MORE OF THE FIRST GENERATION BIRDS WITH THE WILD.

(4.) MATE FIRST-GENERATION BIRDS WITH WILD TYPE, UNLESS THEY ARE LIKE IT, AND PRODUCE AT LEAST 20 YOUNG. COMPARE WITH WILD TYPE.

(5.) MATE FIRST-GENERATION BIRDS WITH THE TYPE BEING TESTED, UNLESS IDENTICAL PRODUCE AT LEAST 20 YOUNG, COMPARE WITH WILD.

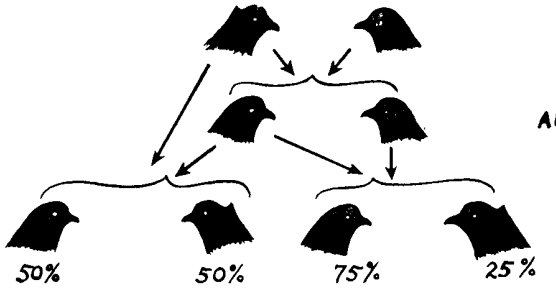
(6.) MATE FIRST-GENERATION BIRDS WITH EACH OTHER; PRODUCE 50 OR MORE OFFSPRING, COMPARE WITH WILD TYPE.

FURTHER TESTS ARE NEEDED IF THE TRAIT PROVES TO BE COMPLEX.

RESULTS OF THE TESTS, WHEN SUMMARIZED, TELL A GREAT DEAL ABOUT HOW THE TRAITS ARE GOVERNED.

TEST RESULTS

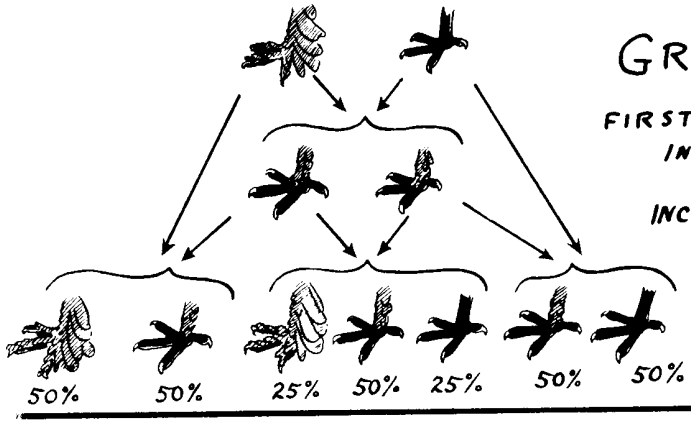
BELOW ARE SHOWN THE BREEDING TEST RESULTS WITH THREE TRAITS. THESE ARE TYPICAL, SIMPLE. PERCENTAGES REFER TO NUMBER OF BIRDS, ROUGHLY.



CREST

ALL FIRST GENERATION LIKE WILD TYPE.

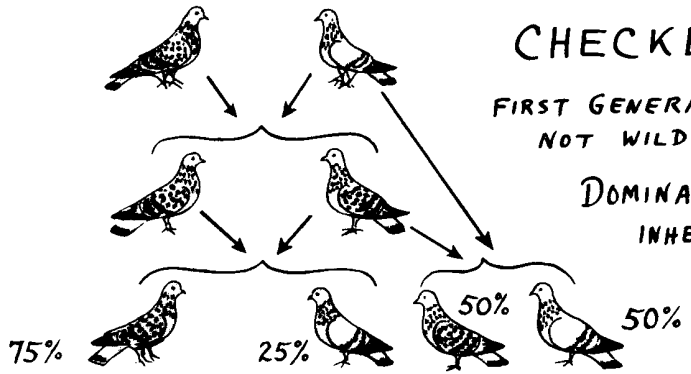
RECESSIVE INHERITANCE.



GROUSE

FIRST GENERATION INTERMEDIATE.

INCOMPLETE RECESSIVE OR PARTIAL DOMINANT.



CHECKER

FIRST GENERATION NOT WILD-TYPE.

DOMINANT INHERITANCE.

UNITS GENES

TRAITS WHICH DIFFER FROM THE ROCK PIGEON MOST SIMPLY — WHICH CANNOT BE SUBDIVIDED BY BREEDING TESTS — ARE CALLED GENETIC UNITS.

UNIT TRAITS MUST HAVE AS THEIR CAUSE A CHANGED CHROMOSOME, OR PART OF A CHROMOSOME, AS COMPARED WITH THE STANDARD ROCK PIGEON. THE CHANGED MICROSCOPIC UNIT IS CALLED A GENE MUTANT.

EACH UNIT TRAIT THAT HAS BEEN TESTED IS GIVEN A SPECIAL LETTER SYMBOL, AND A LIST OF THEM IS SHOWN ON THE NEXT PANEL.

IN A CROSS WE CAN REPRESENT THE HEREDITY BY FORMULAS MADE UP OF GENE SYMBOLS. EXCEPT IN SEX LINKAGE WE ASSUME THAT

(1.) AN OFFSPRING GETS A SINGLE GENE FOR A UNIT TRAIT (OR THE STANDARD OPPOSITE) FROM EACH PARENT.

(2.) A PARENT GIVES AN OFFSPRING A SINGLE GENE FOR A UNIT TRAIT (OR STANDARD).

(3.) ANY COMBINATION OF GENES FROM EACH PARENT IS POSSIBLE.

Formulation
RULES

UNIT DIFFERENCES FROM THE WILD TYPE ARE GIVEN SPECIAL LETTER SYMBOLS.

DOMINANT UNITS ARE SIGNIFIED BY USE OF A CAPITAL LETTER IN THE SYMBOL.

RECESSIVE UNITS ARE SIGNIFIED BY USE OF LOWER CASE ONLY.

ALTERNATIVE UNITS (MULTIPLE ALLELES) GET THE SAME LETTER SYMBOL BUT AN ADDITIONAL SUPERSCRIPT MAY BE USED: b = brown, AND B^A = ash-red, ALTERNATIVE DIFFERENCES FROM THE WILD COLOR.

— THE WILD TYPE IS SIGNIFIED, IN CONTRAST WITH THE UNIT DIFFERENCES, BY THE SYMBOL "+"; OTHERWISE IT IS NOT SYMBOLIZED.

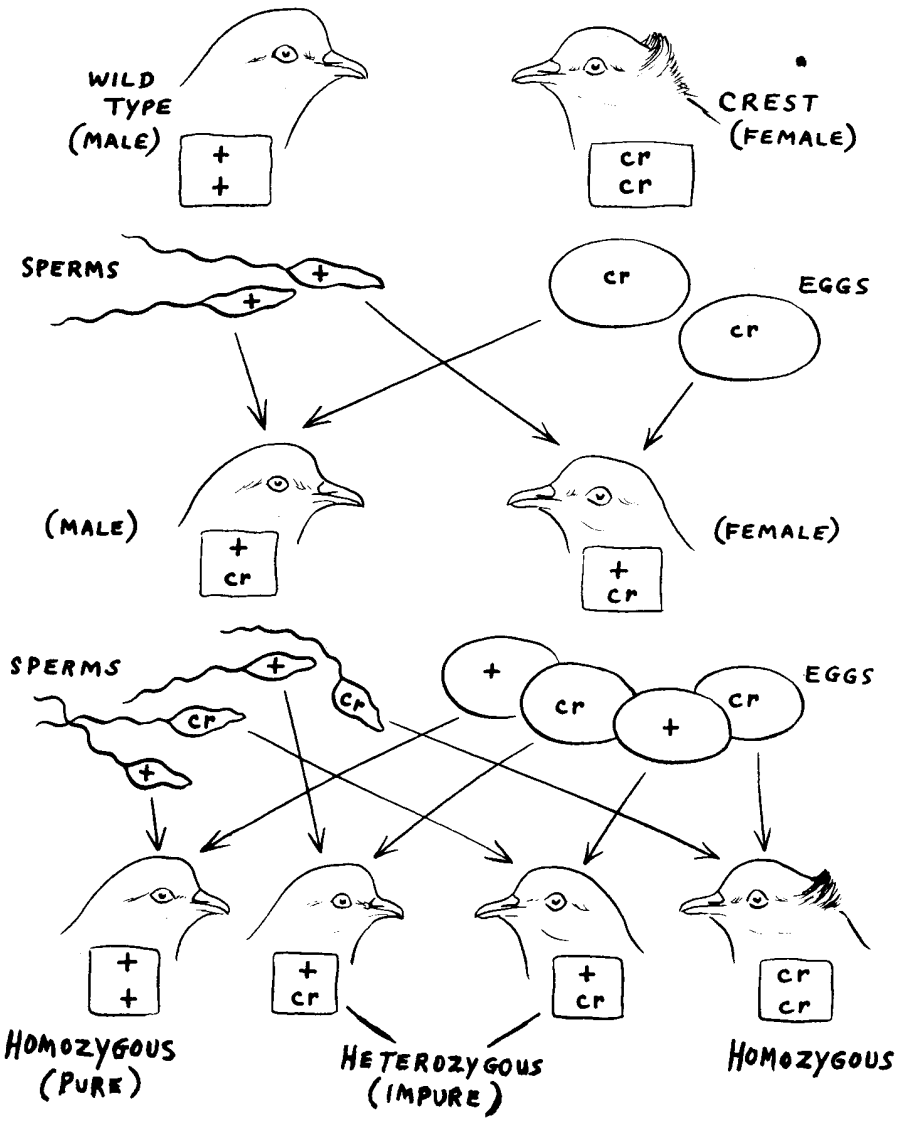
FORMULAS OF PIGEONS ARE DOUBLE EXCEPT FOR SEX-LINKED TRAITS IN FEMALES.

FORMULAS OF EGGS OR SPERMS ARE SINGLE.

EXAMPLE — DUN NUN HEN: [cr tr S d / cr, tr, S, —] (SEE GENE LIST)
(WHITE NOT YET SYMBOLIZED)

HER EGGS: [cr, tr, S, d] AND [cr, tr, S, —]

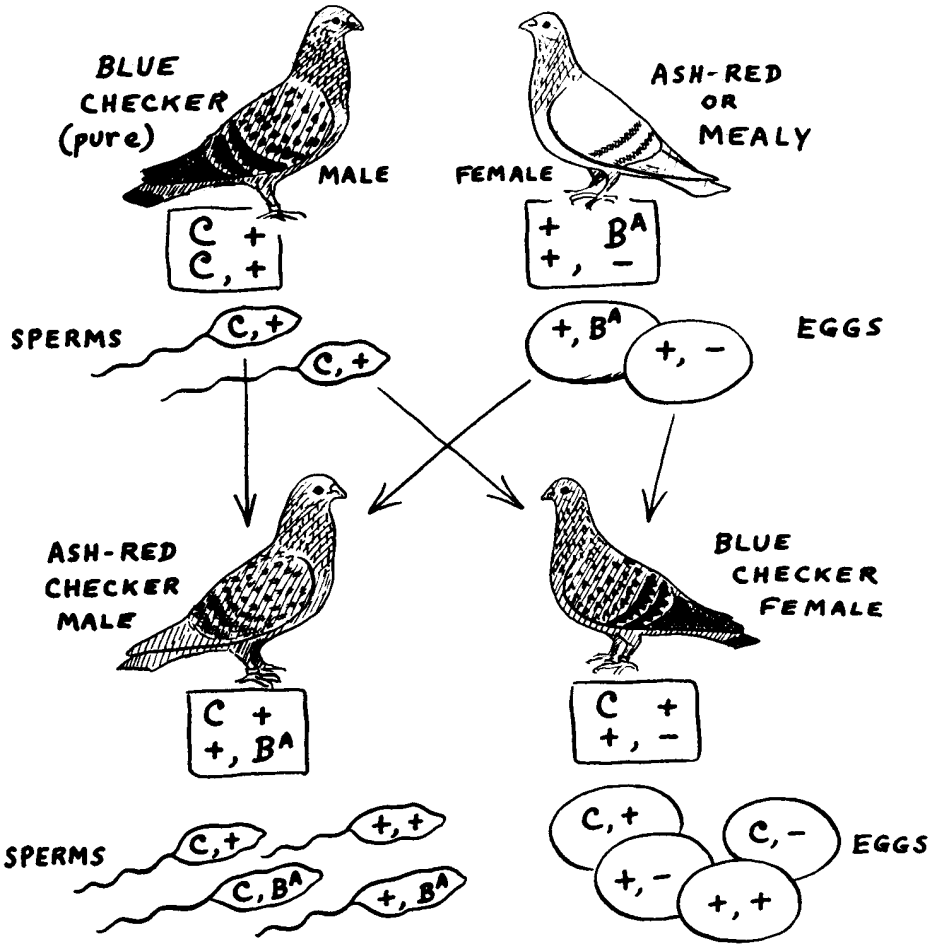
Formulation
OF SIMPLE TEST



Formulation OF CROSSES

EXAMPLE IN HOMERS

INVOLVING TWO UNIT COLOR DIFFERENCES FROM WILD, BOTH DOMINANT, AND ONE SEX-LINKED.



Gene List

THIS LIST INCLUDES ONLY THE TESTED UNIT DIFFERENCES FROM WILD TYPE. SOME OF THE TRAITS ARE VERY RARE. THE LIST IS CORRECT THROUGH 1950 AS FAR AS KNOWN.

SEX-LINKED GENES

DOMINANT		RECESSIVE	
ASH-RED	B^A	DILUTION	d
ALMOND (magnani)	St	PALE	d^p
FADED	St^F	BROWN	b
		REDUCED	r

OTHER GENES

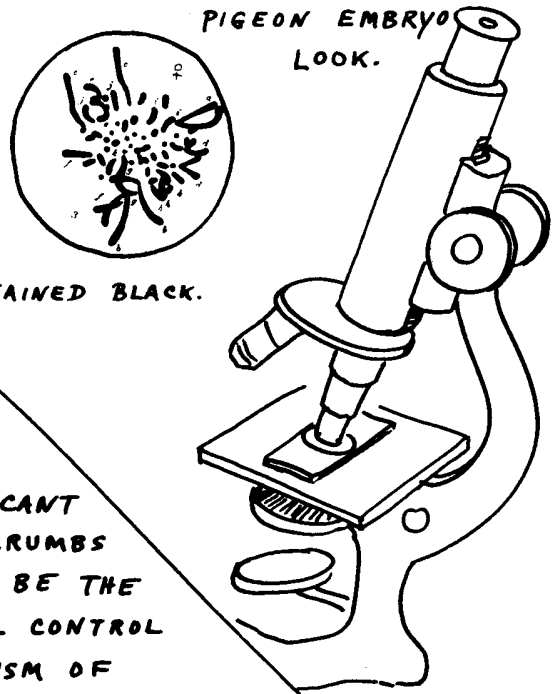
DOMINANT		RECESSIVE	
CHECKER	C	BARLESS	c
T PATTERN	C^T	CREST	cr
GRIZZLE	G	RECESSIVE RED	e
SPREAD	S	PEARL EYE	tr
DOMINANT OPAL	Od	WEB FOOT	w
INDIGO	In	PORCUPINE	p
SILKY	L	GROUSE	gr
		OPAL	o
		SMOKY	sy
		MILKY (powdered silver)	my
		CLUMSY	cl
		NO TAIL GLAND	n
		ATAXIA	at
		SCRAGGLY	sc
		POLYDACTYLY	py
		ACHONDROPLASIA	ac
		MICROPHTHALMIA	mi

FOR USE OF THESE SYMBOLS SEE PAGES ON "FORMULATION"

CHROMOSOMES

THIS MICROSCOPIC VIEW SHOWS HOW THE CHROMOSOMES OF A CELL IN THE OVARY OF A PIGEON EMBRYO LOOK.

MAGNIFIED ABOUT 1500 times, AND STAINED BLACK.



THESE INSIGNIFICANT LITTLE CRUMBS SEEM TO BE THE PRINCIPAL CONTROL MECHANISM OF HEREDITY. IF THEY ARE DAMAGED — BY CERTAIN POISONS OR BY IRRADIATION (X-RAY, RADIUM, OR ATOM BOMB) — INHERITED ABNORMALITIES, STERILITY, AND SO ON MAY BE PRODUCED.

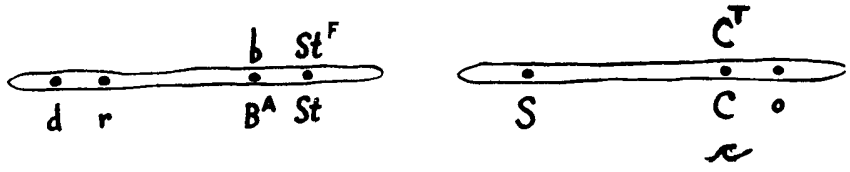
PIGEON CHROMOSOMES HAVE BEEN DIFFICULT TO STUDY, BUT FEMALES APPEAR TO HAVE ONE LESS THAN THE MALE'S NUMBER.

Chromosome Maps

WHEN ORDINARY INDEPENDENCE OF THE UNIT TRAITS IN THE SECOND GENERATION OF TEST CROSSES IS REDUCED, THE RESULT IS TERMED "LINKAGE". THIS HAS BEEN EXPLAINED BY ASSUMING THAT THE GENES IN SUCH CASES ARE LOCATED ON THE SAME CHROMOSOME, AND THEIR DISTANCE APART IS INDICATED BY THE DEGREE OF LINKAGE.

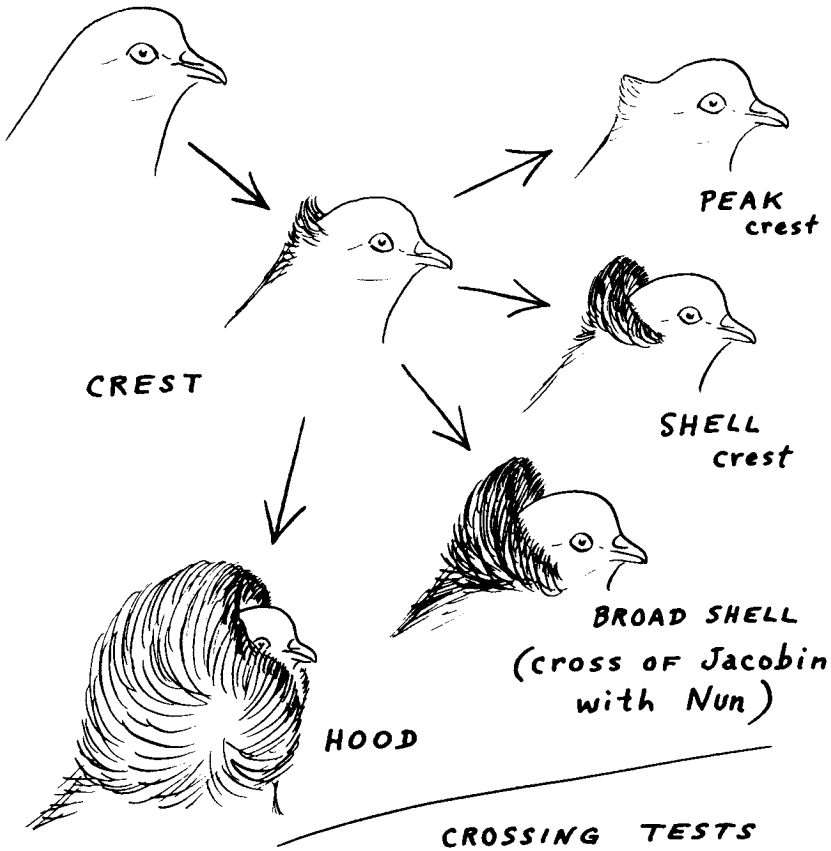
WHEN THE STATISTICS ARE WORKED OUT, A MAP OF THE CHROMOSOME IS OBTAINED WITHOUT THE USE OF A MICROSCOPE.

ONLY TWO CHROMOSOME MAPS HAVE BEEN WORKED ON SO FAR:



Modifiers

EXAMPLE



CROSSING TESTS INDICATE THAT ALL TYPES OF CREST DEPEND ON THE SAME MAIN UNIT DIFFERENCE FROM WILD TYPE.

COLOR
A-B-C

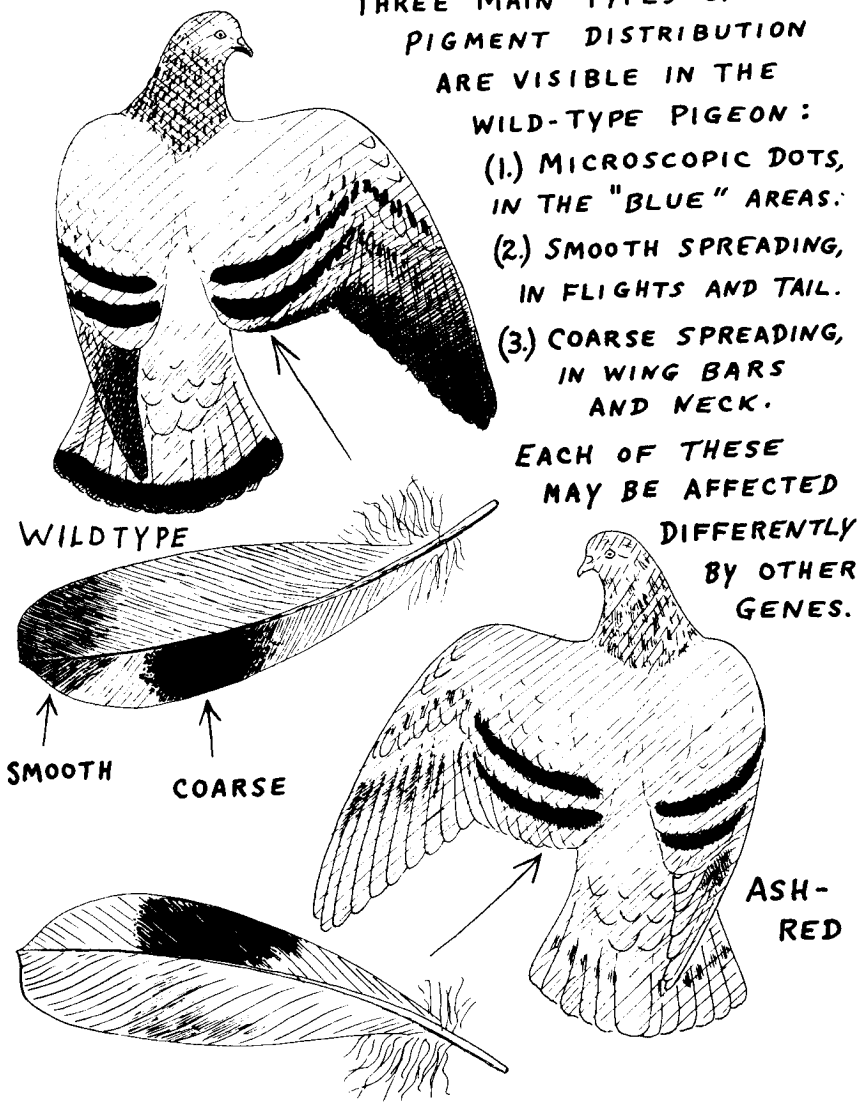
THREE MAIN TYPES OF PIGMENT DISTRIBUTION ARE VISIBLE IN THE WILD-TYPE PIGEON:

(1.) MICROSCOPIC DOTS, IN THE "BLUE" AREAS.

(2.) SMOOTH SPREADING, IN FLIGHTS AND TAIL.

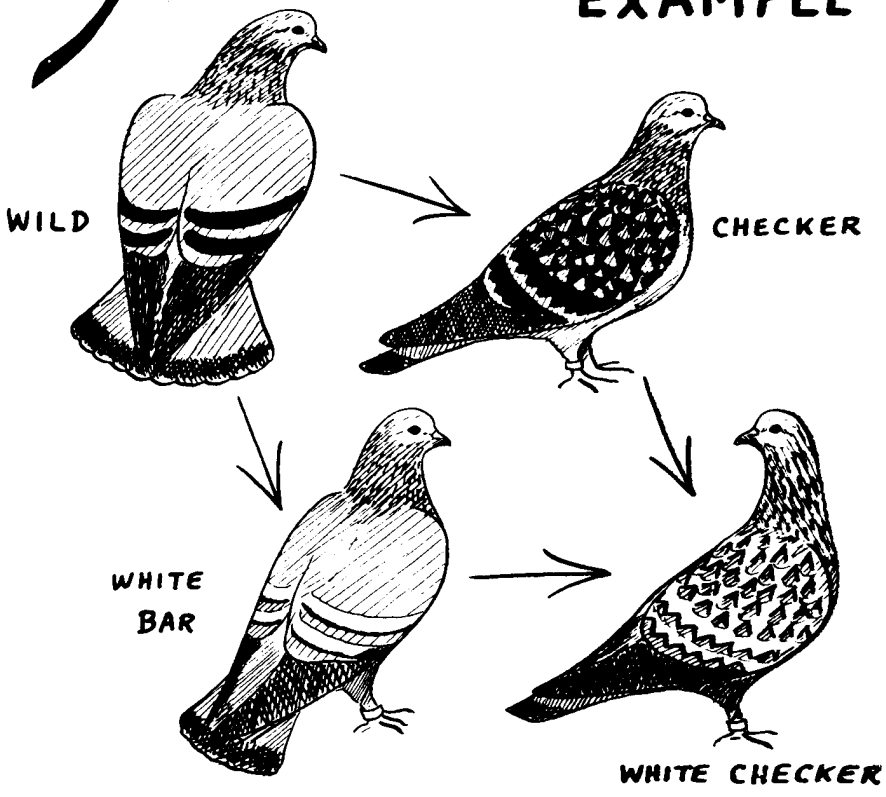
(3.) COARSE SPREADING, IN WING BARS AND NECK.

EACH OF THESE MAY BE AFFECTED DIFFERENTLY BY OTHER GENES.



Interaction

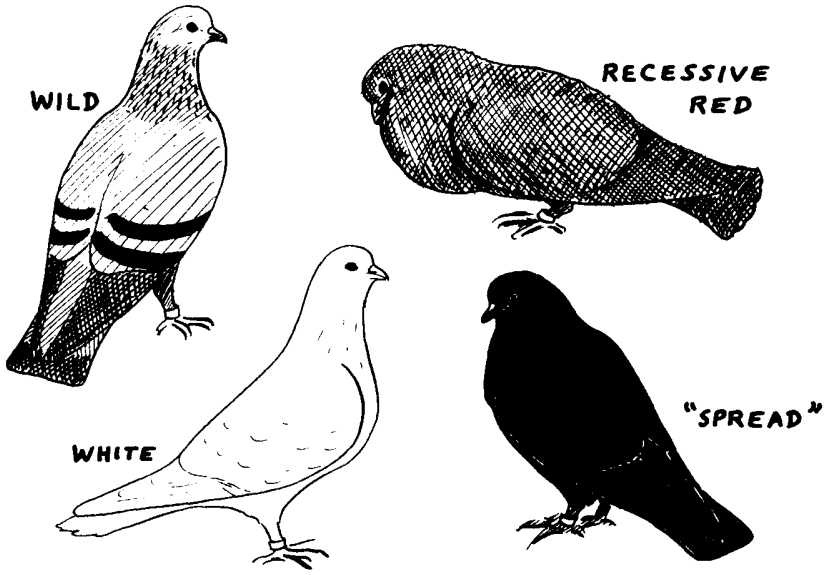
EXAMPLE



UNIT DIFFERENCES FROM WILD TYPE MAY BE COMBINED BY CROSSING. THE RESULT (IN THE SECOND GENERATION, USUALLY) OFTEN IS SOMETHING NOVEL, AN INTERACTION EFFECT.

Epistasis

OR MASKING

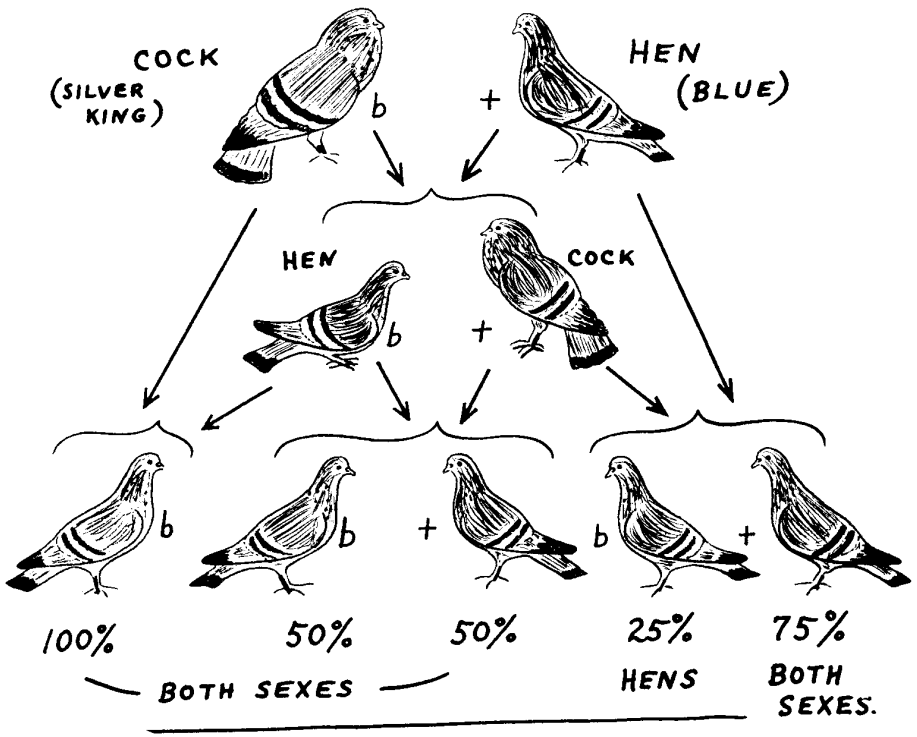


CERTAIN COMBINATIONS OF UNIT DIFFERENCES FROM WILD TYPE MAY LOOK THE SAME AS ONE OF THE UNIT COMPONENTS. THIS MASKING ACTION OR EPISTASIS IS THE RULE IN COLOR UNIT COMBINATIONS WITH WHITE: WHITE PIGEONS MAY MASK ANY OTHER COLORATION. SIMILARLY RECESSIVE RED MAY MASK ASH-RED AND ANY PATTERN; AND "SPREAD" MAY MASK OTHER PATTERNS AS WELL AS GRIZZLING.

Sex Linkage

EXAMPLE

FIRST AND SECOND GENERATIONS FROM A COCK OF A RECESSIVE SEX-LINKED COLOR TYPE (BROWN) WITH A HEN OF A DOMINANT ALTERNATE.

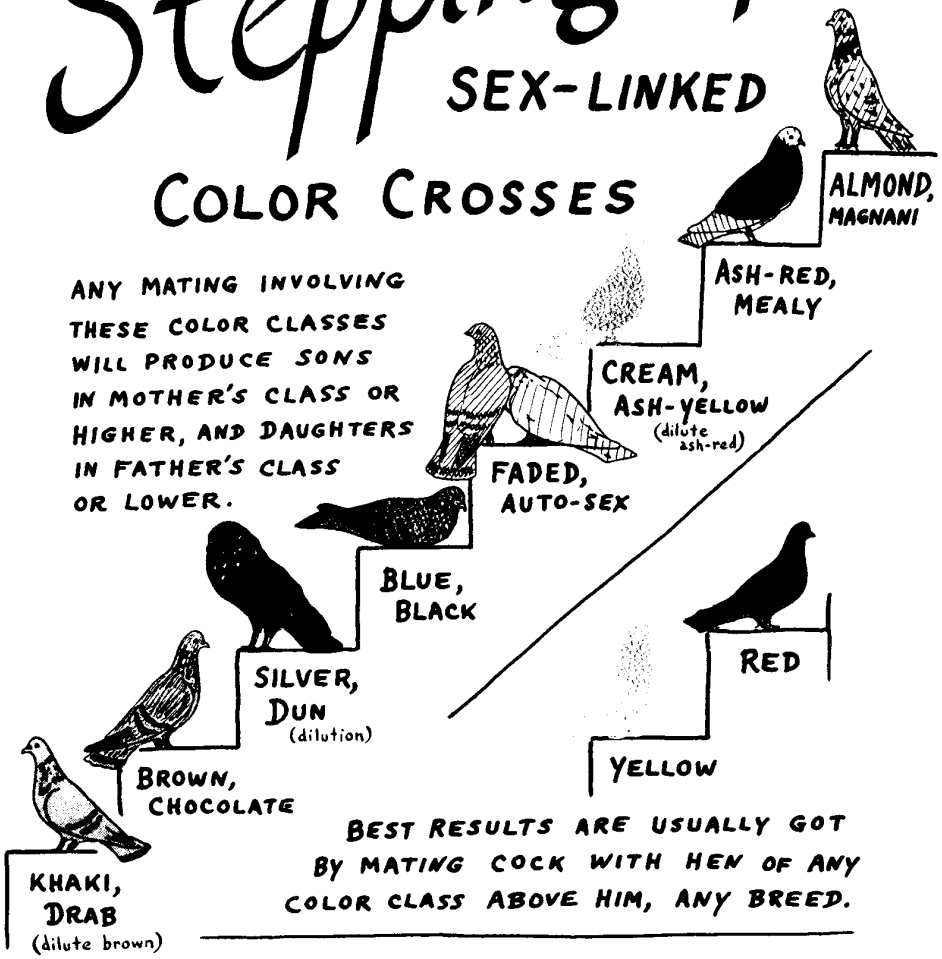


THIS IS A SIMPLE EXAMPLE. WITH OPPOSITE FIRST MATING AND WITH SOME OTHER COLORS, RESULTS WILL DIFFER.

Stepping up

SEX-LINKED COLOR CROSSES

ANY MATING INVOLVING THESE COLOR CLASSES WILL PRODUCE SONS IN MOTHER'S CLASS OR HIGHER, AND DAUGHTERS IN FATHER'S CLASS OR LOWER.



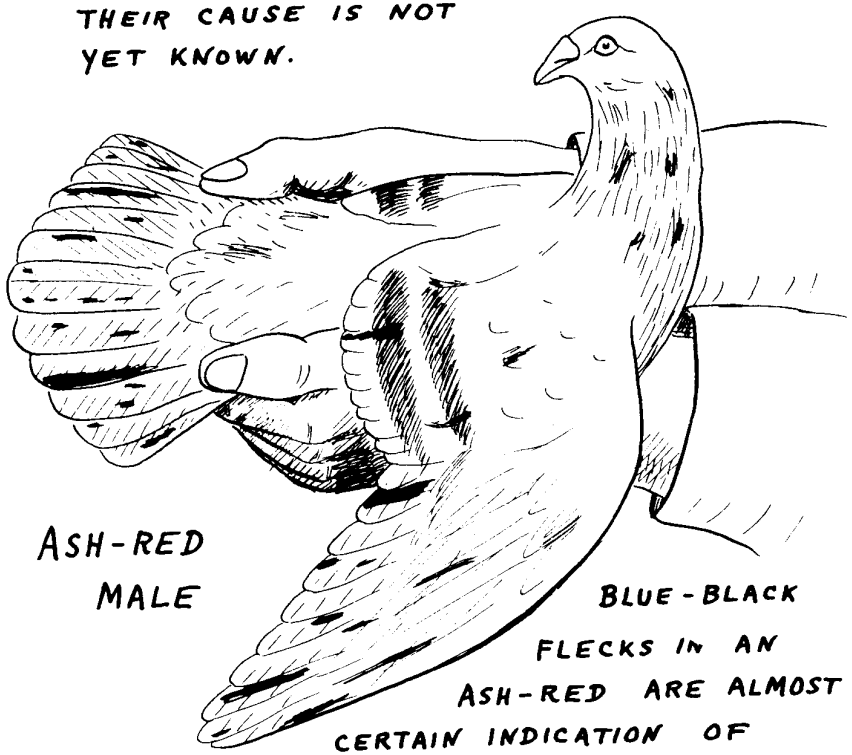
BEST RESULTS ARE USUALLY GOT BY MATING COCK WITH HEN OF ANY COLOR CLASS ABOVE HIM, ANY BREED.

PRACTICE IN COLOR CLASSIFICATION IS ESSENTIAL. PATTERNS ARE NOT IMPORTANT THOUGH: BAR, CHECKER, SPLASH, ETC., ARE NOT CONNECTED WITH SEX.

NOTE: CLASS "SILVER" KING AS BROWN; "POWDERED SILVER" FANTAIL GOES WITH BLUE.

Flecks

IN ALMOND, ASH-RED, FADED, etc., ERRATIC STREAKS, SOMETIMES EVEN WHOLE FEATHERS, OF BLUE OR BLACK OR OTHER COLOR MAY BE SEEN. THEIR CAUSE IS NOT YET KNOWN.

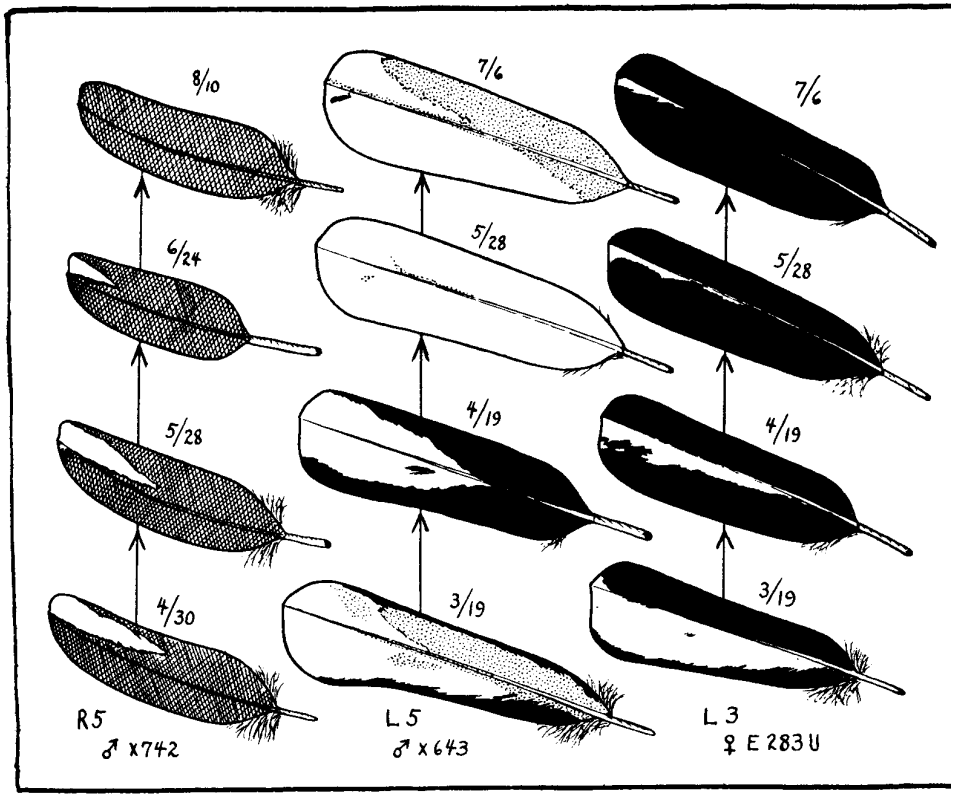


ASH-RED MALE

BLUE-BLACK FLECKS IN AN ASH-RED ARE ALMOST CERTAIN INDICATION OF MALE SEX, AND ALSO REVEAL THAT THE BIRD "CARRIES" BLUE OR BLACK.

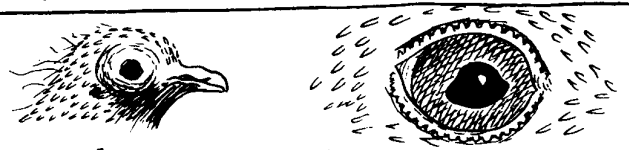
ALMOND AND MAGNANI

ALMOND IS A SEX-LINKED DOMINANT UNIT, BUT UNUSUAL IN SEVERAL WAYS. INDIVIDUAL FEATHERS CHANGE COLOR ERRATICALLY, AS IN THE SAMPLES BELOW. DATES OF PLUCKING ARE NOTED.



WHITE AREAS = WHITISH; SHADED = FADED; STIPPLED = BROWN; BLACK = BLUE OR BLACK.

HOMOZYGOUS

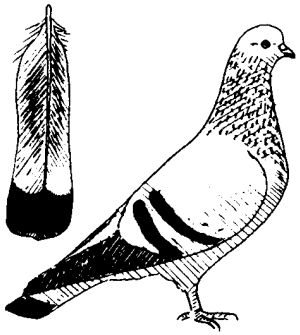


"PURE" OR "DOUBLE ALMOND" OR MAGNANI BIRDS ARE WHITE, AND ALWAYS MALES. THEY HAVE DEFECTIVE EYES: SQUAB ON LEFT IS "POP-EYED"; AT RIGHT, IRREGULAR IRIS.

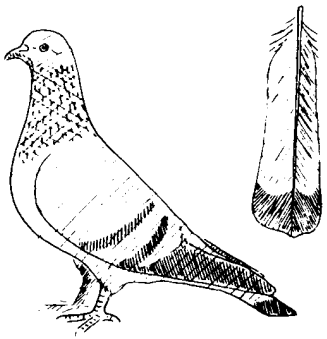
AUTO-SEXING

DISCOVERED IN 1940, THIS USEFUL SEX DIFFERENCE IS NOW INCORPORATED INTO SOME STRAINS OF KINGS, GIANT HOMERS, RACING HOMERS, CROSSES, etc.

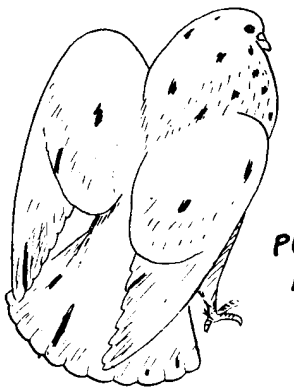
AUTO-SEXING IS BASED ON THE SEX-LINKED DOMINANT "FADED" GENE, AN ALTERNATE OF ALMOND. PURE FADED COCKS ARE WHITISH, SOMEWHAT RESEMBLING ALMOND.



BLUE (WILD TYPE)



FADED FEMALE

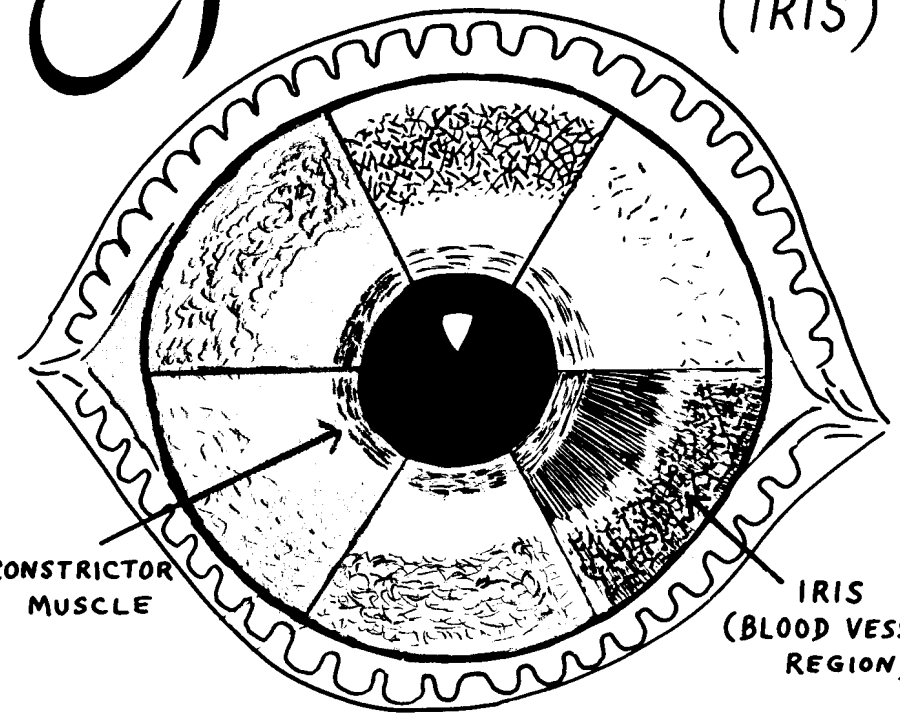


PURE FADED COCK

MATINGS OF WHITISH PURE FADED COCKS WITH FADED HENS GIVE AUTOMATIC- OR AUTO-SEXING STOCK. SEX OF SQUABS MAY BE RECOGNIZED EVEN AT HATCHING TIME.

Eye Color

(IRIS)



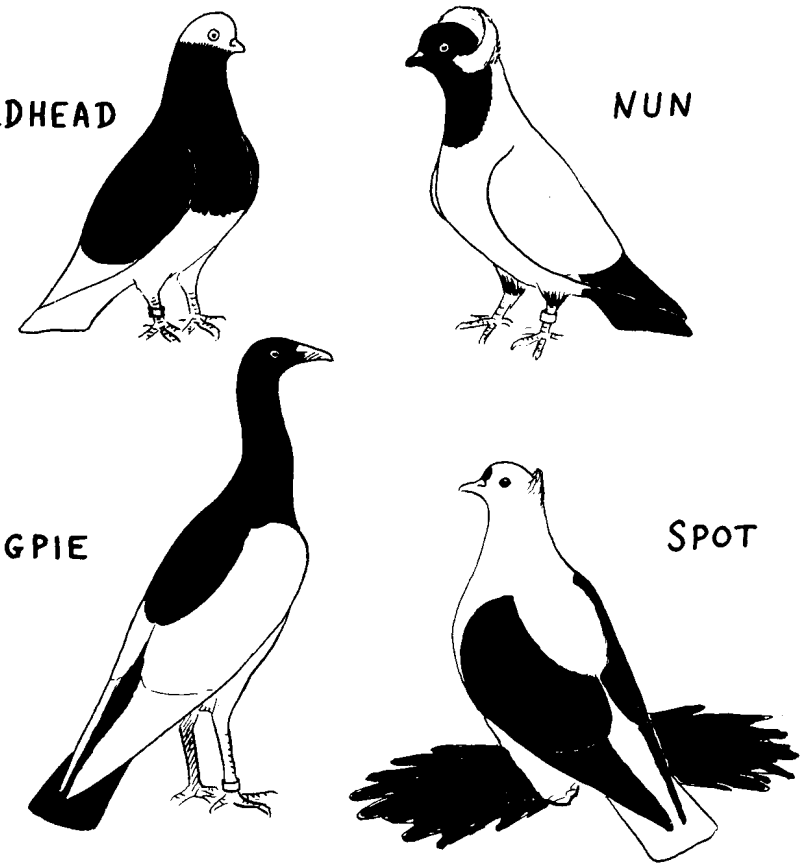
SIX MAJOR COLOR CLASSES OF ADULT EYES:

UPPER { LEFT = WILD TYPE, "ORANGE"; CENTER = "PEARL"; RIGHT = "WHITE" (FEW BLOOD VESSELS).

LOWER { RIGHT = "BULL"; CENTER = "FALSE PEARL" (ASSOCIATED WITH BROWN PLUMAGE); LEFT = "YELLOW".

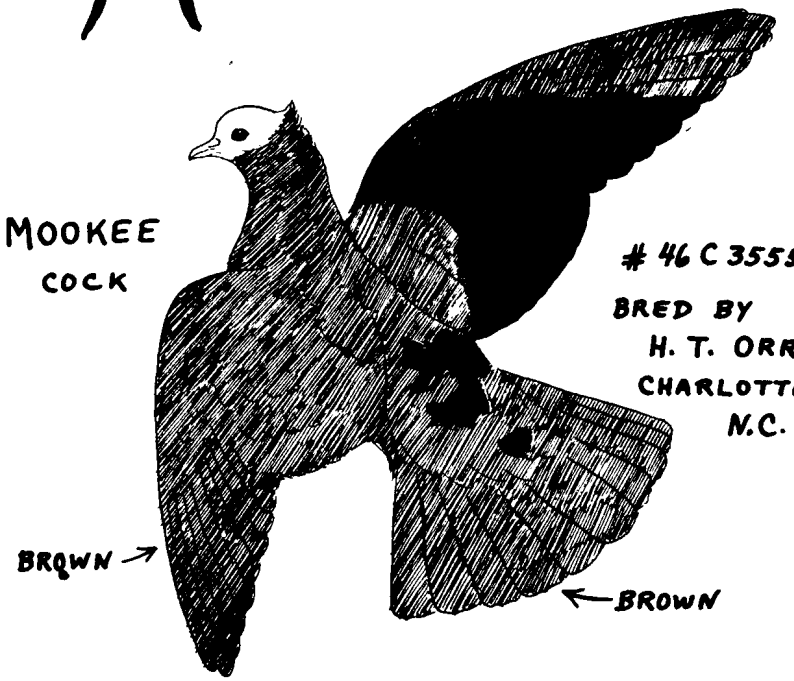
IN THE "BULL" EYE, THE SURFACE OF THE IRIS LACKS THE GRANULAR YELLOW OR WHITE PIGMENT, AND THE JET BLACK PIGMENT INSIDE THE EYE SHOWS THROUGH THE IRIS.

Piebald Contrast



THE INHERITANCE OF WHITE PATTERNS IS NOT YET WELL ANALYZED. MANY SEEM TO BE HEREDITARILY RELATED TO EACH OTHER AND ALSO TO SELF WHITE WITH "BULL" EYES.

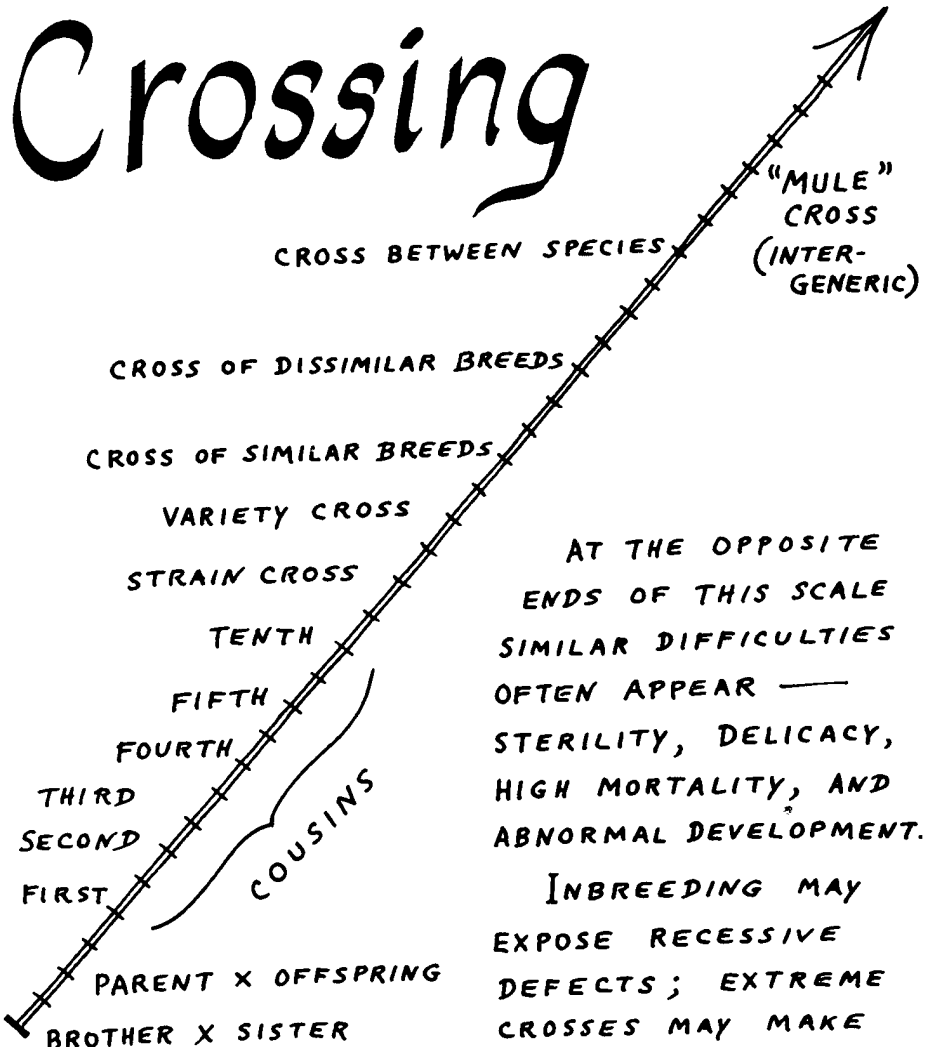
Mosaic



PATCHWORK MIXTURES SUCH AS THIS ARE VERY UNUSUAL AND IN GENETICS TERMINOLOGY ARE "MOSAICS". THIS COCK WAS TEST-MATED WITH A BROWN HEN, AND PRODUCED NOTHING BUT BROWN OFFSPRING (TOTAL = 28).

A POSSIBLE EXPLANATION OF THE ORIGIN OF SUCH FREAKS IS THAT TWO DIFFERENT SPERMS ENTERED THE EGG.

Crossing

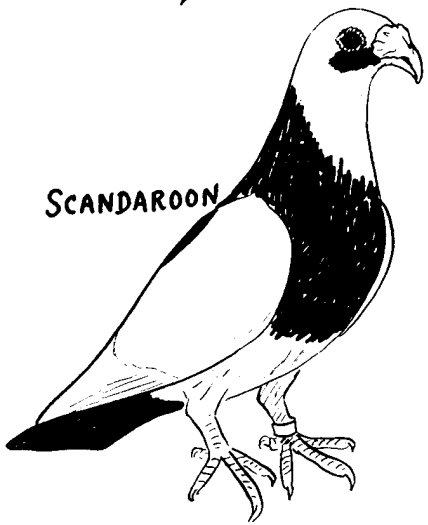


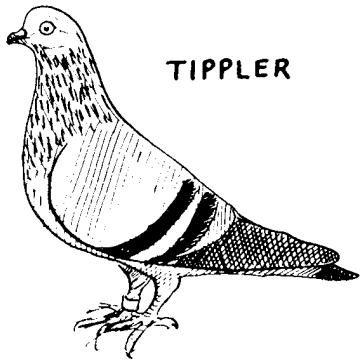
AT THE OPPOSITE ENDS OF THIS SCALE SIMILAR DIFFICULTIES OFTEN APPEAR — STERILITY, DELICACY, HIGH MORTALITY, AND ABNORMAL DEVELOPMENT.

INBREEDING MAY EXPOSE RECESSIVE DEFECTS; EXTREME CROSSES MAY MAKE INCOMPATIBLE MIXTURES.

Inbreeding

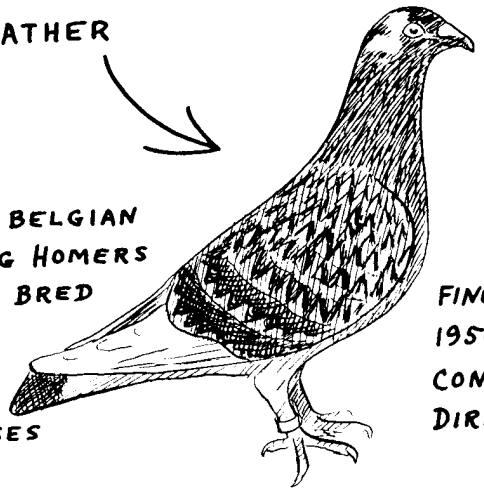
Hybrid Vigor





FATHER

MOTHER



FIRST BELGIAN RACING HOMERS WERE BRED FROM SUCH CROSSES

FINE EXAMPLE BRED 1950 IN NEW HAVEN, CONN. FLOWN VARIOUS DIRECTIONS A FEW MILES.

The End ?

AS THE OLD CLICHÉ GOES, "WE HAVE HARDLY SCRATCHED THE SURFACE."

RESEARCH IN PIGEON GENETICS WAS FORMERLY CARRIED ON MAINLY IN INSTITUTION LABORATORIES SUCH AS THE UNIVERSITY OF WISC. NOW, IT IS ALMOST ENTIRELY IN THE HANDS OF BREEDERS. WHETHER FURTHER PROGRESS IS MADE OR NOT MAY DEPEND ON BREEDERS' COOPERATIVE EFFORTS.

BREEDERS ARE NOT USUALLY INTERESTED IN TEST CROSSES — YOU CAN'T SELL MONGRELS, EXCEPT AS SQUAB MEAT.

NEVERTHELESS,

YOU CAN ASSIST —

1. HELP ANALYZE THE DIFFERENCES BETWEEN YOUR SPECIAL BREEDS AND THE STANDARD BLUE ROCK PIGEON.
2. DON'T KEEP ALL YOU KNOW IN YOUR HEAD — KEEP A NOTEBOOK, RECORDS, CAMERA.
3. FREAKS MAY BE AN EYESORE BUT ALSO STEPPING STONES TO NEW KNOWLEDGE. REPORT THEM TO PIGEON MAGAZINE EDITORS OR TO OFFICERS OF YOUR NPA

POST SCRIPT

In 1956 Pigeon Genetics News Letter (PGNL) was started with W. F. Hollander as editor — a mimeographed quarterly which continued for 10 years. After 1966 it was continued for 7 more years under the editorship of Joseph W. Quinn. These news letters contain many small reports, mostly from fanciers interested in Genetics. They are unfortunately not now easily accessible.

In 1976 David A. Rinehart became the new editor and the name was changed to Pigeon Science and Genetics News Letter. PS & GN is more formal, with offset printing and a subscription price. To date there have been 8 issues. They are available from the Beeghly Library, Heidelberg College, Tiffin, Ohio, 44883.

Also, in 1969 the American Pigeon Fanciers Council was established with Frank H. Hollmann (editor of American Pigeon Journal) as president. Its annual meetings in St. Louis have always included Genetics topics.

Knowledge and interest increase!

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