

Slack Culture for Profit

SF 405
.S6 H6
Copy 1



U. S. GOVERNMENT PRINTING OFFICE



Class SF 405

Book S 6 H 6

Copyright N^o _____

COPYRIGHT DEPOSIT.



Skunk Culture for Profit



Playmates

SKUNK CULTURE
—FOR—
PROFIT

BY
F. M. HOLBROOK

PUBLISHED
BY THE
SKUNK DEVELOPMENT BUREAU
CHICAGO, ILL., U. S. A.

Price: One Dollar flexible binding, \$1.25 cloth bound,
Postpaid in the United States, Canada and Europe.

SF405
SGHG

Copyright, 1915,
by
F. M. HOLBROOK



\$1.25

©Cl. A 406667

JUL 12 1915

no,

Dedication

To the memory of

Mr. Starr H. Thomson

who more than twenty years ago
afforded the facilities and encourage-
ment which made possible the author's
original investigations, this treatise is
gratefully dedicated.

Acknowledgement

While the author has endeavored to draw the material for this book largely from his personal experience, he wishes to express his thanks and his indebtedness to the many breeders who have from year to year generously reported their experiences to him; to Dr. J. A. Detlefsen, Professor of Genetics, College of Agriculture, University of Illinois, for valuable suggestions on the breeding of skunks; to Dr. Bert Franklin (D. V. M.), of Chicago, for assistance over many years in the treatment and prevention of diseases; to the Bureau of Biological Survey of the United States Department of Agriculture in relation to the systematic classification of skunks, and to the influence of the writings of Dr. C. Hart Merriam and of Mr. Ernest Thompson Seton.

Contents

| | PAGE |
|---------------------------------------|------|
| Frontispiece | 4 |
| Dedication | 7 |
| Acknowledgment | 8 |
| Preface | 10 |
| Introduction | 11 |
| Chapters: | |
| 1. Fur-Farming | 21 |
| 2. Habits and Economics..... | 25 |
| 3. Classification | 32 |
| 4. Selection of Location..... | 39 |
| 5. Range and Yard Fences..... | 41 |
| 6. Breeding Pens | 49 |
| 7. Dens | 54 |
| 8. Stocking the Ranch | 57 |
| 9. Feeding | 60 |
| 10. Management of Young and Old..... | 64 |
| 11. Breeding—Simple and Advanced..... | 72 |
| 12. Marking and Pedigree..... | 76 |
| 13. Disarming | 81 |
| 14. Diseases | 89 |
| 15. Killing, Skinning, Marketing..... | 97 |
| 16. Shipping Live Skunks..... | 101 |
| 17. Skunks as Pets..... | 105 |
| 18. A Letter from Canada..... | 111 |
| 19. Exhibiting | 114 |
| Breeders' Announcements..... | 120 |
| Breeder's Memoranda..... | 141 |

Preface

In selecting for the present book the title of "*Skunk Culture for Profit*," the writer has done so in the broad sense and has not solely in mind the financial return, although that is perhaps the usual motive.

"Skunk Culture for Profit" will deal with the subject from economic, practical and æsthetic points of view. Primarily it will treat of the methods necessary to breed, handle and raise the skunk successfully rather than enter into details of finance.

It is no more possible to predict what profit a person will make in raising skunks than the profit he would make in raising poultry. The results are dependent largely on the individual.

Introduction

The present volume is the direct result of the many requests received by the author for reference to some book treating intimately and accurately the subject of breeding and caring for skunks. To supply this demand for practical information *Skunk Culture for Profit* is offered to the public.

When the author first began his investigations twenty-one years ago skunk farms had even then been occasionally reported, but the methods employed had been crude and erroneous, due to the lack of knowledge on the subject. Furthermore, the raising of skunks was then held in ill-repute, as the removal of the anal glands or scent sacs was not understood or practiced by breeders.

The careful study devoted to the subject has made possible the successes of more recent years, and as time goes on our knowledge should still further increase, for the industry, while not perhaps still in its infancy, certainly is yet young and problems will still remain for individual breeders to solve. In fact, each breeder will have different conditions of land and location, affecting food supply and other elements, and will have his own details to work out aside from the general principles which all must observe.

As fitting material for the introduction to the subject-matter of this book, and as indicating not only the scope of the author's own work, but also the general interest and activity in this young industry, the author will quote in full his report to the United States Department of Agriculture, Bureau of Biological Survey, Washington, D. C., under date of February 23, 1915.

The report follows:

SKUNK CULTURE FOR PROFIT

To the Agriculturist:

ENCOURAGE AND PROTECT THE SKUNK ON YOUR FARM
IT DESTROYS WEEVILS, GRIBBS, BEETLES, GRASS HOPPERS AND OTHER INSECTS
IT INCREASES YOUR CROPS

To the Fur Farmer:

BREED THE SKUNK FOR FUR
BREED 12 BEAVERS EACH YEAR
FULL BLACK BRINGS HIGHEST RETURN

To the Lover of Animals:

STUDY THE SKUNK AND CORRECT POPULAR MISCONCEPTIONS
IT IS WONDERFUL, CLEANLY, GENTLE, BEAUTIFUL AND EASILY HANDLED
IT AFFORDS INSTRUCTION AND ADDS PLEASURE TO THE LEISURE HOUR

Breeding Stations near Chicago and Other Points in the United States



STAR BLACK

SKUNK DEVELOPMENT BUREAU

Box 554

Chicago, Ill. Feb. 23, 1915.



PURE WHITE

United States Department of Agriculture,
Bureau of Biological Survey,
Washington, D. C.

Dear Sirs:—

In reply to your letter of the 17th inst., addressed to the writer at his home at Lombard, Ill., and asking for a statement covering what he has done, and is now doing, with fur animals, he is pleased to report, as follows:

During the summer vacation of 1894, between the writer's freshman and sophomore years at the School of Mines, Columbia University, he was engaged in survey work in connection with hydraulic engineering in northern New York State and was able to take up and carry to successful conclusion some research work tending toward the domestication of the skunk (*Mephitis mephitica*).

His desire for some years previous had been to demonstrate that the skunk was really quite "innocuous" and on the whole worthy of a place in public esteem.

In order that the skunk might be properly introduced into society, it was necessary to make it absolutely safe to handle, and therefore he studied the system of the anal glands with view to their excision and made sections of dead specimens. The operation then devised by him was entirely successful in connection with the first live subject. In all, seven or eight skunks were made "scentless" by the writer during that sum-

INTRODUCTION

mer. He had not then heard of the experiment of Warren or those of Merriam later, and therefore his work was original although the results were antedated.

What the writer further did was to work out the complete technique not only for the operation itself, but also for handling the skunk previous to and throughout the operation, so that no scent would be liberated, and without the necessity of an anæsthetic. This technique is embodied in popular form in the accompanying booklet, entitled "Directions for Removing the Scent Sacs from Live Skunks Without Spilling Any Scent Fluid," and embodied as part of this report. In no case, among the hundreds of skunks on which the writer has operated, has a single one been lost in consequence of the operation.

In September of the same year (1894), the writer exhibited at the Jefferson County Fair at Watertown, N. Y., a pair of these skunks to the amazement, but more especially to the education, of the visiting public. (See file of Watertown Times, Sept. 20, 1894.) The Jefferson County Agricultural Society, for this exhibit, awarded the writer its "Diploma," reading "to Frederick Montgomery Holbrook, of Brooklyn, N. Y., for the Unprecedented Exhibit of a Pair of Skunks." This was the highest encomium at the Society's disposal and is still a highly prized trophy of the writer. (See accompanying reproduction.)

The very first live skunk on which the writer operated was kept by him about two years at his home in Brooklyn, and subsequently two or three years more by Prof. Daggett, also of Brooklyn, N. Y.

The next summer (1895) the writer prepared five more skunks with the express purpose of making a gift of them to the Menagerie in Central Park, New York City, but those in authority were unappreciative and refused to accept the gift, so unprepared was sentiment at that time. The public thus lost an early opportunity to become acquainted with the skunk.

The removal of the scent sacs does not appear to interfere with the fertility of the skunk, or with the comfort and happiness, or in the quality of the fur coat produced.

Jefferson County Hort. Society,
WATERLOO, N.Y.

DECEMBER 1894

Frederick Montgomery Holbrook
OF BROOKLYN, N.Y.

As the Proprietor and Editor of a Paper of Skunks.

September 20 1894

F. M. Holbrook

The Earliest Recognition of the Author's Work (1894)

INTRODUCTION

While the writer's work has been in the field of electrical engineering, he has never lost interest and has more and more applied his attention to the possibilities of breeding the skunk for fur in view of the steadily decreasing natural supply of this important commodity. The fur of the skunk stands high in the market under the trade names of "Black Marten" and "Alaska Sable," and now the public is coming to prize it more and more under its own name of "Skunk," as it possesses the qualities of warmth, durability and beauty.

In 1911 the writer conceived the idea of producing and distributing fine breeding stock and of disseminating knowledge of the handling and breeding of the skunk for its fur, and for these purposes established the *Skunk Development Bureau*, with Chicago, Ill., as mail address, and with breeding station at Glencoe, Ill., a suburb of Chicago.

In 1913 it was necessary to transfer the breeding station to Lombard, Ill., also a suburb of Chicago, in order to have enlarged facilities, as the demand for high-grade breeding stock was rapidly increasing.

The project has been successful, with receipts to date of \$5,935.66. Of this the amount received for breeding stock was \$5,127.76.

The interest, as shown in breeding stock sold, may be analyzed by localities supplied, as follows:

United States—

| State | Number of Head |
|-------------------------|----------------|
| California | 5 |
| Colorado | 6 |
| Idaho | 2 |
| Illinois | 15 |
| Indiana | 2 |
| Iowa | 14 |
| Kansas | 1 |
| Massachusetts | 5 |
| Michigan | 8 |
| Minnesota | 8 |

SKUNK CULTURE FOR PROFIT

| | Number of Head | |
|---------------------------|----------------|-----|
| Nebraska | 8 | |
| New Hampshire..... | 5 | |
| New York | 3 | |
| Ohio | 4 | |
| Oklahoma | 1 | |
| Oregon | 4 | |
| Pennsylvania | 5 | |
| S. Dakota..... | 4 | |
| Virginia | 1 | |
| Washington | 7 | |
| W. Virginia..... | 1 | |
| Wisconsin | 14 | |
| Wyoming | 14 | |
| | — | 137 |
| Canada— | | |
| New Brunswick..... | 59 | |
| Nova Scotia..... | 108 | |
| Prince Edward Island..... | 63 | |
| | — | 230 |
| Great Britain— | | |
| England | 12 | 12 |
| | — | — |
| Total | | 379 |

In connection with the stock sold for England, the Skunk Development Bureau wishes to extend its appreciation to the United States Department of Agriculture as it was their reference of the inquirer which resulted in the negotiation.

The distribution of interest is still further indicated by the number of complete sets of surgical instruments for removing scent sacs shipped to parties located in states as follows:

| United States— | Sets of Instruments |
|----------------|---------------------|
| State | |
| Alabama | 1 |
| Arizona | 0 |
| Arkansas | 1 |

INTRODUCTION

| State | Sets of Instruments |
|----------------------|---------------------|
| California | 1 |
| Colorado | 2 |
| Connecticut | 3 |
| Delaware | 0 |
| Florida | 1 |
| Georgia | 1 |
| Idaho | 0 |
| Illinois | 7 |
| Indiana | 9 |
| Iowa | 5 |
| Kansas | 2 |
| Louisiana | 0 |
| Maine | 3 |
| Maryland | 0 |
| Massachusetts | 6 |
| Michigan | 4 |
| Minnesota | 17 |
| Mississippi | 1 |
| Missouri | 1 |
| Montana | 0 |
| Nebraska | 6 |
| Nevada | 0 |
| New Jersey | 1 |
| New Mexico | 0 |
| New York | 4 |
| North Carolina | 0 |
| North Dakota | 6 |
| New Hampshire | 3 |
| Ohio | 14 |
| Oklahoma | 2 |
| Oregon | 1 |
| Pennsylvania | 11 |
| Rhode Island | 2 |
| South Carolina | 0 |
| South Dakota | 1 |
| Tennessee | 4 |

SKUNK CULTURE FOR PROFIT

| | Sets of Instruments | |
|---------------------|---------------------|-----|
| Texas | 2 | |
| Vermont | 1 | |
| Virginia | 0 | |
| Washington | 2 | |
| West Virginia..... | 1 | |
| Wisconsin | 8 | |
| Wyoming | 1 | |
| | — | 135 |
| Canada— | | |
| Alberta | 2 | |
| New Brunswick | 1 | |
| Nova Scotia | 7 | |
| Ontario | 4 | |
| Quebec | 1 | 15 |
| | — | 15 |
| Total | | 150 |

The Skunk Development Bureau has distributed free general data to over 1,500 applicants, and has in addition furnished its manual on removing the scent sacs to 830 of these same interested parties, the total volume of correspondence dispatched amounting to somewhat over 5,000 letters in handling the work.

The Bureau has established sub-stations for breeding in some of the states in order to more rapidly meet the demands for breeding stock. The mating and pedigree chart has been devised to meet definite needs of all breeders and is distributed free to all breeders who desire it in any quantities for its intended use. See specimen copy.

The scheme of marking the skunks for identification, the system of number designation, the division of all skunks into eight general grades: AAA, AA, A, B, C, D, DD, and DDD, and the circular or target form of genealogical diagram, are the original work of the writer.

The Bureau has not yet been able to obtain a grade AAA (completely black) skunk, although it has encountered many

COMMON SKUNK

— ERRONEOUSLY TERMED POLE-CAT —

MEPHITIS MEPHITICA

MALE AND FEMALE

TAKEN YOUNG JULY 4, 1894 ON FARM

OF STARR H THOMSON

RUTLAND HOLLOW

EAST WATERTOWN N. Y.

CAUGHT PREPARED AND EXHIBITED

BY FREDERICK M. HOLBROOK

BROOKLYN N. Y.

SEPT. 18-19-20-21, 1894
JEFFERSON COUNTY FAIR

Photograph of Original Placard

swindles and counterfeits based on this ideal grading. The Bureau, however, possesses the grade DDD (completely white).

Grade AA has been found to breed very true to type, and this is the grade highly prized for breeding purposes. The male, especially, should be grade AA.

The Skunk Development Bureau is at the present time engaged in some specialized work in genetics in co-operation with the University of Illinois, dealing with recession and dominance in types with reference to the Mendelian theory, but it is too early as yet to announce results. Since research has never before been conducted along these lines in connection with the skunk, the results should be attended with considerable interest.

In closing, the writer encloses further data which the Bureau distributes free of charge.

Respectfully submitted,

SKUNK DEVELOPMENT BUREAU.

F. M. HOLBROOK,
Manager.

JJ/H

ENCLOSURES:

- Exhibit A—Photo Circular
- “ B—Circular Letter
- “ C—Reproduction of Diploma
- “ D— “ “ Placard
- “ E—Directions for Removing Scent Sacs
- “ F—Skunk Mating and Pedigree Chart

CHAPTER I

Fur-Farming

The subject of fur-farming is usually regarded as new and as referring to some quite recently conceived practice.

Fur-farming means the raising of fur-bearing animals under domestic conditions for their fur. But this is not new, and for thousands of years we know that man has raised sheep and certain other animals in a high degree of domestication and used their pelts.

It may surprise some readers to know that the common house cat produces a pelt of good fur and is listed in the quotations of raw fur buyers.

But more particularly the term *fur-farming* is used at the present time to mean the raising of our so-called *wild animals* in a state of captivity and at least of partial domestication. As a matter of fact, timidity rapidly disappears under proper confinement and regular care in the case of most species.

The rapid decrease in the natural or wild supply of fur by close trapping and clearing of forests has afforded the stimulus which fur-farming has received in the last few years.

The greatest amount of work has thus far been done with black or silver fox, skunk and mink, although marten, otter, fisher, raccoon, opossum, red and gray foxes and musk-rats have also received attention.

In 1914 over \$10,000,000 was invested according to the Consular reports in the fox industry in the maritime provinces of Canada. Fine black breeding foxes brought from \$10,000 to \$20,000 per pair, and even higher. Skins have sold from \$500 to \$2,000 each.

The high cost of breeding stock has made the raising of black foxes prohibitive for most people who would like to propagate fur bearers. The majority have therefore turned to the skunk as the most available animal and as one that produces a pelt of excellent fur, and it is stating the case mildly to say that at the present time the breeders of the skunk outnumber those of all other animals which have of late years been appropriated to this purpose.

For several years fine prime black skunk skins have been bringing from \$4.00 to \$6.00 each in the raw state; that is,



Skunk Fur "Going Up"

merely stretched and dried. Fine muff and boa sets of skunk are sold at retail often as high as \$150 to \$200. It is therefore apparent that the market for staple furs is on the whole quite dependable, for in producing fur the breeder is adding to human wealth and welfare. Fur has, as far back as history records, been in great demand as clothing, which is considered hardly less important than food.

The black skunk fur is the most highly prized at the present time and brings the highest prices, but of late long, even stripes

have been made up in beautiful effects and it is possible that they may come into favor. It is hard to change established fashion, for few people are willing to "break the ice" and most of us are willing to follow the mandate of Alexander Pope in his "Essay on Criticism":

"In words, as fashions, the same rule will hold;
Alike fantastic, if too new, or old:
Be not the first by whom the new are tried,
Nor yet the last to lay the old aside."

It may be safely said that no good skunk fur, whether black or white, is wasted. The white stripes are usually cut from the skins, sewed together and dyed and sold in the cheaper markets.

The problem before the fur-farmer is, therefore, to produce the color, texture and other qualities most desired, and a work on fur-farming must show how the result is to be most successfully attained.

The present book has really a wider scope than fur-farming, for Skunk Culture includes not only the raising of skunks to kill for fur, but also the raising of skunks to sell as live stock. Thus a breeder need not necessarily kill at all for the fur market. The live stock breeder must be guided by the same general rules as the fur-farmer, but the marketing will be an entirely different matter, as he will sell his stock, (1) to fur-farmers as foundation stock or new blood; (2) to pet stock fanciers whose numbers are constantly increasing; (3) and for miscellaneous purposes such as the stocking of zoological gardens, etc.

Thus skunk culture may be pursued by anyone, (1) who has the necessary land for the purpose, although the amount may vary from a back yard to a large farm, according to the breeder's aspirations; (2) who has a real taste and devotion to the care of live animals; (3) and who is willing to apply his

mind and energy to the study of the particular needs of the skunk, for success in no line may be attained without diligent application to the subject.

Some trappers will succeed, as they know something of the needs of the skunk. Some farmers will succeed, as they are familiar with the care of dumb animals. But all three conditions and qualities must be met and many a person who has never trapped or farmed may combine these—land, love and labor.

CHAPTER II

Habits and Economics

Skunks are largely nocturnal in their activities, appearing often as soon as dusk approaches and often continuing abroad until dawn. They are not climbers, and the large species of skunk seldom ascend the trunks of trees unless it is to attempt escape when confined. The little spotted skunks are more prone to climb trees, but do not do so to any great extent.

Skunks usually adopt some ready-made shelter for their nests or dens. They are rather too lazy to burrow to make dens, but prefer to adopt the burrow of a rabbit or a woodchuck, which they can readily adapt to their needs. They are semi-domestic by nature and like to live near the habitation of man. They penetrate beneath hay stacks, stone ledges or under the floors of barns frequently, and there spend the winter in a state of semi-hibernation. Being well equipped with fat in the fall they can endure the winter with little food, but usually come forth at each mild period or during thaws.

They mate about the first of March in the temperate climates and after a period of gestation of approximately sixty days bring forth litters of from four to twelve hairless young, which open their eyes at about four weeks and are weaned at about eight weeks.

In the summer the food of the wild skunk is almost entirely insects, such as crickets, grasshoppers, June bugs and other beetles, grubs, army worms, cutworms, tobacco or tomato worms and many other harmful creatures. They eat hopgrubs, as well as Colorado potato bugs. When the weather becomes cooler their diet is confined more to field mice, rats and other small rodents.

To some extent skunks eat bird's eggs and small game and occasionally visit the hen house when hungry, but in the latter case usually only what is actually needed for food is taken and the flock is not slaughtered.

Skunks may be approached in the wild state with much more safety than is generally supposed and they will often themselves approach persons when quiet or in camp with not the slightest inconvenience. They are very inquisitive and unsuspecting and it takes considerable alarm or fright to startle them so as to cause them to throw their scent fluid in self defense. A quick move is likely to startle them calamitously.

Once when the author was dressed in his Sunday clothes, he happened upon a two-thirds grown wild skunk in a pasture. As he approached the skunk retreated but stopped when only five or six yards intervened. The author stopped at the same time and remained stationary until the skunk again began her slow retreat, often stopping, facing about and stamping her front feet saucily on the ground in sharp thuds. Finally she was thus worked over toward a stone wall and as soon as she had partly entered a crevice the author quickly and unseen reached forward and seized her tail which he kept tightly drawn in a straight line with the back bone. Finally the skunk's hold in the crevice weakened and she was withdrawn without mishap and then carried nearly two miles back to the farm house where dinner was waiting. The author took her still suspended by the tail into the house through the woodshed, through the kitchen, through the dining room and past the long table on which dinner was spread and finally out of the front door, across the road and into the barn. Here he let her gradually down into a barrel half full of fluffy hay, all without the slightest odor of skunk. The next morning without mishap she was deprived of her scent sacs which were found to have a most full and complete supply of ammunition.

The above example shows what can be done when a skunk is approached gently and intelligently but it is recommended that the beginner wait until he has had considerable experience before entering the house with a fully armed wild skunk.

Should a skunk enter the cellar it can easily be driven by slow and gentle approach until it crawls behind a box placed with open side toward the wall. As soon as the skunk is thus out of sight the box is pushed against the wall and the skunk made prisoner. A board is then passed between the box and the wall and the board and box and skunk may be then carried out. The skunk may be tumbled about in the box without scenting as it sees no enemy into whose eyes the scent fluid may be thrown.

It is a fact that when an enemy approaches and drives a skunk to bay it will stand ground, facing its adversary "with both ends," until at the final sally the scent fluid is thrown with accurate aim into the enemy's eyes causing temporary blindness lasting three to five minutes, long enough for the skunk to escape.

A dog when subjected to this ignomy, will roll and rub his face and nose in the earth in great pain for a few minutes.

The author recently had both eyes filled with the fluid when carelessly handling a skunk which had just been received and supposed to have been disarmed. For three or four minutes the feeling was that the end of the world had come and then suddenly all was again serene.

To remove odor of the scent fluid from the skin or hair wash first with soap and water and then with dilute acetic acid (one part to ten of water) and then rinse and dry. A slight trace will remain for several days but it can be held in disguise by applying balsam peru diluted with five parts of alcohol. This forms a sort of seal besides having a pleasant odor in itself and is especially useful on and around the finger nails. Gasoline is an efficacious wash but must be handled

carefully on account of fire which must not be approached even after the hands are apparently dry as the gasoline soaks into the skin. Chloride of lime dissolved in water is a good wash for the hands but must not be put on the face or hair.

Clothes are practically ruined by the odor. Long exposure to sun, rain and wind will permit them to be used as "old clothes."

So great is the preponderance of good that the skunk does for agriculture that many states have passed protective laws. About a dozen states have a closed season and only permit trapping or killing in the few winter months.

New York state was first in thus protecting the skunk and the Conservation Law in that state is in this respect the most radical and complete of any state. In order to illustrate how necessary some states have seen fit to protect the skunk the New York law is quoted below :

PART V.

Conservation Law.

§ 199. Skunk. Skunk may be taken either in the daytime or at night and in any manner, but they shall not be taken from holes or dens by digging, smoking or the use of chemicals, and they may be possessed from November tenth to February tenth, both inclusive. Skunks which are injuring property or have become a nuisance may be taken at any time in any manner.

[As amended by chapter 508, Laws of 1913, and by chapter 92, Laws of 1914.]

§ 200. Propagation of fur bearing animals permitted. All species of fur-bearing animals protected by this chapter may be kept alive in captivity at all times for purposes of propagation and sale only, provided a license so to do shall first have been obtained from the commission. Every person obtaining such license shall pay the commission the sum of five

dollars as a license fee. No fur bearing animals shall be thus kept which are taken wild during the close season for such fur-bearing animals, and such fur-bearing animals so kept shall not be disposed of in any way during the close season.

[As amended by chapter 508, Laws of 1913, and chapter 92, Laws of 1914.]

§ 203. Penalties. A person who violates any provision of Part V shall be guilty of a misdemeanor and in addition thereto, is liable as follows:

. . . and for each violation of section one hundred and ninety-nine to a penalty of ten dollars for each skunk taken in violation thereof;

Rules and Regulations.

PROPAGATION AND SALE OF FUR-BEARING ANIMALS.

Bond. 27. Each application for a license to engage in the business of propagation

and sale of fur-bearing animals shall be accompanied by a satisfactory bond to the People of the State in the penal sum of five hundred dollars, conditioned that the applicant will not keep such fur-bearing animals which are taken wild during the close season for such fur-bearing animals and will not dispose of such fur-bearing animals in any way during the close season; that he will observe all of the prohibitions, restrictions and conditions imposed by the terms of the license to be issued and the provisions of section 200 of the Conservation Law.

28. If said bond is approved, and Approval of upon payment to it of a fee of five bond, and fee. dollars, the Commission shall issue to the applicant a license permitting him to keep fur-bearing animals under the provisions of said section for one year from a time therein stated,

but no such license shall be issued to take effect during the close season.

Renewal of license. In order to authorize the continuance of such licenses thereafter, the licensee shall renew said bond annually, and the fee for renewal of license shall be five dollars.

Construction. 29. No person purchasing fur-bearing animals from such licensee shall have them in possession during the close season, even though purchased during the open season, unless such person shall have a license under section 200 of the Conservation Law.

Penalty. 30. Any person violating the provisions of such bond, any rule or regulation of the Commission or any of the provisions of section 200 of the Conservation Law shall forfeit his license and shall be denied the privilege of giving another bond.

[As amended April 27, 1914.]

Should any one wishing to breed skunks in any state have doubts as to whether any restrictions apply to his capturing, buying or selling live skunks at any time or at all times of the year, he should write to his State Game Commissioner at the State Capital for full information. It is an easy matter to comply with the law and compliance will avoid serious complications.

It is thus clear that the skunk is a useful animal entirely aside from the value of the fur. The fat is an article of commerce being used as a liniment by some in case of sore throat, etc. Even the scent fluid has use as a constituent of animal baits for the trap line and is used in medicine to some extent. The flesh is edible and Dr. C. Hart Merriam in Vol. 1 of the Transactions of the Linnæan Society of New York, October 1882, writes as follows:

“The flesh of the skunk is white, tender and sweet, and is delicious eating. It is not unlike chicken, but is more delicate, and its taste is particularly agreeable. Being, happily, free from any of that “squeamishness” which Audubon and Bachman lament as preventing them from tasting the meat of this animal, I am able to speak on this point from ample personal experience—having eaten its flesh cooked in a variety of ways, boiled, broiled, roasted, fried, and fricassed—and am prepared to assert that a more ‘toothsome bit’ than a broiled skunk is hard to get, and rarely finds its way to the table of the epicure.”

The fur value of the skunk is well known to all but it is interesting to know that according to Farmers Bulletin No. 587 of the U. S. Dept. of Agriculture, entitled “Economic Value of North American Skunks,” their pelts bring to the United States trappers about \$3,000,000 annually. The annual output may be said to be about 2,000,000 skins.

CHAPTER III

Classification

Skunks are classified in various ways for different purposes and three classifications may be stated as follows:

1. Zoological classification, based on differences of bone formation, teeth and other anatomical peculiarities.

2. For buyers' classification, based on amount of black fur.

3. Breeders' classification, which is an extension and elaboration of the fur buyers' classification.

Zoological Classification.—The scientist divides animals systematically into graded zoological groups based on structure of parts and their relative proportions.

The skunks of North America are divided into two genera as follows:

Mephitis—The large two-striped skunks.

Spilogale—The small spotted skunks.

The genus *Mephitis* comprises the skunks which furnish the fur known as "Skunk" in the fur market and contains the following species and sub-species:

Mephitis mephitis (Canada Skunk).

Mephitis hudsonica (Northern Plains Skunk).

Mephitis putida (Eastern Skunk).

Mephitis elongata (Florida Skunk).

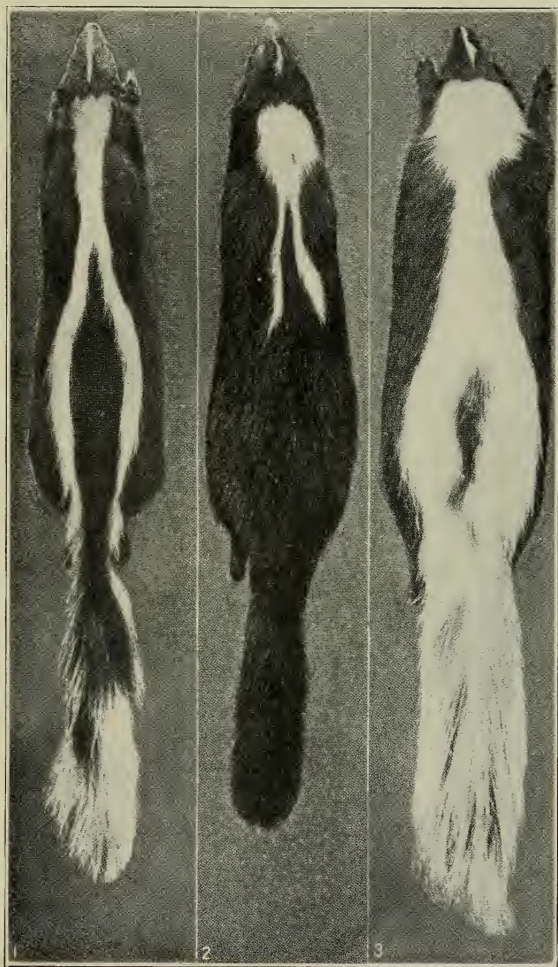
Mephitis mesomelas (Louisiana Skunk).

Mephitis mesomelas avia (Illinois Skunk).

Mephitis mesomelas varians (Long Tailed Texas Skunk).

Mephitis estor (Arizona Skunk).

Mephitis occidentalis (California Skunk).



SKINS OF CHINCHA.

1. *Chincha mephitis*. 2 *Chincha mesomelas*. 3. *Chincha estor*.

(Reproduced by courtesy of the Bureau of Biological Survey, U. S. Dept. of Agriculture—Reduced)

Mephitis occidentalis spissigrada (Puget Sound Skunk).

Mephitis occidentalis notata (Cascade Skunk).

Mephitis occidentalis major (Great Basin Skunk).

Mephitis occidentalis holzneri (Southern Calif. Skunk).

Mephitis platyrhina (Broad Nosed Skunk).

Mephitis macroura (Hooded Skunk).

Mephitis macroura milleri (Northern Hooded Skunk).

Mephitis macroura vittata (Least Hooded Skunk).

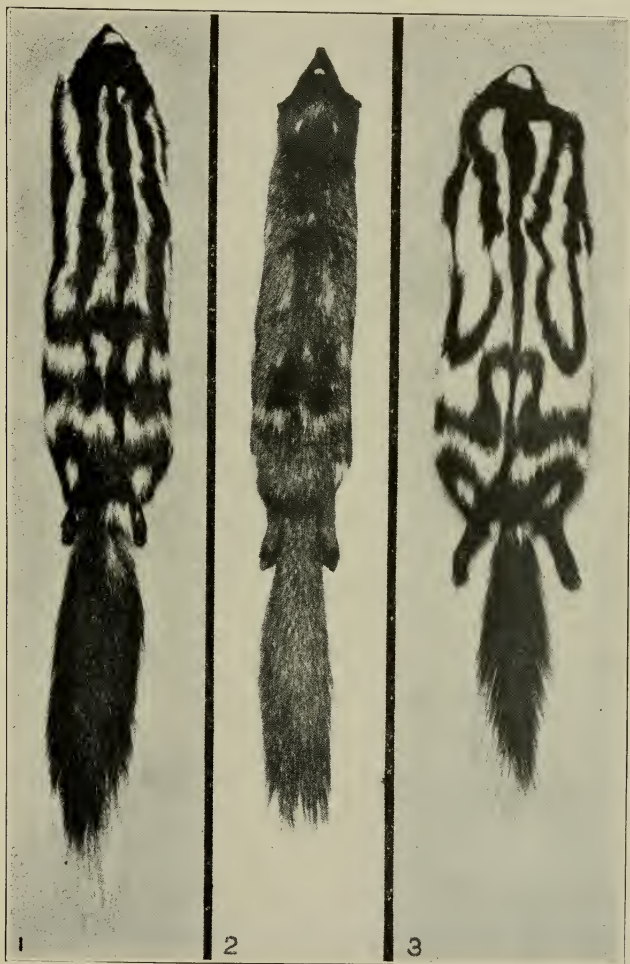
The above list is compiled from North American Fauna No. 20, entitled "Revision of the Skunks of the Genus *Chincha*," by Mr. Arthur H. Howell, excepting that the generic name "*Mephitis*" has been employed in accordance with present usage (instead of "*Chincha*").

The genus *Spilogale* which furnishes the skins known in the fur market as "Civet" has never been used for fur-farming as the skins are small and low priced. There are twenty species and sub-species recognized in North America.

The list will be found in North American Fauna, No. 26, entitled "Revision of the Skunks of the Genus *Spilogale*," by Arthur H. Howell. (North American Fauna is a series of technical bulletins prepared and published by the United States Department of Agriculture, Bureau of Biological Survey.)

Fur Buyers' Classification.—Skins are classed usually as No. 1 (or black); No. 2 (or short stripe); No. 3 (or narrow stripe); and No. 4 (or broad stripe). The price paid is determined largely by this grading. However, size of skin, quality, thickness and primeness of fur and condition of skin have a great deal to do with the value. A skin is said to be prime when the summer fur has entirely been replaced by the new growth for winter.

Grade No. 1 is usually regarded as covering pelts that are mostly black, the white being on head and perhaps a little on shoulders. Grade No. 2 covers short stripes about half the



SKINS OF SPILOGALE.

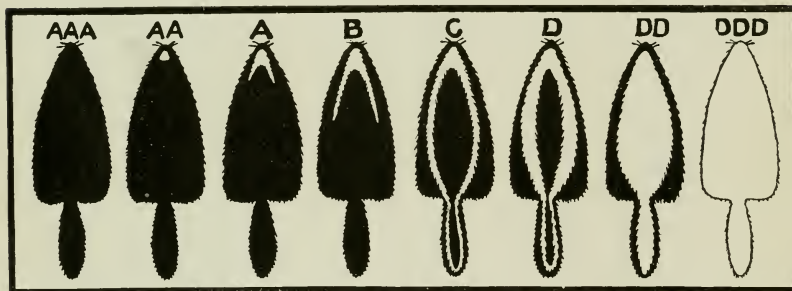
1, *Spilogale putorius*; 2, *Spilogale interrupta*; 3, *Spilogale leucoparia*.

(Reproduced by courtesy of the Bureau of Biological Survey, U. S. Dept. of Agriculture—Reduced)

length of the body. Grade No. 3 covers long narrow stripes the whole length of the body. Grade No. 4 covers broad stripes the whole length of the body or any greater degree of whiteness.

These grades refer to the large type of skunk and not to the small spotted skunks the skins of which are called "civet" or "civet cat" in the market.

Breeders' Classification.—This classification originated by the author in 1911 has been adopted by practically all breeders for their own records and for the sale of live stock for breeding purposes. It consists of eight grades as follows:



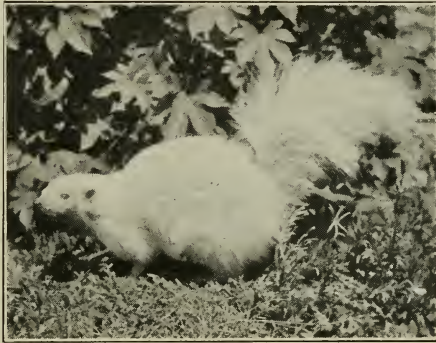
The Eight Grades for the Breeder

AAA—Completely black with not a single patch of white on face, head, neck, body, tail or elsewhere. This is extremely rare and but few specimens have been known to occur and these cases are largely traditional. This grade is the goal of the breeder.

AA—Star black with white confined to face, head and tail. There must be no white on shoulders or body. The white on head may be round, crescent, forked or separate marks.

CLASSIFICATION

- A—The same as AA except white may run to the shoulders but not further back.
B—Half stripes.
C—Long narrow stripes.
D—Broad stripes.
DD—Back solid white.
DDD—Completely white. This grade of white or albino skunk is not so rare as AAA.



Grade DDD Pure White

Any intermediate grade may be noted by hyphenating the grades between which it is found. That is, a skunk with a very small spot of white on the face or on tip of tail but no white hairs elsewhere can be graded AAA-AA. A good star with a slight tuft of white on shoulder can be graded AA-A. Thus intermediate grades are readily indicated.

It will be noted that grades A, B, C and D are substantially the fur buyers' typical grades, No. 1, No. 2, No. 3 and No. 4 respectively.

The method of using these grade designations in recording pedigrees, etc., is described in the chapter on marking and pedigrees.

It may here be remarked that sometimes the black fur is replaced with a chocolate color called by some "red" and by others "brown." The white may be of any pattern the same as associated with black. A "red star" skunk is a star of grade AA having the red color instead of black.

Mr. J. M. Bray of Schwenkville, Pa., states: "The stripes are white the same as they would be on a black skunk. The fur value is the same as a black skunk. I have been a fur buyer for about thirty years and I have possibly met ten or fifteen in all my travel, so you can judge that they are not very plenty."

CHAPTER IV

Selection of Location

In almost any location in the temperate or cooler sections of the country skunks may be successfully raised and while it is true that skunk farms are in operation from Texas, Alabama and Florida in the South to the far North in Canada, it is also true that the best development of fur will be attained in the cooler sections. In most parts of the United States the skunk is found native and there are no states where it can not be successfully raised for breeding purposes although the thickness of the fur will be regulated by the needs of protection imposed by the climate.

The question is often asked, "can skunks be raised in my locality"? While the usual answer is "yes," the inquirer can in all cases decide this for himself by noting whether wild skunks thrive in his locality, or in similar locations (for sometimes close trapping has exterminated the skunk in a place where it formerly thrived).

It would only be an extreme case of high altitude, desert, swamp, heat or excessive cold where the skunk could not be raised and in any place where man may live in comfort it is safe to say the skunk may be raised successfully.

Nearness to a cheap food supply is an important item to consider if great numbers of skunks are to be raised. Thus if close to a city or near a stock yard waste product will make the cost of raising low but there are other ways of offsetting cost even in remote localities as will be described later under "Feeding."

In choosing the site on your premises for locating the skunk yards you may select land that is not especially valuable for cultivation; in other words good tillable land is not necessary. A rocky hillside or gulch or a wood lot may be used. Be sure it has good drainage as it would not do to select a piece of land that might be under water at any time of the year. If it has timber or even scrub growth on it so much the better for if there is no natural shade it must be supplied artificially as will be later described, in order to protect from the mid-day sun.

If running water occurs naturally on the place it will save labor as otherwise it must be piped or carried.

Some breeders have been able to fence off the mouth of a gulch and enclose several acres with very little fencing as the steep rocky sides formed an impassable barrier. Such conditions are rare and in most cases a wise and economical selection of land may be made on any farm or in any locality.



Comrades

CHAPTER V

Range and Yard Fences

A main fence called the range fence should be built around the whole tract or range on which skunks are to be raised. This can be built as the farm grows. For instance a half acre could be fenced the first year if a small beginning is made, or one or two acres if a larger start is desired, and then the area can be doubled the second or third year.

This range fence must be absolutely skunk tight from the inside and dog, wolf, and man tight on the outside. This range fence may be made by using any of the following materials:

1. Wire netting.
2. Corrugated sheet iron.
3. Boards.
4. Concrete.

In any case posts and stringers are required as well as a few barbed wires.

The Wire Netting Range Fence.—This will be found the cheapest fence under most conditions. It should be made of wire netting not coarser than $1\frac{1}{4}$ -inch mesh and not lighter than No. 17 gauge. The wire should be of the ordinary poultry type of hexagonal mesh and must be galvanized after weaving. The twists are thus thoroughly soldered, and the fence is much stronger. The coat of galvanizing is continuous and uninjured and protects the wire from rust. Do not accept netting that is merely woven from galvanized wire as it is weak and the thin coating of zinc is much bruised in the weaving process.

A good fence is made of No. 17 gauge $1\frac{1}{4}$ -inch mesh netting extending $2\frac{1}{2}$ feet into the ground and $3\frac{1}{2}$ feet above ground. A 1-foot overhang of the same wire should be placed at the upper edge. Above this a $2\frac{1}{2}$ -foot riser of 3-inch mesh No. 17 wire should be run and above this a couple of barbed wires. The barbed wire should be made to support the top of the 3-inch mesh netting by means of suspension tie wires or by vertical slats stapled to the barbed wires and to the 3-inch mesh netting. Ten-foot posts set 8 to 10 feet apart should be used and a stringer 2x4 inches should be run at the top of the $1\frac{1}{4}$ -inch mesh wire.

The cut shows the general construction of this fence. In some ground it might be safe to run the wire only 2 feet below the surface. It is well to lay flat stones at the foot of the wire in the bottom of the trench, or thin cement grout may be poured along the bottom. Even a board laid flat in the trench is good but a narrow strip of netting is better. The last mentioned effect is easily obtained by turning in the fence netting itself to lie on the bottom of the trench as dug. Too much care cannot be taken to prevent the skunks from burrowing under the fence, especially if the ground is not hard or stony. Many beginners have lost their entire stock by escape because some weak spot in the fence was left.

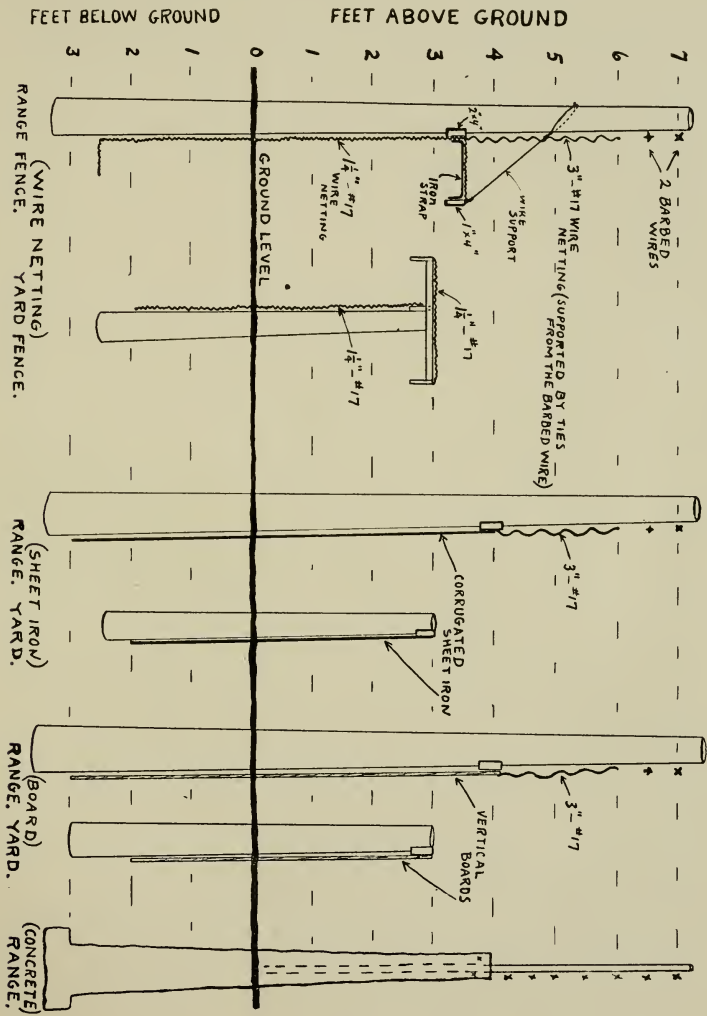
The wire netting fence has an advantage in not causing snow drifts over which the skunks sometimes escape when solid fences are used and where close watch is not maintained.

With any kind of a fence constant vigilance should be the watchword and regular rounds of inspection made daily.

The cost of the wire for the fence above described is about 14 cents per running foot of fence. The cost of posts and stringers will vary widely with the location, as well as cost of labor.

A modification of this netting fence is to omit the overhang and instead place a strip of tin or sheet iron about 18 inches

RANGE AND YARD FENCES



wide above the netting. This necessitates a second stringer to support it, but makes a perfectly safe construction and saves labor. It does not add much to the total cost.

The accompanying table shows the usual retail prices of the netting and as a matter of comparison all the various meshes and gauges are given. The higher the gauge number the lighter the wire. In large quantities netting may be bought somewhat cheaper.

The Corrugated Sheet Iron Range Fence.—This fence is made by sinking corrugated sheet iron roofing into the ground 2 or 3 feet and letting it come 3 or 4 feet above ground. It should be painted with asphaltum for the underground part and with some good graphite paint above ground. It is hardly worth while using galvanized iron for the purpose as the galvanizing is done before the sheets are corrugated and hence is much bruised. Paint must be relied on to prevent rust.

If No. 24 gauge iron is used the cost will be about $3\frac{1}{2}$ to 4 cents per square foot, making a cost of about 25 cents per foot if sheets 7 feet long are used. This does not include cost of poles and stringer which must be added.

No overhang need be used with this construction as the skunks cannot climb the sheet iron.

The 3-inch mesh netting and barbed wire should be used above the sheet iron to keep out intruders of all kinds.

An advantage of this fence is saving of labor. It has been used and is quite popular in some parts of the country. Its disadvantage is that it causes snow drifts and offers a broadside to heavy winds which may sometimes tear it down. It may also prevent drainage unless care is given to this feature.

If thinner iron is used the cost is somewhat reduced but too weak a construction should be avoided.

RANGE AND YARD FENCES

| HEXAGONAL NETTING GALVANIZED AFTER WOVEN | | | | | | | | | | | |
|--|--------|------|------|------|------|------|------|------|------|------|--|
| GAUGE MESH | #13 | #14 | #15 | #16 | #17 | #18 | #19 | #20 | #21 | #22 | |
| 3 inch | \$1.65 | 1.35 | 1.08 | .83 | .65 | .50 | .40 | .35 | | | |
| 2½ " | 2.05 | 1.60 | 1.25 | .95 | 75 | .55 | .45 | .40 | | | |
| 2 " | | 1.90 | 1.45 | 1.10 | .90 | .65 | .50 | .45 | | | |
| 1½ " | | | | 1.75 | 1.45 | .90 | 70 | .60 | | | |
| 1¼ " | | | | 2.20 | 1.65 | 1.20 | 1.00 | .85 | | | |
| 1 " | | | | 2.80 | 2.00 | 1.55 | 1.30 | 1.10 | | | |
| ¾ " | | | | | | 2.50 | 2.15 | 1.80 | 1.65 | | |
| ⅝ " | | | | | | | 3.80 | 3.60 | 3.20 | | |
| ½ " | | | | | | | 5.60 | 5.00 | 4.10 | 3.70 | |

ABOVE PRICES ARE FOR 100 SQUARE FEET IN BALE LOTS.
 BALES ARE 150 FEET LONG AND 1 TO 6 FEET WIDE IN ½ FOOT STEPS.

The Board Range Fence.—This fence may be built anywhere that lumber is very cheap, such as in the forests near a saw mill. In most places lumber is too expensive to use. The surface should be smooth enough so the skunks cannot get a foothold to climb out. If the boards are rough so that the skunks can climb nail a strip of tin 15 inches wide a few feet above the ground or place a board overhang near the top.

The board fence must be built strong to withstand the wind and this may be a serious problem. Barbed wire should be used on the top.

The Concrete Range Fence.—A fence may be made by erecting a concrete wall in a trench and has been used where sand and gravel are handy and cement cheap. This makes a strong fence of most lasting qualities, but is too expensive for most cases. It should rest on a good footing 1 foot wide in the bottom of the trench. It may taper from 8 inches wide at the bottom to 4 inches wide at the top. No overhang is necessary if the sides are made smooth. Vertical iron rods should be set every 6 or 8 feet for reinforcement and should project above the wall so as to carry barbed wire. A couple of barbed wires should also be run horizontally in the wall near the top for added strength.

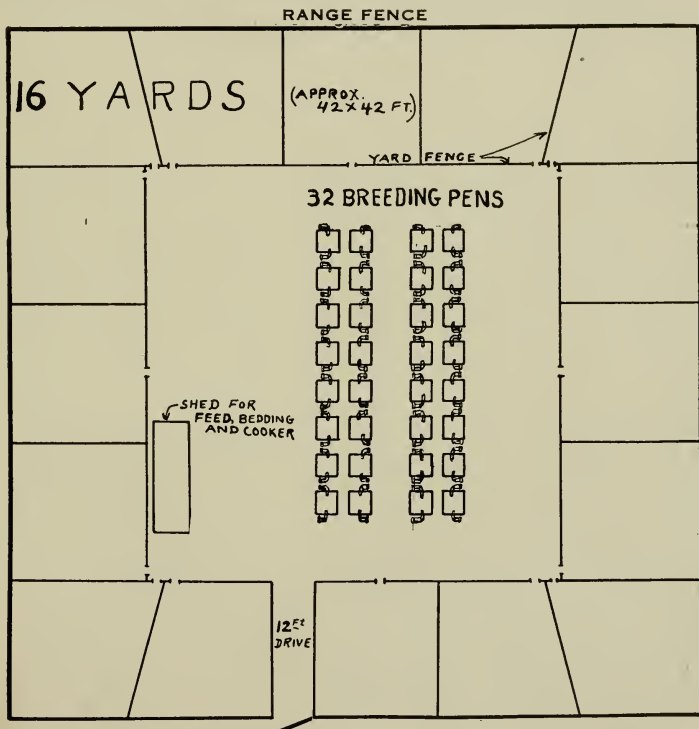
From the foregoing it is evident that there are several ways of making a secure main fence to surround the whole skunk range. This does not mean that all the skunks or any considerable number of them may be turned loose within this place. If this is done disaster would result as has occurred so many times with the inexperienced, for in any bunch of skunks there will usually be a few that are quarrelsome.

When quarreling begins blood will be drawn sooner or later and the victim is set upon by his comrades and finally killed and devoured. In fact one vicious skunk will soon teach the others the murderous habit and a state of general cannibalism is likely to follow.

RANGE AND YARD FENCES

Hence it is necessary to sub-divide the general tract into yards of convenient size. If these yard units are made forty feet square a dozen skunks may be safely kept in each. Even so, the keeper must keep watch to see that all goes well and if any skunk is found to be ugly he should be confined separately or killed if separation is not feasible.

A good supply of dens (not less than six) should be provided in each yard as described under chapter on dens.



One Acre Ranch (Approx. 209x209 ft.) for 6 Males and 36 Females—
32 of These Should Become Mothers

Yard Fences.—The yard fences need not be anything like as strong or expensive as the range fence. It will usually be sufficient to run them $1\frac{1}{2}$ or 2 feet in the ground and a height of 3 feet above ground is plenty. No high coarse wire netting or barbed wire for keeping out dogs or boys will be necessary.

The yard fences may be made of the $1\frac{1}{4}$ -inch mesh No. 17 wire netting with double overhang at the top three feet above the surface of the ground. Or it may be made of netting brought only $1\frac{1}{2}$ feet above the ground and an 18-inch strip of tin placed above it thus making it impossible for skunks to climb over either side without the need of any overhang at all. Or 4 or 5-foot lengths of corrugated sheet iron may be stuck in the ground $1\frac{1}{2}$ or 2 feet and make a safe and easily constructed fence requiring no overhang.

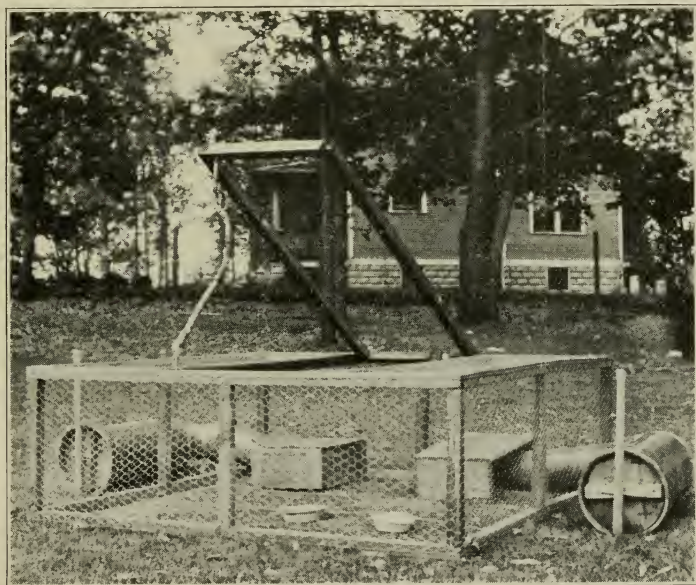
In all cases after making the range fence or the yard fences the earth should be firmly tamped back in the trench dug for the underground portion, so that the skunks will not find loose earth along the fence and start digging there.

All gates should be made with good heavy hinges and with secure fastenings. The range fence should be padlocked.

CHAPTER VI

Breeding Pens

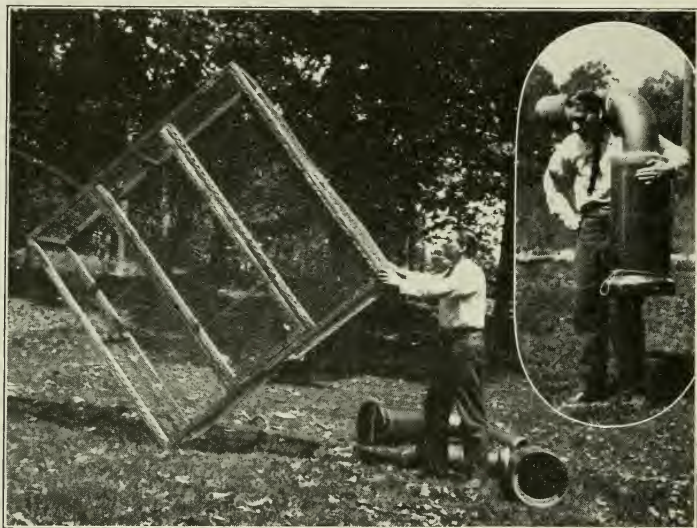
Each female must have a separate compartment called a breeding pen in which to bring forth and to rear her young. For this purpose portable pens made 6 feet square and 2 feet high are found practical. They should be framed from 2-inch by 2-inch undressed sticks and covered on sides, top and bottom with $1\frac{1}{4}$ -inch No. 17 gauge netting described in Chapter V.



An Ideal Breeding Pen with Two Dens

A door 2 feet wide should extend clear across the top through the middle and should be hinged at one end. This makes it possible to step into the pen and reach any part of it easily. The accompanying photograph shows the construction of one of these pens.

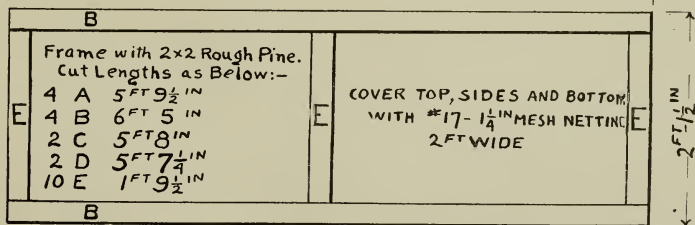
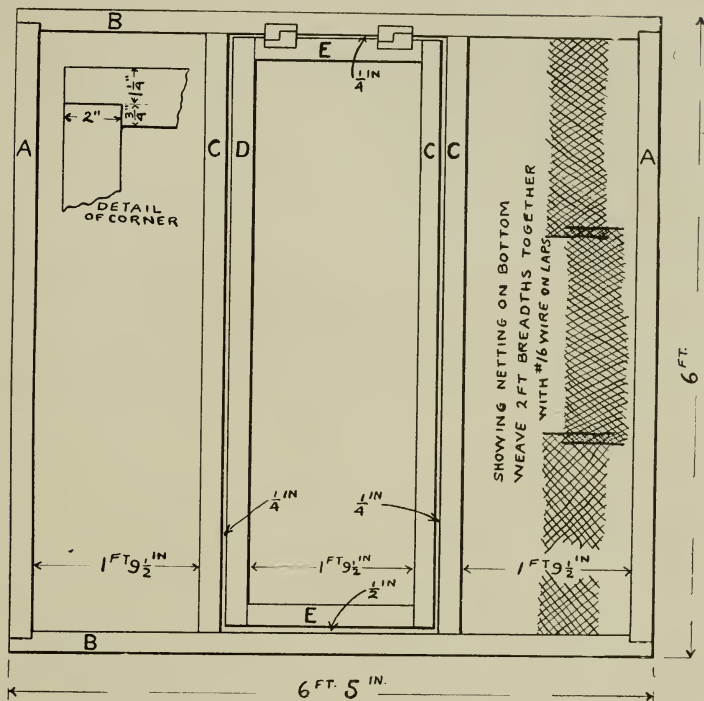
Hinges of the type shown in the illustration make it possible to quickly remove the door after opening it to a vertical position as this is desirable when the den is to be moved to a



The Breeding Pens and Dens Are Easily Moved to Fresh Ground

fresh location. It can thus be rolled over and over and all litter instantly dumped out. The door is then quickly replaced. This may seem a trivial point to dwell on but every time-saver should be utilized for there is a great deal of routine work to

BREEDING PENS



FRAMING OF BREEDING PEN

be done on a fur farm, and the less labor that is hired the better for the skunks and the owner.

Two bales of 2-foot netting will make five breeding pens, the cost for netting being about \$1.98 for each pen.

So that the 2x2 sticks may be rapidly sawed to length and framed a drawing is here given. The netting should be fastened as in all cases with light poultry wire staples. The two seams on the bottom may be easily woven by passing light galvanized wire in and out along the meshes, or these two seams may be avoided entirely if a breadth of netting six feet wide is used.

The most practical feature of these breeding pens is that they can be moved to fresh ground frequently and this is an important item of sanitation. This is especially essential after the young arrive and are old enough to leave their nest or den, as clean quarters must be maintained. Otherwise various maladies later described will result.

As a matter of fact the skunk is a cleanly animal and usually deposits all excrement and urine in one place which will in most cases be a corner of the pen. If a pan of sand or sawdust is placed at the corner and covered by an old overturned box with one side or end removed for entrance the skunk will use this "outhouse" as it may be called. Once or twice a week the pan may be emptied and the breeding pen thus kept sweet and clean. The same system may be used in the yards described in Chapter V but the advantage is not so great there on account of the greater room. The author has often made these "outhouses" by inverting a wooden candy pail or bucket over a round galvanized pan four inches deep and cutting a hole six or seven inches square in the side of the bucket for the skunk to enter. The readiness with which the skunk learns to use this device is surprising.



Out-House

If the weather is very hot and no natural shade exists it is well to lay burlap over the wire netting forming the top of the pen and it is a good plan to shade the dens in the same way as they should be kept as cool as possible in summer.

CHAPTER VII

Dens

Dens are one of the most important matters with which the breeder has to deal. The desired qualities of a den are, protection from wind and rain, even temperature (warm in winter and cool in summer), dryness and good drainage, accessibility for cleaning and inspection. It should be dark and protected by an entrance that will give the skunk a feeling of safety as in the dens of the wild.

Wooden boxes with double walls with straw or sawdust packed between and with wooden spouts for entrance have been used with success. Hollow logs sawed in sections are used where the ranch is near the woods and these make good dens.

The author has for the most part used sewer pipe. A section ten inches in diameter is used as the nest part and is placed so the drainage is toward the bell end (slope one inch in the two-foot length of pipe). The bell end of a six-inch diameter elbow is cemented into the small end of the nest section. To this elbow a two-foot straight length of six-inch pipe is added. The elbow must be the high point so the den will drain both ways from it.

The den is closed by inserting a round block of wood or cement in the bell of the ten-inch nest pipe. This block is about $11\frac{1}{2}$ to 12 inches in diameter and should have a cleat for a handle. If made of cement a piece of heavy wire may be imbedded to form a handle. The block must fit well but should not be tight fit as that would interfere with its removal. For holding it snugly in place a wire is passed around the pipe at the base of the bell and twisted securely and then

formed into a loop which projects just beyond the end of the pipe at the edge of the bell. A broom handle is passed through



A Group of 28 Breeding Pens Showing Dens with
Straw Covering Removed

this loop and driven down by the block and on into the ground. A wedge is forced between the broom handle and the block if necessary to keep it snugly pressed into the bell.

The whole pipe must be covered by earth, sod, straw or leaves to keep out the winter chill and the summer heat. It is a very good thing to turn a box over the entrance to the den so that the skunk has a vestibule from which to emerge. It adds to the skunk's feeling of security. This vestibule will

frequently be used by the skunk as an out house for excrement but this does no harm and is easily cleaned.

It is particularly important that straw or leaves be well packed against the block closing the nest so that wintry wind cannot enter, as draughts are very dangerous and likely to cause colds and sore throat.

It is important that dens be kept clean. The bedding should be renewed about once a month. Some dens could go twice or three times as long and some should be cleaned oftener as it will be noted that some skunks are more cleanly than others. Needs must govern in each case.

The best bedding for nests is long dry grass or soft hay with some dry leaves. Coarse hay or straw should not be used. It has no warmth and is harsh bedding. Oat straw is better than wheat straw if straw must be used. The sharp barbs of wheat straw are bad as they lodge in the fur. If a piece of cloth is hung in the pen the skunks will tear off pieces and use them to line their nests.

When cleaning the nests disinfect them by spraying the inside with a germicide (1 part Kreso with 50 parts soft water is good or any good sheep dip may be used). Any places about the yards or pens fouled by the skunks should be disinfected by thorough spraying or sprinkling with the germicide. It is easy to overlook and neglect this precaution but the penalty for neglect will be heavy to pay. Anyone who has raised poultry or other animals successfully has learned this lesson.

CHAPTER VIII

Stocking the Ranch

Stocking the ranch may be done very economically if a modest start is made or if good wild stock is native to the locality.

A breeder just starting in the work without experience absolutely must start on a small scale. If he attempts too much he will have so large an amount of work with which he is not acquainted on his hands that failure or very costly experience will await him.

A dozen females and two or three males will be plenty the first year. For when spring comes there will be from sixty to ninety young born. There ought not to be a loss of more than one in each litter. There is often a runt that does not survive or is not worth raising. So the second spring should find the breeder with his original twelve females and about thirty-five more he has raised or say a total of forty-five females which should produce 300 to 350 young. These figures may be a little too good for the beginner and perhaps 300 is safe to estimate for his second spring's young which, with the 45 mothers and 10 males, makes a total of 355 head. This allows for losses and also for the sale of about 30 males from the first spring's young.

The above shows how a modest start may be made and many whose time is pretty well occupied with other duties will do well if they even start with two males and six females. Never depend on a single male for your start as something might happen to him at the last moment before the mating season, and it is well to be able to switch males anyway, as will be explained in a later chapter.

Now it is clear that high grade stock will cost no more to raise and feed than cheap stock. So by all means procure the best obtainable stock or the best that you can afford. A little more spent at this time for breeding stock will vastly repay the outlay. If possible stock your ranch with star black males and females known as grade AA having no white anywhere except on head and tail.



A Fine Large Specimen of Breeding Stock

If you must economize do so on the females but in any case have the males star black and the females as near so as possible. Get one or two good pairs at least of extra fine star blacks and they will have a beneficial effect on the balance, as will be evident when the young arrive.

Obtain your stock from as near home as possible so it will be suited well to your climate. If skunks are brought from different localities care should be taken that they are the same species. For example, good results would not follow from

mating long-tailed with short-tailed skunks, etc., as the offspring, if any, might be sterile.

A person who has had experience in breeding skunks can begin on a larger scale, and one hundred females and twenty males would be none too many.

Some of the Canadian ranches have stocked their farms with thousands of dollars' worth of stock at the start, as the author well knows, as he has made heavy shipments to them.



A Well Matched Team

CHAPTER IX

Feeding

The food given to skunks must be of good quality. It need not be choice but it must not be mouldy, rancid or decayed if health is to be maintained and success realized. The food, furthermore, must be given intelligently; that is, in sufficient quantity to properly nourish and to appease hunger so that fighting and cannibalism will not result. It is a fault to over-feed, as over fatness will result and other disorders will be caused. Feed young, growing skunks all they will eat up promptly each morning and evening before dusk. Give adults one feed a day towards evening and it will do no harm to skip a day once a week. Adults must have more food during the mating season beginning about the middle of February or first of March. The females must be well fed after being bred and should be fed morning and evening before dark after the young are born and are nursing.

Fresh water must be given daily. The water pans must be washed each day to keep them sweet and clean, especially in warm weather. Slime will deposit on unwashed pans and cause disease even if pans are emptied and filled daily with fresh water.

Returning to the matter of food it must not only be of good quality and intelligently fed but it must also be cheap if financial success is to be attained.

If near a town, waste bread may be obtained from hotels, as well as meat trimmings and chicken heads. In fact these materials, with vegetables and waste fruits, dried prunes and sweet or sour milk, will make good and sufficient rations.

Too much meat should not be fed. The equivalent of one chicken head every second day is about right under most con-

ditions. Some skunks will demand more meat and some will get along on less. Much will depend on the way the skunks are brought up when young.

The breeder who brings up his stock to eat a variety of food is the one who will have the greatest success and freedom from diseases of all kinds. Vegetables and fruits must be fed in some form. The following are eaten and recommended when available:

Carrots, parsnips, cabbage, potatoes.

Melons, tomatoes, sweet corn, when very tender and milky.

Sweet or mild ripe apples, pears, peaches, plums, grapes, and berries of all kinds, dried prunes.

Bread of wheat, rye, corn, oatmeal, cornmeal mush.

Milk, sweet, sour, or lobbered.

Chicken heads, dead chicken, meat trimmings, rabbits, or other game animals or birds, dead horses, cows, sheep, and the carcasses of skunks and other fur-bearing animals, dogs, or cats.

Infertile eggs which have been set on or discarded from incubators may be given, but do not feed rotten eggs.

The vegetables will in most cases have to be cooked. The meat is better cooked but may be fed raw occasionally when it is known to be quite fresh and free from disease. Animals that have died should be boiled or steamed to insure against disease germs. When feeding the carcasses of skunks be especially sure to cook, as fresh skunk meat will encourage cannibalism.

On an extended scale a large steam cooker is the most economical and should be large enough to take a whole carcass of a horse or cow, for when such is obtained it must be immediately sterilized and then fed as needed. In warm weather it may be kept sweet by applying the steam every 12 or 24 hours.

It is sometimes hard to teach skunks to eat carrots or some

vegetables very desirable for them to have and the author has found that this difficulty may be overcome as follows:

Take one peck of wheat bran, $\frac{1}{2}$ peck of wheat flour, 1 peck finely ground cooked chicken heads or other ground meat and $\frac{1}{2}$ peck ground carrots (or other vegetables). Mix thoroughly, adding a tablespoon of salt and enough water or skimmed milk to make it stick together and bake in thin layers. Some molasses may be used. The amount of vegetables may be gradually increased until a peck or more is used in the above recipe. The meat may be gradually decreased. If the mixture is moulded into small, flattened balls or croquettes they will bake quicker and be more practically handled as no cutting will be required and it will be easier to portion them out in feeding.

In grinding the chicken heads or the meat a large size meat grinder, such as is used in most kitchens, only larger, is most practical and it will grind the vegetables as well.

The author has found these croquettes to be of especial value in feeding for the following reasons:

Convenient in distributing rations.

Inexpensive (much cheaper than dog cakes frequently sold).

Many materials hard to feed properly (such as blood) may be used up.

The skunks may be compelled to eat a ration of definite balance of protein and carbohydrates.

They may be taught to eat beneficial vegetables which are cheaply produced on the farm or cheaply bought.

Bulky feces or excrement are produced by means of the bran which passes through the system largely unaltered.

The last mentioned effect is of more value than would first appear, for it causes a normal action of the intestines of the skunk. If the feces of wild skunks are examined any time in the summer they will be found to consist almost entirely

of the shells and wings of beetles, crickets, etc. When winter approaches the amount of bran may be somewhat reduced to provide a more concentrated food to lay up fat for winter.

Do not, however, feed the croquettes or any other one food steadily. Vary the ration to avoid monotony and afford needed variety.

Give a straight meat feed twice a week. Give a bread and milk feed occasionally. Bread and milk is the best feed for young skunks when weaning and largely until they are three months old.

In order to control a constant and ready supply of fresh meat, rabbits are being extensively raised by skunk breeders and this is surely going to be the solution of the meat problem in many cases, especially in remote or wild sections. A few acres of good rabbit land covered with scrub growth will produce and hold a vast number of rabbits if a rabbit-proof fence is built. Even on a moderate scale the rabbits may be held in reserve for times when the meat supply of farm animals is low and fed on such occasions. They solve the problem of always having fresh meat on hand. Wild rabbits have been largely fed by many breeders favorably located, and Mr. W. I. Lyon of Waukegan, Ill., raises his own. Even further south Mr. H. S. Curtis of Falls City, Ala., breeds rabbits and skunks side by side for this reason.

CHAPTER X

Management of Young and Old

About January first selection of breeding stock for the next season is completed and certainly by the middle of January all other stock should have been marketed or removed, a portion at least having been sold as live stock to other breeders.

Group the Females.—Separate out the females into groups of six and put each group in a yard by themselves, being sure that they have not less than six good, clean dens.

The males which have been saved (one for each group of six females) will be kept in separate yards, each male by himself.

In a one-acre range there will be about sixteen yards and at this time of the year six of the yards will have six select females each, making a total of thirty-six females. The males can occupy the other yards singly and the yards containing the males and females may alternate to advantage. The feeding should be light at this time and until the middle of February. Every second day will be often enough to feed.

Introduce the Males.—Between the middle of February and the first of March the breeding season usually begins. If each male has been confined in a yard next to a yard of six females the gate between may be opened February 15th to admit him to them. The males should be left in communication with the females until the first of April, a total of six weeks.

Switch the Males.—It is a very good thing to switch the males from one yard to another about March 20th, that is,

take each male from the females he has been with and put him in another yard with six other females.

The reason for this is that one male might be sterile or some female might oppose him. The change is thus made to make sure that none of the females go fallow. Feed a good ration daily during this breeding season.

Of course males will not be switched in certain special matings where strict records are being kept as in more advanced breeding problems. In such cases more interest will center on the record than in having every female bred.

Switching males does not affect the number of young each female will produce but it gives better promise that each female will be bred.

Remove Males and Separate Females.—At the time of separating females from males, April first, place each female in a separate pen by herself. Feed all she will eat up daily and each second day at least be sure she has a little sweet milk in a small dish, which may be spiked to the ground by a U-shaped wire to prevent overturning. Be sure to give fresh water daily.

Provide plenty of fine, soft bedding. Last fall's dry grass and leaves are excellent. She will line her nest with pieces of cloth if she can get them. She must be left to herself and not be annoyed in any way.

Toward the last of April but more generally in May the young begin to arrive. At this point many breeders, especially those not experienced, often fail and the young are lost, due entirely to impatience and imprudence. Some will be continually opening the dens to see if the young have arrived, whereas they should leave the dens alone. As soon as the young actually arrive there is usually no doubt about it, as their bawlings can be heard by listening at the entrance of the den.

Do Not Disturb Mother and Young.—Many wish to know immediately how many young there are and what their markings are, so they will at once open the den to count and to see. This is a very dangerous thing to do. The young are quite helpless, without hair, and the eyes do not open for about three weeks. The color pattern is marked out completely in the color of the skin, which is black where the black fur is to grow, and white where the white fur will come. The mother, if frightened, may in her confusion do any one of many things. She may devour the young. She may for



Four Weeks Old—Eyes Just Opening

safety bury them in the litter of the nest where they will be suffocated. She may take them out of the den and carry them about looking for some safe place. She may in her frenzy trample them. She may bite them. The best thing to do is to keep away from the den entirely until the young come out with their mother at the age of six or eight weeks.

If the nest is carefully opened at the age of three weeks there usually will be little danger, as the young are then furred in a silky coat and are quite strong and even if their eyes are hardly opened they can crawl about vigorously. Unless there is some special reason it is very imprudent even to look into the den earlier than three weeks after birth, as those who have suffered loss will attest, and that means practically all breeders before they have learned caution.

Feeding Mother Twice Daily.—The mother, while nursing her young, should be fed twice a day, as she will have heavy demands on her system with anywhere from five to ten young drawing their sustenance from her. Give her a variety including cooked potatoes, meat, bread and milk and fruit. Do not feed all these in one day but some one day and others the next, except the bread and milk, which it is well to give in small quantities daily. At this time of the year the June bugs are flying and if lanterns are suspended over the breeding pens they will fly at the lanterns, strike them and fall down through the wire into the pens and will be greedily devoured by the skunks. These are choice tidbits which should always be fed when possible, and kerosene is well burned in attracting the bugs from a considerable distance. If desired they may be collected in numbers by hanging a lantern over a large pan of water in which they will fall and drown.

The mothers are probably the most maternal in their instincts of any animals that are raised and this is even a difficulty to contend with. If two mothers with very young skunks are together in a small pen the stronger or more aggressive will steal all the other's young. She cannot nourish them all and some will therefore perish.

Weaning Time.—When the young skunks sally forth from the den with the mother at the age of about six weeks they will

at once start looking for food and a shallow pan of milk should be provided. Very soon they will eat bread and milk, which should be provided twice a day. A little meat may be fed as the teeth become better developed and soon they will be eating everything the mother eats.

Do not try to wean abruptly. It is best to leave them with the mother until they are three months old. She seems to have a way of keeping them in order and preventing quarrels.

Removing Scent Sacs From Young.—When the young are five or six weeks old they may be taken from the nest and disarmed. This is the most convenient time, as the teeth are not much developed and there is practically no danger of scent being thrown. They may be held in hand by an assistant and the sacs quickly removed. The cuts heal so quickly that in a few days there is no trace left. The author once picked a young skunk asleep from a basket of his brothers and sisters and removed the scent sacs without awakening him. The operation of disarming is described fully in another chapter.

Yarding the Young.—When the young are about ten weeks old they may be transferred from the breeding pen to a yard. It is well to transfer the mother with them and let her remain with them for another month or so. Two litters may be put in a yard. The two mothers will usually not quarrel and will take up their abode with their respective progeny in dens in different parts of the yard. If this were done too early when the young were very young there would be loss due to stealing each other's young.

Two litters and two mothers will make about fifteen or sixteen in a yard, and when the mothers are removed some time in August thirteen or fourteen young will be left in each yard. This is about as many as should grow up together for

safety. Feed the growing young twice a day. They will be very active and display vigorous appetites.

Marking the Young.—The time of transfer from breeding pen to yard is the best time to mark the skunks for identification for all future time. By clipping a few toes or toenails almost any number can be expressed as explained in another chapter. Be sure to give the males odd numbers and the females even numbers as the number itself will thereby denote the sex.

Guard Against Cannibalism.—Now is the time they must be watched to see that no ugly one starts quarreling, which may lead to cannibalism, which he would soon teach his mates. At the first indication of quarreling separate the offender. The risk is too great to let him remain. He may grow up alone to be a fine specimen and a useful individual. Well fed adult skunks are much less likely to cannibalize than the young, growing stock, which are full of animal spirits and looking for trouble much the same as the young of the genus *Homo*. Some have advocated cutting the long or canine teeth of a quarrelsome skunk, and this may be helpful, although the author has never found it necessary.

Watch Stock Carefully.—As the young are growing watch them carefully. Be sure they always have fresh water. Keep the dens sanitary. Spray dens with germicide. Watch for worms and guard against them. Keep the young skunks free from lice, fleas and mange by dipping them in a good sheep dip early in August, September and October, provided a warm day for drying is available. See chapter on diseases and pests. Give the skunks plenty of exercise. This may be managed by placing several boxes or even barrels on end in the yards and putting food on top of these at feeding time. This will make them climb, and they will get in the habit of

getting up on the boxes every time they come out of their dens. It is good exercise. While there should be a half dozen good permanent dens in each yard it is well also to give them summer shelters, as can be done by turning a box upside down on the ground and knocking a hole in one end or side. Fill with soft hay. Tack a piece of tar paper over the top to shed rain. A few of these shelters will be appreciated, as they will be cool and airy without being draughty. The more places you give the growing skunks to go and the more things to do the better will be their condition and growth.



Save Best Specimens for Breeding

Picking Breeding Stock.—During the fall keep a sharp lookout for the finest, largest and best grade individuals for next year's breeding and gradually put them into yards by themselves. This will simplify the sorting at market time in

the winter. By winter the young will have reached marketable size and a skin will not be worth enough more to justify keeping through another year.

Up to this time, that is, January first, no separation of male and females has been made.

In the fall and early winter when the pelts are prime and the skunks have their growth a careful selection will be made of the females and males to carry over for the next spring's breeding, and all other stock will be killed and carefully skinned for market. At this time the skunks have a large amount of fat which may be rendered. It has a market value of about \$1.25 per gallon wholesale and smaller quantities may be sold at higher rates to druggists. There is some demand for the scent fluid, mostly for animal baits for the trap line and to some extent in medicine. It may be preserved by starting with a bottle half full of ethyl alcohol and emptying the contents of the sacs into the bottle until full or the sacs may be dropped bodily into the bottle of alcohol.

Now that the surplus stock has been disposed of there will be abundant room for the breeding stock to be saved. The young females are put into yards by themselves, six in a yard. The old females are likewise grouped six in a yard. From here on the proceedings will be as outlined from the beginning of the present chapter. It is well to mate young females to two or three-year-old males and young males to two or three-year-old females. Two or three-year-old males and females may be mated together but it is best not to mate young males and females.

It is hardly worth while keeping stock beyond the third breeding season. Mate them while in the prime of life unless here and there an animal is especially valuable for breeding purposes. In that case he may be kept and bred a few years longer.

CHAPTER XI

Breeding—Simple and Advanced

There may be said to be two rules for breeding or for mating domestic animals for the purpose of propagation.

First rule: *Do not inbreed* but practice selection.

Second rule: *Inbreed* and practice selection.

These rules being contradictory are bewildering to most people who have not given the subject of genetics any special attention. Both rules have their use. In either case the greatest care must be practiced in selecting sound, well developed specimens for mating.

The first rule, *do not inbreed*, applies to a simple condition of affairs and is a very good rule to follow in such case. That is, if it be desired merely to increase the *number* of a group of animals or breed of animals the characters of which are fixed and in every way of the desired type, then it is proper to avoid mating the closely related. In this case the best specimens would be selected and mated, avoiding weaklings. This would be a simple rule which any one could follow and the avoidance of inbreeding would tend to maintain good physical stamina of the breed.

When, however, a *new breed* is to be established by maintaining and fixing the characters found in a certain individual and not possessed by others, then the second rule, *inbreed*, must be followed. In this process mother may be mated to son or brother to sister, the whole scheme, however, being intelligently directed by practicing most careful selection. In this way undesirable characters may be discarded and desired characters retained.

Dr. J. A. Detlefsen, Professor of Genetics, College of Agriculture at the University of Illinois, states that he recently saw in Philadelphia the 18th generation of rats which had been inbred brother to sister ever since the beginning of the experiment and that they were the largest and most vigorous rats he had ever seen, one female having a litter of seventeen. This illustrates what can be done by inbreeding if selection is practiced. This the breeder must do by all means and it is well at the same time to keep a record of the size of litters and notice the health of the animals and early maturing qualities, as these points can be controlled by proper selection. In fact, constructive breeding of pure bred live stock has often been attended by a high degree of inbreeding.

Mendel's Law is the name given to a regular system which certain important phenomena of heredity are observed to follow. This law, first worked out by Mendel, with reference to plants (garden peas), applies in exactly the same force to animals, as has repeatedly been corroborated with various species of late years.

It is not possible in this chapter to go into the theory of germ cells to account for the results but the simplest illustration of the law may be briefly stated. Certain characters are said to be dominant or recessive. A pure bred black guinea pig is dominant with respect to an albino (pure white) guinea pig. If the two (called the parental generation) are mated their progeny (called the first filial generation) are all found to be black and to look just like the black parent. However, they are cross-bred and possess power for both white and black which will find expression in their offspring in accordance with definite rules.

If a brother and sister of the first filial generation are mated, in each four of their offspring (called the second filial generation) three will be black and one will be an albino of pure breed in the long run. The three black individuals are,

however, not all alike from the standpoint of heredity. One of them on test will be found to be a black of pure breed and the remaining two will be found to be cross-breeds exactly like all of the first filial generation. These results are of course averages.

Thus in the second generation from the parent stock we have produced twenty-five per cent of the pure breed of each of the original parents. In this case the white is said to be recessive as it did not appear in the first filial generation.

Had one of the cross-breeds been mated to the pure-bred white parent, then half the progeny would have been black, but really all cross-breeds, and the other half would have been pure-bred albinos.

But, had one of the cross-breeds been mated to the pure-bred black parent, all of the progeny would have been black, half being pure bred black and half cross-breeds.

Thus it is apparent that if in the case of the skunk we could obtain a completely black specimen we could in all probability by a system of mating and inbreeding finally produce not only more completely black skunks, but completely black skunks of pure breed that would breed true.

It is necessary to watch very carefully the physical stamina when inbreeding as weaknesses thereby have a tendency to become exaggerated. It may be necessary to out-cross to regain size or shape even after a certain desired character has been fixed, but this is easily done and the return to pure breed made later with new blood less closely related.

When several characters instead of only two as in the above example are involved, the work is more complex, but the rules are mathematical and the results can be predicted if all the factors are known.

If further study is sought along these lines the reader is referred to any modern work on genetics, such as "Heredity," by Wm. E. Castle. (D. Appleton & Co., New York.)

Color is not the only character that conforms to Mendel's Law, which applies equally to qualities such as color-pattern, length of hair, fineness of hair and physical characters such as size and shape. If a breeder possesses recourses of time, patience, and capital, he may combine and mould qualities to his liking.

CHAPTER XII

Marking and Pedigree

It is desirable to be able to mark skunks for identification so that records may be kept of important matings. The value of this in connection with a line of advanced breeding is especially important. Without some system of marking skunks it is practically impossible even to know their ages, due to the many transfers that will be made from one yard to another.

The system of marking devised by the author consists of clipping off certain claws or toes so that they will not be reproduced. The missing claws stand for the figures assigned to their location and practically any number may thus be represented. If not more than one claw is clipped from any one foot the largest number that may be represented is No. 5,959, but if the removal of two claws from each foot is permitted, then the highest number to be represented becomes No. 45,904,590. The clipping can be done at any time, but preferably when young. The foot should be dipped in a 5% solution of carbolic acid just before and just after clipping.

Mr. Ernest Thompson Seton in referring to this system of the author remarks that "even the track of an animal so marked will give its number."

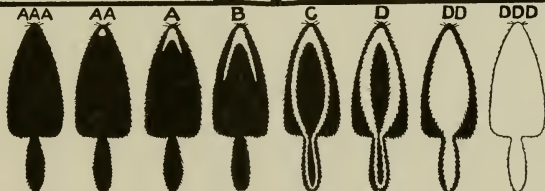
Now the mere number designation given the skunk to be recorded in the breeder's records may easily be made to tell a considerable amount of useful information. If odd numbers are given the males and even numbers to females the sex is known at a glance by the number itself. Thus 1, 7, 825, etc., will refer to males and 2, 14, 3726, etc., to females.

If the grade is placed after the number and then the year of birth added a very complete entry number is afforded for the record. Thus 4738AA15 means "skunk No. 4738, female, grade AA, born in year 1915."

SKUNK MATING AND PEDIGREE CHART

| | |
|----------------|-------------------|
| BREEDER'S NAME | BREEDER'S ADDRESS |
| DATE OF MATING | YARD NUMBER |

| | | | | | | | |
|-----------------|--|--|--|--|--|--|-----------------|
| DATE YOUNG BORN | | | | | | | NUMBER OF YOUNG |
|-----------------|--|--|--|--|--|--|-----------------|



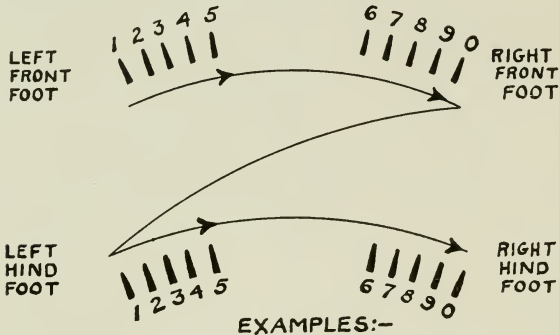
Use one chart for each mating and litter as follows:
 Show grade of every Skunk recorded, young as well as old,
 Record all males on dark and females on light spaces.
 Record young in bulls-eye with sexes properly divided.
 Record mated pair in ring next to bulls-eye.

Record lineal ancestors of mated pair as far back as known.
 The following system for recording Skunks is recommended:
 59AAA10 means—serial No. 59, male, completely black, born 1910.
 74A11 means—serial No. 74, female, body black, born 1911.
 The odd serial numbers indicate males, the even numbers females.

Keep this record. Mail exact duplicate to

SKUNK DEVELOPMENT BUREAU
 Box 554 Chicago, Ill.

A SIMPLE METHOD OF MARKING SKUNKS



EXAMPLES:-



The above diagram shows the twenty claws of a Skunk viewed from above as it stands on the ground.

By removing not more than one claw from any foot and reading in direction of the arrows almost any number from 1 to 5959 may be represented.

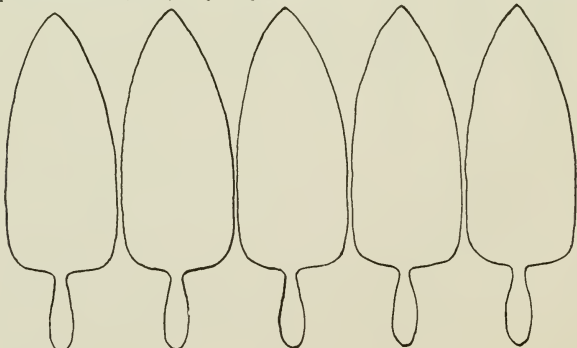
Cut the claw far enough back so it will not grow again.

Do not use any number which would take two claws from any foot.

The examples given under the diagram illustrate the system.

Each breeder has his own ideas and systems in these matters, but the above is the simplest method of marking which the Bureau has found.

Special notes as to yards, feeding, coloring, origin, disposition, price obtained, etc., may be placed below.



SKUNK MATING AND PEDIGREE CHART

| | |
|-----------------|-------------------|
| BREEDER'S NAME | BREEDER'S ADDRESS |
| DATE OF MATING | YARD NUMBER |
| | |
| DATE YOUNG BORN | NUMBER OF YOUNG |

These charts have been specially designed for the benefit of the Breeder and of the Bureau as follows:

That the Breeder may easily keep a record of his work and see the value of scientific breeding.

That copies of records may be obtained from the Bureau in case Breeder's records are lost or destroyed.

That the Breeder may give a pedigree when selling breeding stock.

That the Bureau may refer inquiries for stock direct to Breeders.

That the Bureau may compile reliable statistics on color heredity.

That by properly mating black to black a pure breed of completely black Skunks may be established.

Note that grades A, B, C and D correspond to the commercial grades of black, short stripe, narrow stripe and broad stripe or grades No. 1, 2, 3 and 4. For breeding purposes AA (all black except white spot on head—no forks) and AAA (completely black) have been added. While commercially AA and AAA would be graded Black or No. 1 just the same as A, they are of much greater value for breeding. Grades DD (back solid white) and DDD (completely white) form the other extreme.

MAIL THIS TRUE COPY OF CHART TO

Skunk Development Bureau

Box 554

Chicago, Ill.

The grades AAA, AA, A, B, C, D, DD, DDD have been fully explained in the chapter on Classification, and these designations should be used by all breeders as they have been adopted and are in general use in the grading and sale of breeding stock.

To illustrate the complete system of marking by clipping the claws and of recording matings and pedigrees of skunks the charts designed by the author in 1911, and now distributed free by the Skunk Development Bureau to all breeders in such quantities as they wish to use them, is here reproduced.

The target diagram has a logical as well as a convenient and practical motive. The bull's-eye denotes the young at which the ancestors naturally aim. The young of a mating are recorded according to sex in the bull's-eye. The parents are recorded in the space lying next to the bull's-eye. In each case the males should be recorded in the dark and the females in the light spaces as the sex is then shown by a glance at the chart.

If the grandparents of the young on the father's side are known they should be recorded and likewise on the mother's side. In fact record all the known ancestry on a chart for each litter after it is born. These records are of great value to the breeder in teaching him the result of various matings. Sometimes a very good looking animal will not transmit his grade to his young even when bred to an equally good looking mate. The old saying "handsome is as handsome does" is the real test. An individual which breeds true is the desired result. Sometimes a good looking individual will breed very erratically and is very disappointing. The chart records show which are the good or bad.

It is often desirable to be able to give authentic pedigree charts when selling valuable skunks or when showing them at exhibitions in competition.

CHAPTER XIII

Disarming

A large number of breeders now remove the scent sacs as a regular thing. It is not necessary, however, for a breeder to disarm his skunks when raising them in quantities for the fur market unless he prefers. The work does not take much time as an expert can disarm from seventy to one hundred young skunks in a day and not lose a single animal. The operation is equally successful on old skunks but takes somewhat longer. Some people have reported that they have lost a portion of the old skunks after operating but this is not the author's experience. If skunks are to be shipped as live stock they must be disarmed in accordance with the regulations of the Express Companies.

Some people have argued that the quality of the fur was injured by the removal of the scent sacs and others deny the claim. It is a fact that some skunks will not have bright pelts at the time the skins should be marketed but this may be traced to other causes such as lack of food variety or intestinal worms which sap the vitality.

Several systems have been described for disarming skunks. The oldest attempt was to sever the discharge ducts on line G of Figure Nos. 1 and 2 and leave the sacs of scent fluid in place, the ends of the ducts healing over and sealing the fluid. This operation was performed by Dr. J. M. Warren and described by him in Vol. 3, page 175 of the Boston Natural History Society's Proceedings (1846) and the account is quoted by Dr. Elliot Coues in *Fur Bearing Animals* (U. S. Geological Survey, Misc. Pub. No. 8, Year 1877). This method is really more difficult than removing the sacs entirely and

has not been performed often enough to reveal its practicality and efficacy on a large scale.

An operation has been described which consists in cutting down to the sac, lifting it and cutting away a part of it and letting the other part return and remain. The wounds do not heal readily and pus and death frequently follow. This operation is not effective even if the parts should heal for the skunk can scent quite well although the amount of scent fluid is lessened. The author has had some very sad and odoriferous experiences in handling skunks which were operated on in this manner.

Methods have also been described consisting in performing operations in the rectum, such as snipping off the discharge papillæ and trusting that the wounds will heal shut or in attempting to cut around the papilla in its cartilaginous base and then drawing out the duct and sac through the opening thus made. But these operations are not practical as the former is of doubtful reliability and the second of considerable surgical difficulty.

The operation in general practice at the present time and which the author has used since 1894 (see introduction) consists in cutting down to the sacs, raising them, clamping the discharge ducts so no scent may escape and then severing the ducts close to the rectal wall but without injury to the rectum or to the sphincter muscle.

The following descriptions and directions were written by the author, from years of his experience, in October 1911 and have received much publicity through the Skunk Development Bureau of Chicago. The details of each stage of the work are given very minutely so that the operation may be easily comprehended and performed even by an absolute novice:

DISARMING

DESCRIPTION OF THE SCENT GLANDS OF THE SKUNK

The anal glands which are possessed also by other members of the weasel family are developed in the skunk to such a wonderful degree as to constitute an effective means of defense. They are not related in any way to the genito-urinary system either in location or function. They are the same in both sexes.

The scent fluid which is the special secretion of these glands is contained in two sacs located beneath the skin, one on each side of the vent. Each sac is embedded in a powerful, gizzard-like, muscular envelope, the contraction of which discharges the scent fluid. Fig. 1 and Fig. 2 show general location and form.

Within the rectum just beyond the sphincter muscle which ordinarily keeps the vent closed are two papillæ from which the scent is discharged. Each papilla is connected with one of the scent sacs by a discharge duct.

Ordinarily the discharge papillæ are not visible, but when the skunk discharges the scent fluid the tail is raised and doubled close along the back, the vent is relaxed and turned outward to such an extent that the papillæ become external and from them the scent is discharged and directed with remarkable accuracy.

The skunk takes great care not to get any of the scent on its tail or fur and the slightly skunky odor which fur garments sometimes have is usually the result of carelessness in killing or skinning the animal.

When held by the tail with head hanging down and with tail and backbone in a straight line the skunk cannot control the muscles which evolve the rectum and discharge the scent. Care must be taken that the skunk does not twist or climb upward. It should be held low to keep its interest centered on the ground which it will strive to reach.

DIRECTIONS FOR REMOVING THE SCENT SACS FROM LIVE SKUNKS WITHOUT THE ESCAPE OF ANY OF THE SCENT FLUID

This operation is simple and may be readily learned by anyone who will follow these instructions carefully. No anæsthetic is needed.

1. The beginner should dress in old clothes or overalls and as a precaution should wear goggles to protect the eyes in case of accident. An old hat or a paper sack worn as a cap will protect the hair. With these safeguards the learner feels perfectly at ease and therefore the chance of accident is much lessened while acquiring proficiency.

2. A heavy plank supported on two wooden buckets makes a good

operating table. Straddling this plank the operator and his assistant sit facing each other.

3. The proper instruments are as follows:

- 1 nickel plated scalpel (knife).
- 1 nickel plated tenaculum (hook).
- 1 nickel plated sound (probe).
- 1 pair nickel plated special extracting forceps.
- 1 pair nickel plated automatic clamping forceps.
- 2 pair goggles (worn only by beginners as safeguard).

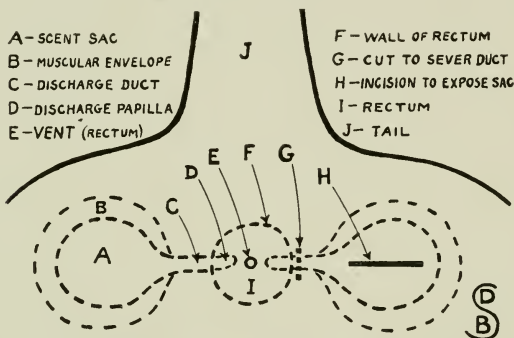


FIG. I X-RAY VIEW OF SCENT SYSTEM

4. Several pieces of clean white cloth about three inches square should be provided.

5. The instruments should be boiled about ten minutes in clear water to insure cleanliness. During the operation they should be kept in a saucer containing a five per cent solution of carbolic acid which may be placed on a box within easy reach of the operator's right hand.

6. The operator first takes his seat and spreads a gunnysack or burlap across the plank just in front of him.

7. The assistant then brings the skunk, carrying it by the tail with his right hand. His left hand should grasp the nape of the neck to help keep the head down, for the backbone and tail must at all times be kept in a straight line.

8. The assistant now, by means of his hold on the nape of the neck, brings the skunk into a horizontal position (keeping backbone and tail in a straight line) and lays it belly downward on the gunnysack with head toward the operator.

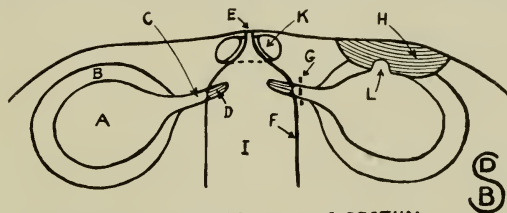
9. The operator wraps the gunnysack snugly about the skunk while the assistant releases his hold on the nape of the neck.

10. The assistant now immediately places the forefinger of his left hand with light pressure over the vent, while the operator proceeds to turn the skunk on its back, keeping the gunnysack wound firmly about the animal.

11. Now only the tail and butt of the skunk are exposed to view. The gunnysack covers all four feet and head, so there can be no scratching or biting.

12. The operator brings his knees together over the plank and thereby holds the skunk. This enables him to have both hands free.

13. The operator now relieves the assistant by placing the forefinger of his own left hand over the vent. With the thumb of the same hand he locates the scent gland just to the right of the vent. The gland



| | | |
|---------------------|---------------------|--------------------------------------|
| A-SCENT SAC | E-VENT | I-RECTUM |
| B-MUSCULAR ENVELOPE | F-WALL OF RECTUM | K-SPHINCTER MUSCLE |
| C-DISCHARGE DUCT | G-CUT TO SEVER DUCT | ENCIRCLING VENT |
| D-DISCHARGE PAPILLA | H-ORIGINAL INCISION | L-SCENT SAC PUSHING THROUGH INCISION |

FIG.2 SECTIONAL VIEW OF SCENT SYSTEM

is easily recognized as feeling hard and round like a marble beneath the skin abreast of the vent, neither forward nor backward from the vent.

14. Having the thumb and forefinger spread about an inch and a quarter apart the operator now squeezes the gland tight enough to draw the skin firmly over it. His right hand is free.

15. With a piece of cloth dipped in the carbolic solution he moistens the fur and skin held between his thumb and finger.

16. With the scalpel, starting at least three-eighths of an inch from the vent so as not to injure the sphincter muscle which encircles the vent, the operator makes an incision through the skin about five-eighths of an inch long directly over the center of the scent gland in a straight line with the vent, as shown at H in Fig. 1.

17. The incision is now carefully deepened until the firm, gizzard-

like envelope in which the sac lies is reached. The beginner is likely to mistake this firm, muscular envelope for the sac itself, because the envelope is lighter in color than the tissues previously cut.

18. He now proceeds more gradually to cut through the muscular envelope as shown at H in Fig. 2, taking light strokes with the scalpel and cutting only a slight depth each time.

19. If the muscular envelope cannot be held firmly enough by the pressure of thumb and finger so the knife will cut well the muscle may be hooked with the tenaculum and thus held by the assistant while the operator cuts.

20. Soon a small white bead appears in the bottom of the incision as shown at L in Fig. 2. There is no mistaking this, as it is the white sac itself pushing through a very small opening which has been made through the envelope.

21. This opening is now carefully increased by turning the dull side of the scalpel toward the protruding sac and cutting away from it, first on one side and then on the other.

22. The sac keeps pushing outward more and more until it is about the size of a pea. The cutting is then stopped.

23. Now by means of the extracting forceps the sac is gradually lifted by raising it a little on one side and then on the other. The object is to work the sac through the small opening without tearing it by too violent a pull and without lacerating it by gripping too hard in the forceps. The proper way is to grasp lightly and pull gently here and there at its base.

24. When half the sac has been worked through the opening the sac suddenly pops up out of the gizzard-like envelope.

25. The sac is now lifted carefully by the extracting forceps to see that it is all clear and attached only by the discharge duct.

26. If any slight muscular tissue is found clinging to the sac it may be torn away with the sound or tenaculum or carefully cut with the scalpel.

27. The duct, which alone holds the sac, is now clamped in the automatic forceps as near the sac as feasible, as shown in Fig. 3.

28. The assistant now holds these forceps and thus supports the sac so the operator can see the duct clearly.

29. The operator then carefully examines the duct preparatory to cutting it. He must be very sure not to cut it too close to the rectum or he will cut a round hole in the rectal wall, because even a slight pull

on the duct draws the discharge papilla outward and brings with it the wall of the rectum wrapped about the papilla so as to look like a continuation of the duct. See Fig. 3.

30. By feeling carefully with the sound or the dull side of the scalpel the end of the papilla nearest the sac is readily discerned by its firmness or hardness.

31. The duct is now severed with the scalpel at a point a little way from the papilla, as shown at G in Fig. 3.

32. The sac is now held free in the clamping forceps and not a particle of the scent fluid has escaped.

33. The operator then proceeds in the same manner to locate and remove the second sac.

34. The incisions should be wiped out with a piece of cloth with carbolic solution and never need any further attention. In a few days not even the scars can be found.

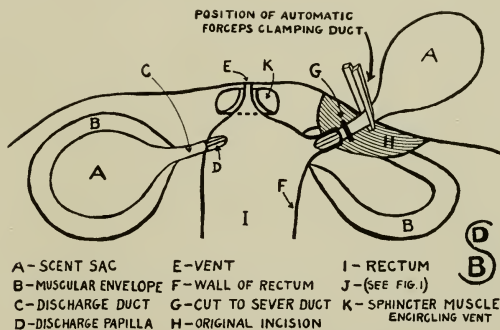


FIG. 3 SAC COMPLETELY WITH-DRAWN

35. The operation is performed most easily when the animal is not too old or fat. Any time from one-third to two-thirds growth is a good age for the work.

36. With a little practice the complete operation of removing both scent sacs should not take over five minutes or skunks may be handled at rate of ten or twelve per hour.

Attention may be called to the fact that sometimes with either young or old skunks the sac does not come out readily when pulled. This may be found due to a very thin and in-

visible skin, film or tissue covering the sac. In that case lay the scalpel flat against the sac and pick away at it with the point which will thus lift and tear the film. The probe can then be slipped under the film to tear it aside. The film is thoroughly anchored to the muscular envelope but the sac is free and loose inside the film.

Beginners are sometimes timid in handling old skunks and have asked for directions for giving anæsthetic. An old skunk can be emptied from a box trap into a burlap bag without scenting. He is then confined closely in one corner by twisting the sac. A wad of cotton or rag with a teaspoonful of chloroform is put in a funnel or a tin can which is then held over the skunk's head so that he is obliged to breathe the chloroform through the burlap. If he turns his head under so his nose does not project into the funnel his head may be held up and directed into the funnel by the fingers of both hands under the chin. As soon as the body relaxes, remove the funnel and roll the skunk from the sack and proceed at once with the operation. Do not wait until he is entirely inert as he will then never wake up. If during the operation he livens up too much the assistant should apply the chloroform funnel again for a little.

By the time both sacs are out the skunk should be pretty well awake and able to walk off. See that he has plenty of air but if weather is cold give him a warm place indoors for a day or two as he will be susceptible to pneumonia until he is well over the effects left by the chloroform.

A little variation in the technique may be practiced when an old skunk is under chloroform and this consists in inserting the finger in the rectum when the scent sac has been exposed and pushing it upward through the opening. It takes careful work to pull a large sac through the incision with forceps without breaking it and the pushing process mentioned will be found safe and considerably easier as the author has found.

CHAPTER XIV

Diseases

Under the heading of diseases will be included not only diseases properly so called but parasites and pests and other troubles which may be encountered at times.

Cannibalism.—This trouble is more frequent among growing skunks than among adults. It is sometimes caused by feeding meat too exclusively and then withdrawing it suddenly from the diet. In most cases, however, some vicious or quarrelsome individual starts the trouble by nipping a comrade, which is soon killed after blood is drawn. The other skunks in the yard are made partners in the feast and soon also learn to murder.

To combat cannibalism keep careful watch and remove any vicious skunk at once. Do not overcrowd. Feed regularly at stated times and watch especially carefully when rations are reduced. A dozen or fifteen skunks in a yard forty to fifty feet square are as many as is safe even with careful watching. Provide plenty of dens, at least one to every two or three skunks. Each den should be large enough to hold four or five full grown skunks.

Catarrh.—When skunks are exposed to drafts, as in poorly constructed dens, or when compelled to remain out in severe cold and storms they are likely to contract cold which somewhat resembles croup. In severe cases death results. The skunk breathes hard with a wheezing sound. Thick, yellow mucous or pus forms in the throat, nasal passages and jaws, and the eyes are bloodshot. Early stages may be treated by placing the skunk in a well protected cage and frequently spraying a 1% solution of creolin through the nostrils by means of an aspirator. Or the skunk may frequently be sub-

jected to creolin vapor for periods of five to ten minutes at a time, repeating according to the severity of the case. To do this easily, provide a box one foot square and 24 inches deep. Place a floor of wire netting in the box ten inches from the top. Arrange a cover for the top of the box and a side floor in the lower compartment. Shut the skunk in the upper compartment and evaporate a 20% solution of creolin in the pan of an alcohol lamp made for the purpose. Bad cases are hardly worth bothering with, as much time is consumed and there is danger of infection to healthy animals. In bad cases kill the animal and disinfect all quarters with a 10% solution of lysol. Burn the body. The skin may be saved if prime. This disease has been called pneumonia and diphtheria by various observers. All agree that it is contagious. There is usually but little fever.

Choking of Young.—Very young skunks at nursing age sometimes choke by the lodging of a short piece of coarse straw in the throat or in the roof of the mouth. Avoid using coarse or stiff bedding. Pliable, soft, dry grasses and leaves make much better bedding and do not break up into dangerous short, stiff pieces. A young skunk in this plight will sometimes slowly starve unless rescued.

Colds.—See Catarrh.

Diphtheria.—See Catarrh. (It is doubtful whether the cases of so-called diphtheria are not merely severe catarrhal infections.)

Distemper.—This is a disease similar to canine distemper in many respects. It is highly contagious. It has caused large losses on some ranches. The symptoms are usually as follows: the skunks fail to eat; the eyes matter and swell; the skunk shivers; the fur on under side becomes wet with secretions which appear to deposit a yellowish scale on the skin accompanied by a stifling odor; the nose runs and after a few days forms a dry crust over the end; the victim keeps to its den

but after a few days comes out, has convulsions and dies. A considerable degree of fever is always present with distemper. If the temperature is found two or more degrees above the normal of approximately 98° as measured in rectum, distemper should be suspected. This is the usual course, but not all symptoms are present in all cases. While distemper is caused by definite bacilli, a large number of secondary infections may result and in many cases death results from the secondary conditions, such as pneumonia, caused by the weakened condition of the system.

The main thing in case of distemper is to separate the infected animals at once from the healthy ones and disinfect the yards or pens and dens of all with 10% solution of lysol. In bad cases kill at once to avoid contagion. The attendant may carry the disease from sick to healthy animals by his hands or utensils if not properly disinfected.

In mild cases, the skunks may be saved by placing in disinfected quarters, protected from draughts, feeding nourishing food, such as warmed milk, and giving one to three grains (according to age) of quinine, or preferably aspirin, three times a day until fever is broken. Animals which recover are practically immune.

This disease is easier to prevent than to cure. Keep all quarters sanitary by frequently disinfecting dens, etc. Keep dogs away from the yards and be especially careful not to admit any new skunks that are not perfectly healthy. Keep any new stock isolated for ten days before admitting and during this time destroy all vermin by dipping.

Eating Young.—When a mother does this it is because she has been made extremely nervous about the time the young arrived or soon after. It may also in some cases be caused by not feeding a great enough variety of food, that is feeding a too one-sided or unbalanced ration. Feed plenty of meat just before young arrive.

Fleas.—Dip as for mange.

Hydrophobia.—It is possible for a skunk to develop hydrophobia or rabies if bitten by a dog or other animal suffering from it, and in such case the animal should be killed at once. The author has never seen a case but there are some records of cases in the southwest where persons sleeping on the ground were bitten by rabid skunks and succumbed. This gave rise to false rumors that all skunk bites would cause hydrophobia, but such rumors are ridiculous. The author has in the last twenty-one years been bitten times too numerous to count, as have practically all other breeders. The bite of a healthy skunk is no more dangerous than the bite of any other healthy animal, such as a cat or dog. The author, when bitten in the hand or fingers, first whirls his arm around several times in a wide circle to throw out all the blood possible from the wound which thus bleeds freely and is thereby cleaned. He then washes the wound with 5% carbolic acid and in a few days it is all healed. In a case of a severe bite it would be well to have the wound dressed by a physician, or if this is not possible, he should cauterize the wound by probing to the bottom with a wooden tooth pick wound with cotton and dipped in iodine. If bitten by a rabid animal or one suspected of being rabid a person should consult medical aid at once.

Lice.—Dip as described for mange.

Mange.—Mange is caused by a small parasite working in the skin the same as in dogs, sheep, etc. The skunk by scratching an infested part only aggravates the trouble and spreads the infection. Scales or even large scabs will form and the hair fall out. The best treatment is dipping the whole animal in a disinfectant solution. Any standard sheep dip is good for this purpose, or a 2% solution of lysol may be used. A bucket or deep tub should be nearly filled with the solution and the skunk dumped into it. He will keep to the surface by swimming but his head should be pushed under once or twice

to be sure that every part of the skin is well soaked. It is well to rub the fur the wrong way while the skunk is immersed to be sure the dip penetrates through the under coat to the skin. Any place where the scab has been formed should be rubbed especially to work the dip in. One minute is enough to have the skunk in the dip. This work should be done on a warm day out of doors or it may be done at any time of the year indoors so that the skunk may be kept warm until dry. A basement near a furnace is a good place in cold weather. The dipping should be repeated in ten days to stamp out any remaining parasites. In severe cases give third or fourth dipping. Two dippings ten days apart will rid the skunks also of lice, fleas or ticks. It takes the second dipping as the nits or eggs are not always destroyed with the first. The author has found that melting two pounds of petroleum jelly and thoroughly mixing three ounces of lysol with it (stirring briskly until solid) makes an ointment that is very good for local treatment especially for winter use. It may be rubbed repeatedly onto a scabby place. It may be used on skunks too young to dip in case of lice, etc. It is cheap to make. In a surprisingly short time a thrifty growth of new hair will appear.

But by no means let any breeder omit the dipping. If done a few times in the summer the animals will have fine clean skins and fur in the winter.

Pneumonia.—See colds.

Protrusion of Rectum.—In young skunks on account of improper feeding and scouring the rectum will protrude somewhat. Due to the fact that the skunk at times will drag its rear portion on the ground the protruding rectum becomes infected and inflamed with much swelling externally. In bad cases the appearance is balloon like. This condition may be easily cured, if taken promptly in hand, by a slight surgical operation which can be learned by anyone. Stitches are re-

quired, but no cutting. The exposed rectum and surrounding fur are first washed carefully with water containing enough permanganate of potash to give a rich purple color to the solution. Then carefully return the protruding rectum. To keep it back in place sew with coarse stitches of silk floss around the rectum in the skin and fur until the starting point is reached. These stitches only go through the skin. Now draw the two ends of the floss so that the skin is puckered up around the rectum like the neck of a tobacco bag and tie. Do not draw tight enough to close the rectum entirely but so a small pencil might be inserted. Then feed the skunk on soft food for the next two or three days, after which the stitching may be removed from around the rectum and recovery is complete. It is well to disinfect the rectum once or twice a day with the permanganate solution by injecting with a small hard rubber syringe. Very slight cases may be cured by these injections and washing alone.

Scouring.—This is a condition of looseness of the bowels or diarrhea. It is most frequently caused by feeding too much milk and starchy foods. Too much milk and white bread will sometimes cause it. The remedy is to change the diet, feeding coarse foods and more meat.

Smothering of Young.—The mother, if frightened, will sometimes bury very young skunks, at or soon after birth, in the litter of the nest and suffocate them by lying on them. Keep away from the mother until the skunks are at least two weeks old.

Sore Eyes in Young.—Drop in the eyes a 5% solution of argorol.

Sore Throat.—See colds.

Tail Rot.—Sometimes the tail of old skunks will swell toward the end. This is caused by handling them by the tail and thus slipping the skin and flesh on the bone or injuring the bone itself. Inflammation, pus and swelling result, and the

tail should be amputated above the trouble. Sometimes the skunk will do the amputating itself, but possibly not before blood poisoning has set in.

Learn to move your skunks about without lifting them by the tail. It is dangerous to the skunk in many cases and is usually unnecessary.

Ticks.—Dip as for mange.

Worms.—These are parasites with which almost all kinds of animals are sometimes troubled. Some worms are two or three inches long and wiry, and others are short. They are found in the stomach and intestines. Sometimes they come up into the throat. Occasionally tape worms are present. The worms can be expelled by giving, according to age, 1 to 10 grains of powdered kamala on an empty stomach. Four doses, five days apart, are usually enough to rid a skunk of all worms. If a skunk looks unthrifty it is well to worm him as described above without delay. Many other purgatives may be used, but this and all others require considerable time. The best thing to do is to keep the skunks free from worms. For this purpose sulphate of iron may be given in drinking water every second day. Use one teaspoonful of this iron salt to four gallons of water. It is very cheap. It has been found valuable for chickens and hogs and equally so for skunks. On the days it is given see that the skunks have no other water to drink. Lime water may be given, using one tablespoonful of lime to one gallon of water. It is harmless and may be given continuously as drinking water.

SUMMARY

The prospective breeder must not get the impression that the skunk is a delicate animal or one difficult to raise merely because the author has enumerated *possible* disorders which sometimes occur and which should be guarded against.

As a matter of fact the skunk is one of the most hardy

of animals and of all fur bearers by far the easiest to raise. With intelligent attention no breeder should have any serious trouble, as forewarned is forearmed. Some writers have made the bald statement that the skunk has *no diseases*. This has mislead many and the disasters that have occurred have been largely due to such teachings.

Let the breeder bear constantly in mind that prevention of trouble is better than any cure and while cures may in some cases be made it is in many cases not worth the time and labor required. The skunk is a plucky fellow and does not come around and tell his troubles early. He is naturally out of sight most of the time. When he does come under observation his trouble has often advanced so far that it is economy to kill him not only to save time and labor but also to avoid contagion to the rest of the stock.

It is not practicable to open up the dens every day or two, but if skunks that are usually out for their feed at a certain time do not respond as usual they should be investigated. If their food is not eaten up as usual or if their excreta are too soft or otherwise unnatural it will be well to see at once what the trouble is. Thus constant vigilance is the price of success.

Too much emphasis cannot be laid on the necessity of wholesome food, fresh water, clean water dishes, sanitary conditions in general and especially the regular and thorough disinfection of the quarters and the systematic dipping of the stock for without disease germs and vermin there can be no trouble.

Trouble from disease is usually least where not too great numbers are kept. Where vast numbers are cared for there is greater chance of carelessness at some point on the part of the attendants. The more successful breeders of dogs have usually been those with the fewer kennels with the resultant more thorough sanitation and individual attention.

CHAPTER XV

Killing, Skinning, Marketing

When cold weather has arrived and the pelts are prime those skunks not to be kept over for breeders are killed and skinned and the pelts when dry sent to market or held for later sale.

Killing.—This may be accomplished by a blow on the head in the case of disarmed skunks, but fully armed skunks will scent. In their case a blow on the back over the haunches will paralyze the nerves and muscles controlling scent discharge, and a second blow on the head must be immediately administered. These methods bruise the skin to some extent. Drowning is humane and odorless, but it is some trouble to dry the fur after it. Never shoot, as it injures the fur and it will also usually cause scenting.

Mr. Ernest Thompson Seton is a strong advocate of the lethal chamber, and his description of this with its advantages was given in his series of articles on "Fur Farming" in "Field and Stream" in 1914, but its use had been urged by him in 1909 in Vol. II of his memorable work, entitled "Life Histories of Northern Animals" (Charles Scribners' Sons, New York). The lethal chamber or the execution compartment may be any box made with air-tight joints and provided with air-tight cover. The skunk is placed in the box with a cloth or wad of cotton saturated with enough chloroform to cause death within a short time. A teaspoonful of chloroform is plenty to kill a skunk if he is closely enough confined, but it is well to double the quantity if there is waste space in the box. If an adjustable partition is provided in the box with felt packing around the edges any number of skunks may be killed

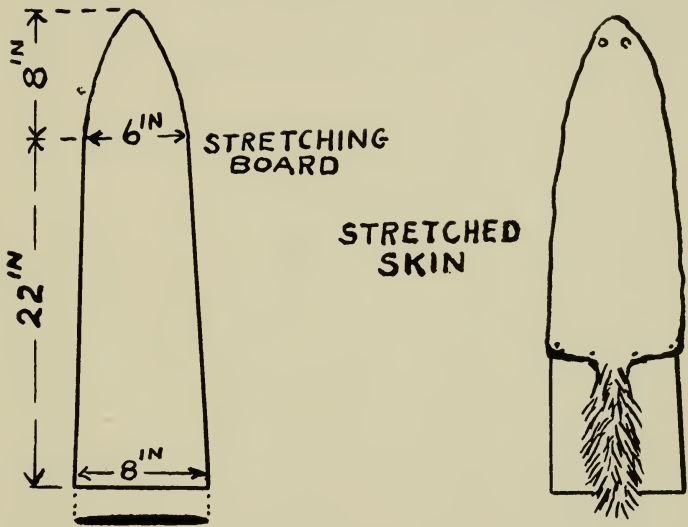
at once, from one or two up to the full size of the box, and waste space is thus avoided and much chloroform saved.

Ordinary illuminating gas may be used if available and is cheaper. It may be admitted by means of a tube passed through a small hole in the box. Hydrocyanic acid gas acts rapidly, but on account of its deadliness is rather dangerous to handle. The lethal chamber is strongly recommended in whatever form it may be used, as it is humane, the fur is not injured and no scenting occurs. There is no death struggle.

Skinning.—The skins must be cased; that is, they must not be slit open lengthwise, but must be turned off over the head as a glove is turned inside out in peeling it off the hand. Start cutting from the center of the sole of each hind foot and slit along the back of each hind leg to the vent. Cut completely around the vent. Slit down the underside of the fleshy part of the tail and skin out this portion. Then pull toward the end of the tail with a split stick placed over the skinned portion and the remaining bony portion of the tail will slip out whole. Turn the skin off the body of the skunk over the head. Skin the face clear to the nose. Cut no holes anywhere. Even the claws may be left on with careful work.

Stretching, Fleshing and Drying.—The skin as turned off the body is wrong side out. Leave it so and draw it onto a board, having all edges smooth and rounded so as not to injure the pelt. Have a large supply of boards on hand, some under-size for smaller skins and some over size ones for larger skins. The shape should be as shown in the cut. Do not stretch the skin much, as this injures it and reduces the value. Tack to board on each side of the tail and at both edges of the board. A couple more tacks on the belly side of the board, making six tacks in all, is usually enough to hold it firmly in place. Split the tail at the bottom for drainage. Some split the tail all the way down.

Now, with a knife not too sharp, remove as much flesh from the skin as possible. This is called fleshing. Do not work so close to the skin as to hurt it, as it is better to leave a little surplus flesh on than to do that. Never rub salt or other preservative onto the skin, except a little salt may be rubbed onto the tail portion and put into the tail. The tail bristles



are used for manufacturing brushes. A good stretcher may also be made from a piece of heavy wire, bent to conform to the outline of a stretching board.

When the skin is stretched and fleshed hang it to dry in the shade and breeze if this is feasible. Never use artificial heat and do not hang in the sun. When dry it may be removed from the board.

Shipping.—For shipment pile the skins and wrap snugly in tough paper and tie firmly with tag containing shipper's

name and address attached. Then wrap again with burlap, the edges of which should be sewed down to make a secure package. Attach address tag of the raw fur house to which sale is to be made and ship via express.

All raw fur houses are glad to send their quotation sheets on request to anyone interested.

CHAPTER XVI

Shipping Live Skunks

The largest profits are now and probably for some years to come will be in the sale of breeding stock. This means that the skunks must be shipped alive. The following is from the Hunter-Trader-Trapper (of Columbus, Ohio) of June, 1913, issue:

"SHIPPING LIVE SKUNKS BY EXPRESS"

"In the last few years, with the increase of interest and activity in fur farming, the express companies have been obliged to give serious attention to the matter of transporting the furbearers. Most of these animals come under the general classification of 'animals not otherwise specified' in the tariff regulations of the companies. In other words, no special mention or provision is made for them as in the case of horses, cows, dogs, etc.

"Skunk in the past have been transported by the express companies usually at regular merchandise rates, and the occasional shipment of these animals when well caged and protected did not arouse any great comment. When the shipments of skunk began to assume greater proportion damage to other express matter resulted occasionally due to the discharge of the scent fluid when the skunks were alarmed or roughly handled. Some of the express companies therefore began to object to receiving skunks and sometimes a shipper would have his consignment refused even though nicely crated and protected.

"Finally the express companies took concerted action and passed a joint and official amendment with the concurrence of the Interstate Commerce Commission, reading as follows: 'SKUNKS—Refuse.' This ruling was published in the Official Classification of all express companies and became ef-

fective April 1st, 1913. This made it impossible to ship live skunks by express after that date.

“There was naturally a protest to the express companies by skunk breeders, and by those accustomed to shipping live skunks. The express companies, however, maintained that their action had been taken after mature deliberation and they could not afford to assume the risk of contaminating other express matter and liability of damage suits. In other words, they would entertain no proposition involving the shipment of skunk in their natural state of defense. They finally agreed, however, to accept for shipment skunks from which the anal glands had been removed. The ruling on skunks was therefore with the approval of the Interstate Commerce Commission changed to read, effective May 20, 1913, as follows: ‘Skunks—Refuse, unless scent sacs are removed.’

“All the express companies concur in this ruling, even the Canadian companies. This means that shipments of live skunks with scent sacs removed can be made between all points in the United States or Canada. The removal of the scent sacs is easiest at the age of five weeks, although it can be done at any time. It does not seem to injure the skunks in any way or to interfere with their breeding.

In shipping skunks from the United States to Canada there is no duty, but, in shipping from Canada to the United States the duty is 20% on the invoice price.”

It is therefore only skunks from which the scent sacs have been removed that will be accepted by express companies for shipment.

In shipping, skunks are necessarily confined and must not be crowded together. The safest way is to give each skunk a separate compartment.

A shallow box makes a good shipping cage. Half the top should be nailed on and the rest of the top covered with 1¼-inch wire netting. A water can must be fastened in a corner

SHIPPING LIVE SKUNKS

directly beneath the netting so it may be filled with water en route. An empty tomato or corn can is good and it should be placed high enough so that the skunk can not foul it. It must be firmly fastened by nailing at the top and wiring or cleating toward the bottom. Place a low partition or curb across the middle of the box to form a nest beneath the covered part and supply soft, dry grass for nesting. In all cases mark plainly, "GIVE FRESH WATER DAILY EN ROUTE." If the journey is not over 1,000 miles enough bread and a few prunes or sweet apples may be put in the shipping cage to last 24 to 48 hours. If the distance is greater than this, nail a small cloth sack of bread to the cage and mark, "FEED BREAD DAILY EN ROUTE." It is well to start the skunks with a meat feed but, do not put enough meat in with them to spoil before eaten.

It is recommended that breeders who ship live stock have their own shipping tags as much time and labor is thus saved in making shipments. To illustrate this the tag used by the Skunk Development Bureau is here reproduced.

LIVE SKUNKS

With All Scent Sacs Removed

To _____

Via _____

IMPORTANT: Give Fresh Water and Feed Bread daily Enroute. (Bread Accompanies Shipment.)

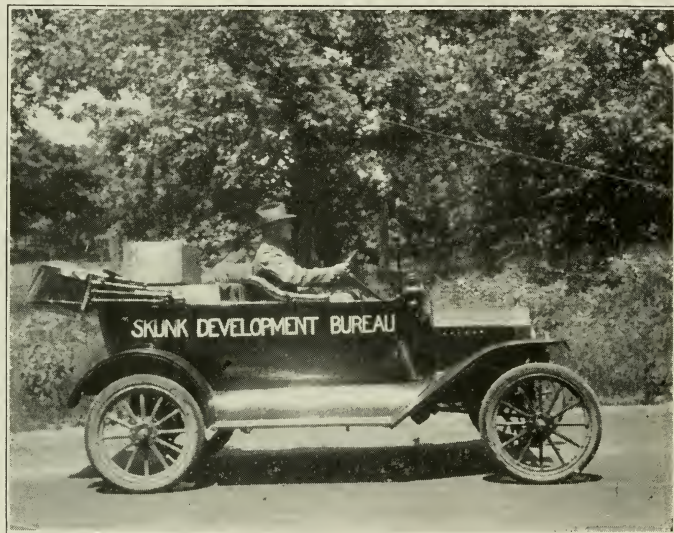
FROM
SKUNK DEVELOPMENT BUREAU

Address Box 554 Chicago, Ill., U. S. A.

Breeding Stations near Chicago and other points in the U. S.

SKUNK CULTURE FOR PROFIT

Skunks are sold F. O. B. shipping point and the purchaser pays the express charges. Payment is usually made one-half cash with order and balance C. O. D. However, in some cases complete payment is sent with order and in some cases all is C. O. D. as the terms are a matter of agreement between the seller and buyer.



Enroute to Sussex, England

The above illustration shows a shipment of skunks starting to the express station at Lombard, Ill., in the Spring of 1915, to connect at New York with the Steamship "Philadelphian" to sail for England, notwithstanding the war.

CHAPTER XVII

Skunks as Pets



Semi-Domestic by Nature

Skunks make unique and interesting pets and many lovers of animals find delight in their study. They are extremely

healthy and hardy in all climates. The various pet stock associations which have done so much for the encouragement of the breeding of pet animals such as rabbits, hares, guinea pigs and others have lately become interested in the skunk. Many of their members have started to breed the skunk. It is an animal which can be kept in very small quarters in cities or suburbs as it is naturally so cleanly in its habits. It is a wonderful animal to study as it is gentle and fond of human company and in some respects it can teach the human species very good lessons. The skunk has self respect and will resent any unseemly constraint of his rights as he understands them, at first by the mild protest of stamping his feet, and finally, as a last resort, by firing upon an aggressor in self defense if he has not been disarmed. He has patience and will tolerate under protest considerable encroachment on his right before using violence. He is of an inquisitive turn of mind and wishes to understand all that goes on around about him. Any new appointments about the place are carefully investigated by him. This will here suffice in the narration of his qualities for it is well to leave the lover of animals some traits to discover for himself instead of revealing them all in advance. One writer has naively remarked that the more he saw of people the better he liked skunks. He was in some respects a shrewd observer.

Skunks will breed in very close confinement when made very tame as they always are when kept as pets for they then receive much attention. They can be handled in the arms just like kittens. They are good mousers. They are astoundingly beautiful.

The author favors disarming in the case of skunks kept for pets and this must be done if kept in cities as the risk of an accident is too great otherwise. It is possible to have the skunks very tame though fully armed and no scent ever thrown even though familiarly handled by their owners, but

How'd You Like to Have Cute Little Skunk Pet?



Also Valued for Fur and
Superiority as Mouser

this source than there is in handling
by courtesy of the St. Paul Pioneer Press)

CHICAGO SUNDAY HERALD

FEBRUARY 21, 1915.



if the skunk should receive a bad fright, as from a dog, it would at once be quite unpleasant for all concerned.

There is probably no animal that can be removed from the wild state and so quickly and so thoroughly domesticated as can a skunk, especially if taken young or partly grown.

The skunks with a large amount of white make the most beautiful pets.

People keeping skunks as pets or breeding them for fancy must be governed by the same general principles which apply to the commercial breeder, especially as to sanitation and vermin. A pet dog or cat would not be permitted to suffer from lice or fleas, so why should a pet skunk? Some careless breeders have lost their young and on investigation it has been found that the mother was suffering from vermin which might so easily have been avoided.

The pet or fancy breeder may experiment in getting the second litter in a season for if the first brood comes early and is weaned early or given to another skunk or even to a cat to nurse and bring up the mother may be bred again a little later. This takes more time, and the second litter coming toward cold weather requires more attention than the commercial breeder can give but it gives the fancier an opportunity to display his skill.

CHAPTER XVIII

A Letter From Canada

Truro, Nova Scotia, Canada,
March 22, 1915.

Mr. F. M. Holbrook,
Chicago, Ill.

Dear Sir:

Official records show forty skunk farms in Nova Scotia this year. The largest skunk ranch to my knowledge is one in which I have a one-quarter interest situated about one mile from the town of Truro, N. S. It has an area of six acres fenced with sheet iron corrugated and galvanized, also painted with heavy metal paint, three feet in the ground and four feet above ground. On top of this we have six strands of barbed wire to keep dogs and people out. All posts are of cedar. We have a barn and cook house and also a three room bungalow for the keeper. We aim to keep four hundred breeders, but have less than half that number at present as this is our first year with the ranch.

This ranch is known as the Shady Grove Skunk Company, Limited, being an incorporated company. There are five large skunk farms within five miles of ours having a total enclosed area of over fourteen acres. At the present time they contain some five hundred breeding stock, mainly star blacks.

The free range has not been successful in any ranch I know of whether here or in the U. S. A. Especially at breeding time they fight and kill each other and also trample each others' young. The mother does not appear to have the same instinct to care for her young as when kept in a pen alone by herself. We are keeping each female in a separate pen

made of one inch mesh, seventeen gauge wire fourteen inches high by four feet square, wire top and bottom and sides.

A small kennel is connected with each pen by a spout. A small quantity of gravel is thrown over the bottom of the cage so the wire will not hurt their feet. They are given feed and water farthest from the kennel so as not to disturb the female when having her young, as I find many will eat their young if disturbed at all. The advantage I claim for this kind of a pen is that when it becomes dirty it can be lifted and placed on a clean piece of ground, saving all the work of cleaning and washing stationary pens. Another thing is the female cannot dig a hole and carry her young in to perish as I have seen them do in a stationary pen that did not have a carpet of wire over the bottom.

When many are together in a large range cannibalism is the chief drawback to the system of ranching. I know of one instance on a ranch near here. Last summer a rancher had turned loose some twenty poor grade skunk, mainly males, to run loose in a large range some two hundred feet square so as to get good fur. He gave them the same kind of food as the others he kept in pens. One turned cannibal killing thirteen of his mates before the keeper was able to tell which skunk was doing the killing. He finally located him and after placing him in a separate pen by himself he had no trouble with the balance. This same man raised sixty young in pens out of a total of sixty-seven born the same year.

The only remedy I can see is to cut the long teeth off even with the others and not to allow old skunk to run with young skunk. The worst cannibals I ever saw were animals that got nearly all meat diet. If cutting their teeth will not stop them from killing each other the only way I see to raise them for fur will be to abandon the range idea and keep only ten or fifteen skunks in a pen twenty-five feet square or thereabouts

where the keeper will have a better chance to control them and find the cannibals.

We have had no disease of any kind until the present year or rather fall of 1914 when an epidemic of distemper broke out in several ranches. It proved fearfully deadly and there seems to be no cure for it. On one ranch only twenty-nine skunks remained out of a total of 350. Another ranch had 229 breeders and in thirty days' time from start of the disease there were only four remaining alive.

This distemper seemed to originate from some skunks which were sold these ranches by an unscrupulous dealer who imported a part of his supply of skunks from far south. They could not stand the great change in climate and contracted distemper which became an epidemic and was equally contagious to the native skunks as to any of the imported stock.

I have never yet heard of any distemper among native skunks unless they were brought in contact with some skunk which had it.

I have seen a lot of people trying to raise skunks but lost most of their young when partly grown from worms. I have had trouble in this way myself but have found that by using a stock tonic twice a week there will be no trouble with worms.

Any statement I have made I can back up with all proofs you wish in regards to distemper epidemic or size of ranches.

Yours very truly,

H. S. CRUIKSHANK.

CHAPTER XIX

Exhibiting

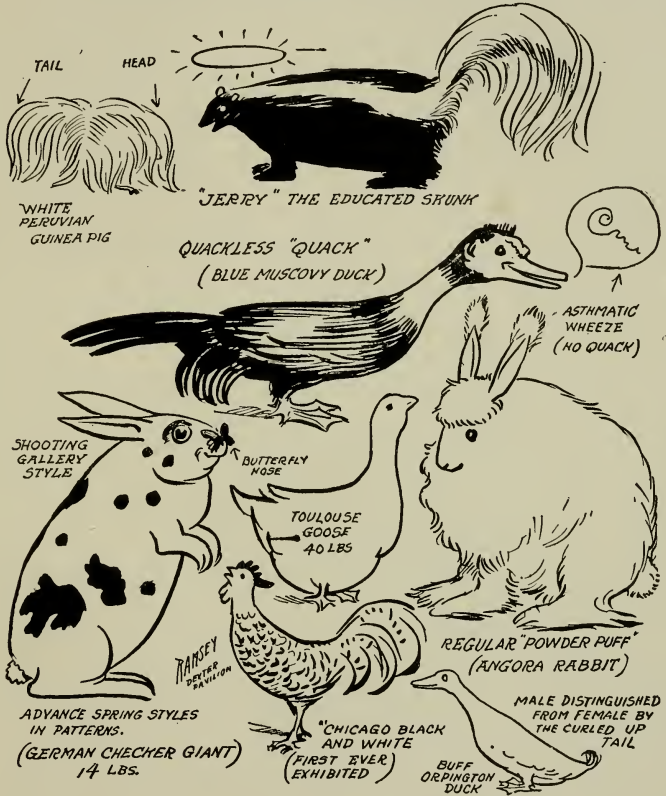
People have a deep rooted passion to excel each other and this is the key to real progress. Public competitive exhibitions of live stock have done much to encourage the development of desirable qualities in various breeds of animals. Cattle, horses, sheep, swine, poultry, dogs, cats, guinea-pigs, and even rats and mice have been bred in various types, colors and color patterns and the highest results exhibited in competition for prizes at the great conventions held for various classes of animals in America, Europe and other parts of the world.

Fur farming animals have only in the last few years been admitted in definite classes to competition. The author some years ago made overtures to the poultry associations, but was dismissed by the reply: "Our poultry breeders have just about as much use for a skunk as they do for a rattlesnake and I don't believe it would interest them at all to have them in a poultry show." It is quite different now as poultry men are glad to give space in the show room to skunks and other fur bearers for they are powerful features of attraction and swell the gate receipts as the newspapers give them good notices and write-ups in their news columns. This is illustrated by the accompanying clippings.

The credit for the entrance of skunks and other fur bearers to standing in the great competitive exhibitions is due to the pet stock associations of this country. In December, 1913, the National Pet Stock Association of America admitted skunks to its premium list and combined its show with that of the Chicago Pigeon Club. This won the pigeon people. In January, 1915, a similar combination was made with the Chicago

SOME WONDERS AT THE PET STOCK SHOW

Furred and Feathered Marvels to Be Seen at Dexter Amphitheater Poultry and Animal Exhibition, Which Has 2,000 Entries.



THERE are all kinds of furred and feathered wonders at the Greater Chicago Poultry and Pet Stock Show in the Dexter Park Amphitheater. The "skunkless skunk," rejoicing in its new name of "sachet kitten," is not the only one, although a big feature. For instance, there is Hungry Liz, who stands at the door of the amphitheater to receive

visitors. Liz is the champion hen of the United States, with a record of 254 eggs in a year. There also is a flock of blue Muscovy ducks, brilliant in coloring and utterly lacking in quacks. George A. Blood of Bellwood has an exhibit of his famous white and black chickens, which have a black feather for every white one. The rabbits range from vest

pocket size to thirty-pounders, among the latter being the "powder puffs." There are more than 2,000 entries, including 500 varieties of fowls and pigeons, dogs, cats, rabbits, skunks and other animals. There are entries from twenty-eight states. The show is under the auspices of the Chicago Poultry Breeders' Association.

Poultry Breeders' Association in the great show held at the International Amphitheater of the Union Stock Yards, Chicago.

The judging at the latter show was done in accordance with the "Standard of Perfection for Rabbits, Cavies, Mice, Rats and Skunks," which has just been published by the N. P. S. A. of A. This represents a great step forward, and inasmuch as other pet stock associations are showing like interest the competitive exhibition of skunks is now well established.

This standard of perfection for skunks recognizes for the purpose of judging in competition three types, as follows:

Solid Black (very rare).

Even Stripes (the wild type is striped).

Solid White (quite rare).

Solid Black is the ideal so much sought. To make up the 100 points the color scores the greatest number if the fur is completely black (grade AAA), the luster scores next if the guard hairs have good, bright, shiny gloss, the length of fur, texture of fur, density of fur, size of skunk and condition all follow with less numbers of points.

Even Stripes score the same as black excepting the points on color are given for a star as round as possible covering the top of the head, and for two even stripes one inch wide running from the star the whole length of the body and for a white tip about three inches long at the end of the tail, these markings being clear white without yellow tint and the rest solid black.

Solid White score the same as black if the word white is substituted throughout for black, and to score the maximum points on color the skunk would have to be of the grade DDE.

The "Standard of Perfection," with full official text relative to points, scoring, etc., can be obtained from the National

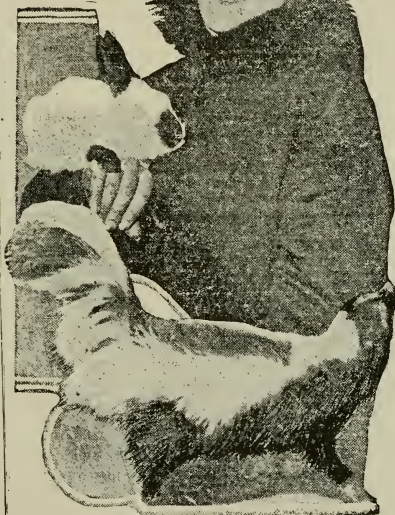
THE CHICAGO DAILY TRIBUNE
FRIDAY, JANUARY 15, 1915.

S
E
I
P
ng
1-
au-
in-
e a
s a
op-
to
ote
ine
-ek
ne
ad
yw
on.
gh
-o-
ne
nt
o-
ill
os
be
to
ce
nt
ne
r-
he
an
sh.
ed
gn
se
er,
u-
ill

Two New Pets Seen at Poultry Show



Miss POLLY
FERREE and
HIMALAYAN
RABBIT



A PET SKUNK, owned by WILLYON

Lovers of pets will have an opportunity of seeing a brand new variety at the Greater Chicago Poultry and Pet Stock show at the International Amphitheater—the skunkless skunk. It also is called the "sachet kitten." It has been rendered harmless so far as odor is concerned, and, according to the owners of the several on exhibition, makes an ideal household pet. Another pet which attracted much attention was the Himalayan rabbit, belonging to Miss Polly Ferree.

The show, which is the first ever held under the direction of the Chicago Poultry Breeders' association, will continue until next Wednesday.

\$7
CO
AS

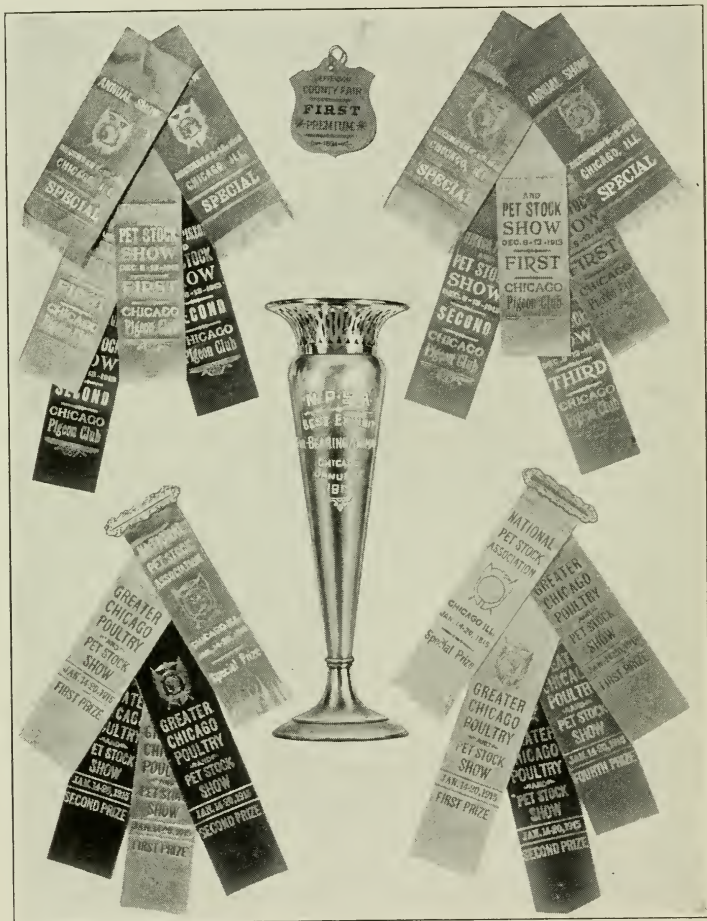
ASS
a

As
for
in t
by t
ent
bud
pric
call
for
Ti
for
Dep
is?
in o
rem
\$3.5
pen
lote
oth-
pec
\$350

W
T
hoa
ty
The
tati
to
ess-
of t
spe
The
as t
pria
offic
men
F
the
in t
in
\$6T
A
paj
Cir
ord,
two
C
for
A
tw
T
Sta

(By courtesy of the Chicago Daily Tribune)

SKUNK CULTURE FOR PROFIT



Prizes Won by the Author for Skunks, 1894 to 1915
(See also page 14)

Pet Stock Association of America, the address of the Secretary being found in all pet stock magazines.

Let every earnest breeder of the skunk join and give his support to some pet stock association or other similar organization. The dues are low, in most cases about one dollar a year, and the benefits of co-operation are great. Let each one also subscribe to some pet stock periodical and occasionally send his contributions of experience to it for publication and for help of his fellow breeders. Let him also advertise his stock in such periodicals as to do so will cost him little and the returns in sales are remarkable for the magazines circulate not only in the United States but in Canada and England as well. And by all means let him enter his choice skunks in competition on every possible occasion and whether he is able to attend the exhibition in person or not his stock will be well cared for. All these things help the general cause and by helping others each breeder most helps himself.

Announcements of Breeders

BELIEVING that the announcements of breeders and those of kindred interests would be of mutual benefit to readers and breeders, the author dispatched over a hundred letters which met with response in accordance with the notices which occupy the remaining pages of this book.

In addressing your inquiries to them please mention having observed their notice in *Skunk Culture for Profit*.

FOR SALE AT ALL TIMES

RED, CROSS AND BLACK

FOX

STAR-BLACK AND SHORT-STRIPED

DEODORIZED SKUNK



**RANCH
RAISED**

**Mink
Raccoon
Marten
and Elk**

**Golden, Silver,
Mongolian
and
Lady Amherst
Pheasants**

Accredited with being the oldest Fur Stock Rancher in Ohio

LET ME SUPPLY YOUR NEEDS

F. J. WILSON

LEWISBURG OHIO



HIMALAYAN

HIMALAYAN, HAVANA(Brown)
and GIANT RABBITS, SKUNKS,
CARNEAUX PIGEONS and
WILD DUCKS.

WM. I. LYON
WAUKEGAN, ILL.

WE have for sale choice Northern Raised Black Skunks with scent sacs removed. Our Skunks have been bred under scientific methods for ten years to produce over 75% black litters and we breed our skunks to a great size and fine fur.

Fine Black Breeders for sale at all times.

Get your foundation stock or if you want to induce new blood in your stock get some of our hardy Northern grown Black Skunk. Send for prices.

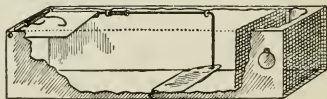
ADDRESS

WOLVERINE FUR FARM CO.

Q. DEVRIES, Prop.

ZEELAND, MICH.

**LIVE ANIMAL
TRAP**
The best box
trap on the
market today



Designed by an old experienced trapper, upon true scientific principles. Contains compartment for live bait. All working parts inside of trap. The trip action is adjustable to any desired tension.

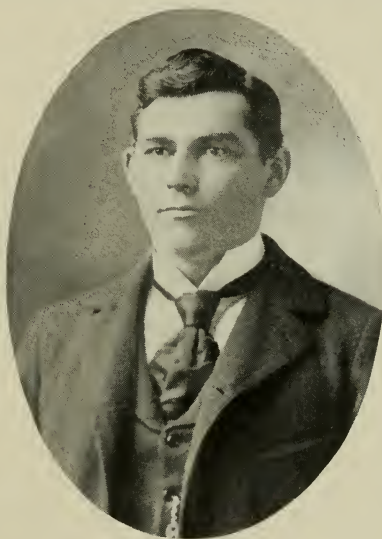
CATCH 'EM ALIVE AND MAKE MORE MONEY

If interested in trapping, our Illustrated Trapper's Guide tells how, giving the first time in print the Treasured Secrets of the wisest old trappers in this country. A Dime brings it—it's worth dollars to you.

TRAPPERS SUPPLY COMPANY, Box F, Oak Park, Ill.

HIGHEST GRADE
—OF—
STAR BLACK SKUNKS
—FOR—
Breeding Purposes

All Stock
Guaranteed
as
Represented



All Orders
Receive
Prompt
Attention

WRITE FOR PRICES

CHRISTIAN ROTH

Box 78

ALLENSVILLE, PA.



Skunks for Sale

I HAVE been studying the skunk for 10 years and have succeeded in producing as good stock as possible. My skunks are practically all star black, healthy and in good condition. Good star males for sale or exchange at all times.

CHOICE BREEDING STOCK FOR SALE

W. J. SNOW

Box 350

ROCKWOOD, TENN.

WHITE LEGHORNS

-- of --

Heaviest Laying and Hardy Strain

These are the Fowls adopted by the Great Commercial Egg Farms of the United States.

Send your eggs to market all through the winter and command highest prices.

Everyone appreciates Fresh Eggs

For Prices on

SETTINGS—YOUNG STOCK—MATURE STOCK

ADDRESS

GLEN ORCHARD

A. F. JOHNSON, Proprietor

ST. HELEN,

MICHIGAN

SKUNKS

That Will Please You

We are experienced Breeders and
dealers in STAR BLACK SKUNKS

All our Stock is Healthy,
well fed and in the best
of condition.

*We ship to all parts of the
United States and Canada*

DO NOT FAIL TO WRITE US
WHEN BUYING SKUNKS

REMEMBER
Pennsylvania Skunks are Famous

H. Rodenberger & Bro.
TRUMBAUERSVILLE, PA.

WISCONSIN VALLEY SKUNKERY

WE OFFER FINEST BREEDING STOCK
TO FUR FARMERS

We wish not only your first order but your continued orders which our fair treatment assures.

Honesty Our Method

If you are stocking your Ranch secure your Foundation Stock from us. Our Northern Stock is Hardy and Well Furred.

If you have Surplus Stock at any time please let us have full description as we can use good stock and we will be glad to make you offer.

ADDRESS ALL INQUIRIES TO
WISCONSIN VALLEY SKUNKERY
RHINELANDER, WIS.

OWNERS:
F. A. ALEXANDER and THEO. J. BIGELOW

REFERENCES:
First National Bank, Merchants State Bank, Rhineland, Wis.



LARGEST
DEALER AND BREEDER
OF
Star Black Skunks
in Eastern Canada

H. S. CRUIKSHANK

TRURO, NOVA SCOTIA

CANADA

Ranch Raised Breeding
Stock for Sale

Successful Breeder
of
Choice Silver, Black
and
Patch Foxes



Skunk Development Bureau

LIVE STOCK DEPARTMENT

Skunks supplied for Fur Farming, for Zoological Gardens and for Pets. The scent sacs are in all cases removed so that the Skunks are disarmed.

Skunks for Fur Farming

Are select Star Black Skunks, grade A A. The demand upon us for this grade has been so great from the United States, Canada and Europe that as a rule we will be willing to supply only a few pairs to each breeder.

Skunks for Zoological Gardens

are usually short or long striped Skunks to show the typical markings.

Skunks for Pets

are selected for their great beauty. They have as a rule considerable white which adds much to their attractiveness. They are very reasonable in price and are in great demand.

Please address your inquiries for prices on Skunks to

Skunk Development Bureau

LIVE STOCK DEPARTMENT
CHICAGO, ILL.

Skunk Development Bureau

SUPPLY DEPARTMENT

Instruments for Removing Scent Sacs

Without spilling any scent fluid.

The full set includes the following:

- 1 nickel plated scalpel (knife).
- 1 nickel plated tenaculum (hook).
- 1 nickel plated sound (probe).
- 1 pair nickel plated special extracting forceps.
- 1 pair nickel plated automatic clamping forceps.
- 2 pair goggles (worn by beginners as safeguard).

Price \$3.00 Postpaid in the United States, Canada and Europe.

WIRE FENCING for Skunk ranges, yards and pens. This fencing consists of the best hexagonal mesh wire netting, galvanized after it is woven so as to last for many years. No. 17 Gauge, $1\frac{1}{4}$ inch mesh is standard for Skunks. Lowest prices will be quoted on request if amount desired is stated.

CORRUGATED SHEET IRON FOR FENCING in five to ten foot lengths. The market price fluctuates and all quotations are for prompt acceptance.

GERMICIDE AND DIP are absolutely necessary for maintaining health and sanitary conditions on your ranch and for keeping pests and mange from the fur of your Skunks. The call for Germicide and Dip has been such that we have arranged to supply them to breeders.

One gallon of Germicide will make 100 gallons of solution for spraying your pens and dens.

One gallon of Dip will make 72 gallons of solution for dipping your Skunks.

Price \$2.70 per case containing one gallon of each.

Please address your inquiries and orders for Supplies to

Skunk Development Bureau

SUPPLY DEPARTMENT

CHICAGO, ILL.



TO learn about **FOX RANCHING** for large profit—write to **CANADIAN TRADERS L'T'D**, St. John, N. B., Canada.

¶ If you commission us to do so we will build you a ranch and stock it for you and show you how to make it **a success from the start.**

¶ We will sell you Foxes of any variety at market prices. Our experience has taught us the business. Our producing and buying connections are of the best.

Canadian Traders L't'd.

Royal Bank Building

SAINT JOHN, N. B. :: CANADA

BECKER BROS. & CO.

FUR MERCHANTS

beg to assure dealers and trappers that they
will at all times pay the highest
market prices for

-- RAW FURS --

on an assortment universally regarded as fair and
liberal in the highest degree.

Shipments are held separate upon request, being returned
if so desired, with all transportation charges
paid. Write for Price List.

GINSENG LIKewise SOLICITED

CHICAGO

416-420 No. Dearborn St.

NEW YORK

129-133 West 29th St.

SKUNKS

of

HIGHEST GRADE

FOR

FUR FARMING

(DISARMED)

Nursery
Stock
of
GINSENG



Young
Plants
of
GOLDEN
SEAL

I do all kinds of photographic work. Send me your negatives for development or for enlargements.

WRITE FOR PRICES

W. J. SMITH

RIPLEY COUNTY
R. R. No. 3

SUNMAN, IND.



Lone Star Fur Farming Co.

WHOLESALE AND RETAIL IMPORTERS
AND EXPORTERS OF

High Grade Fur Bearers

SKUNKS, MINK, MARTENS,
OTTER, BEAVER, FOXES,
RACCOONS, OPOSSUM,
COATI, ETC.

SELECT breeders a specialty. No orders too large for us to handle. Lowest prices and best grade stock obtainable. Twenty years experience in handling wild animals. Let us book your orders now. Satisfaction guaranteed, correspondence solicited.

LONE STAR FUR FARMING CO.
CHARCO, TEXAS.

Skunk Farm

Twenty acres fenced—5 more can be cheaply added. Rabbit range of 15 acres adjoining. Will have 20 AA. Skunks and 20 Striped Pets ready for sale by August 15. Will sell 80 acres of land, including skunk farm, rabbit range and stock farm. Prices reasonable.

H. S. CURTIS, FALLS CITY, ALA.

You recognize these Skunks

High Grade
Northern Raised Stock

Choicest Skunks for sale
for Fall delivery at reason-
able prices if ordered early.

Satisfaction assured in all cases



WRITE FOR PRICES

Northwestern Skunk Farm

ALBERT MARKRUD, Prop.

WALLACE,

SOUTH DAKOTA

ESTABLISHED 1915

PUBLISHED MONTHLY

THE SKUNK BULLETIN

"An Advertising Paper for the Benefit of Skunk Breeders"

SUBSCRIPTION 25
CENTS A YEAR

-)(-
-)(-

ADVERTISING RATES
ON APPLICATION

Defiance, Ohio.

KEEP POSTED

On the progress of the Pet Stock
Industry by reading the



IT gives pointers on care and keeping and tells of the great profits derived from the raising and selling of pet stock. Also gives full reports of awards at the shows and takes up every detail of the business. Regular subscription price 50c a year.

SPECIAL OFFER. Send us 10c and the names of five people interested in pet stock and we will send you this up-to-date paper for three months. Address

National Pet Stock Fancier

922 Advertising Bldg.

Chicago

True Blue Loft and Hutch

WM. E. TAYLOR, Proprietor

3865 LOWELL BOULEVARD, :: DENVER, COLO.

SKUNKS, SKUNKS, SKUNKS
FLEMISH & HIMALAYAN RABBITS
ABYSSINIAN & DUTCH MARKED CAVIES
RHODE ISLAND RED & ANCONA CHICKENS
BLUE BARRED HOMER PIGEONS
REGISTERED STOCK

Satisfaction Guaranteed Always

WESTERN SECRETARY NATIONAL PET STOCK ASS'N
REGISTER YOUR STOCK WITH US.

FINE
STAR SCENTLESS SKUNK
LOWEST PRICES
FOR SALE

I have the oldest successful Skunk Farm in Minnesota.

I have shipped to and hold satisfied customers all over the U. S.

NORTH WESTERN SKUNK

Are noted for their Health and Beauty.

ALL STOCK GUARANTEED

Hawkins Fur & Poultry Farms

W. CLYDE HAWKINS, Owner

Box 52

LANCASTER,

MINN.

LIVE SKUNKS

OF

Highest Star Black Grade

(Bodies Black—White on Head and Tail only)

ORDER
YOUR
STOCK
SHIPPED
as soon
as weaned.



It will then
grow up and
be accustomed
to your
Ranch and
Best Results
Obtained.

Let me quote you on your requirements
at once.

SHIPMENTS PROMPTLY MADE

ADDRESS

W. A. SCHMIDT

ST. JOHN'S PARK, - - FLORIDA

Rose-Hill Skunk Ranch

We will supply for shipment between
Nov. 15 and Mar. 15 Choicest Skunks in

All Grades Desired

Place your orders early in Summer to secure finest
choice as all orders are filled in order received.

If you need breeding stock or will need it later,
write at once for quotation. Address

Rose-Hill Skunk Ranch

R. E. BAUSMAN, Prop.

McCune, Kansas

THE PET STOCK WORLD

"For More Publicity to Pet Stock"

America's Leading Pet Stock Magazine

No matter what your pet, it will be found here: Rabbits, Cavies,
Bantams, Mice, Rats, Cats, Pheasants, Gold and Tropical Fishes.

6 numbers 25c — 50c a Year;

With a copy of

The Cavy — Our Fancy Guinea Pig, 65c.

PET STOCK WORLD

STATION O.

BALTIMORE, MD.

(Mention this book when subscribing)

THE NATIONAL PET STOCK MAGAZINE

DOMESTIC PETS

WHITE OAKS

NEW MEXICO

Don't

Waste your time, money and patience with inadequate knowledge and inferior stock. Get a copy of



DOMESTIC PETS

The Oldest, Biggest and Best Pet Stock Magazine in America. A storehouse of practical information of Poultry, Pigeons, Rabbits, Cavies, Caged Birds and

Fur Bearing Animals

It contains more valuable information of Pet Stock than any publication in America, and it's only 10c a copy or 50c a year. Published monthly.

DOMESTIC PETS

WHITE OAKS : : NEW MEXICO

LONE STAR FUR FARMING CO.



WHOLESALE and Retail Dealers in Imported and Native Live, Wild and Tame Fur Bearers of all kinds.

**Pets, Poultry, Reptiles, Turtles,
Fishes, Birds and Aquatic Plants.
Zoological and Taxidermist
specimens a specialty.**

☞ We can supply your needs in our line on short notice. Better values cannot be obtained elsewhere. Full value and Honest treatment guaranteed.

Send 4 cents in stamps for latest Catalog and Price List.

**LONE STAR FUR FARMING CO.
CHARCO, TEXAS.**



LIBRARY OF CONGRESS



0 002 824 023 5