

FANCY MICE AND RATS

HOW TO BREED AND EXHIBIT



BY W. MAXEY

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REVISED BY A. SELBY-THOMAS

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AND RATS.

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Exhibit.

BY

W. MAXEY,

Late Hon. Sec. of the National Mouse Club.

Second Edition (1910), revised by A. SELBY THOMAS,
President National Mouse Club.

Third Edition (1920) revised by M. DOUGLAS,
President National Mouse and Rat Club.

FULLY ILLUSTRATED.

THIRD EDITION.

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PREFACE TO SECOND EDITION.

In presenting the revised edition of "Maxey's Book on Fancy Mice," I make no claim of authorship, credit for it being entirely due to Mr. Maxey whose name it bears. A Mouse fancier to the finger tips, Mr. Maxey has thoroughly earned the title of "The Father of the Fancy." No one has ever done so much, or worked so hard as he to further the interests of our pets and bring them into the prominent position they occupy in the realm of live stock to-day.

The amount of pleasure that can be derived from the hobby of Mouse Culture is incalculable, and its chief advantage, particularly to working-men fanciers and those of limited means, is that but little outlay is necessary.

In this edition, the bulk of the information given by Mr. Maxey is retained, only those portions which have become obsolete being omitted. The new matter brings the book right up-to-date, and it contains all that is necessary to be known to become a successful breeder and exhibitor of Fancy Mice and Rats.

For the chapters on Rats I am indebted to Miss M. Douglas, Hon. Secretary National Mouse Club, who furnished me with the valuable information embodied in same.

A. SELBY-THOMAS,
President of the National Mouse Club.

The Mousereries, Gloucester.

PREFACE TO THIRD EDITION.

With the exception of two or three sections contributed by the fanciers under whose names they appear the whole credit for authorship of the chapters dealing with Mice is due, as in previous editions, to Mr. Maxey.

For the greater part of the valuable information on Rats, which forms the latter portion of the book I am indebted to Mr. H. C. Brooke. To all fanciers who have assisted me in bringing the work up to date I tender my hearty thanks.

M. DOUGLAS,

President of the National Mouse and Rat Club.

St. Veep, Lostwithiel.

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CHAPTER I.

THE MOUSERY.

Mice can be kept in any kind of room, attic, cellar, or outside shed, providing the place they are kept in is free from draughts and dampness. Both these are great enemies to Mice, and if exposed to them they will not thrive, neither will they have nice shiny coats, as a Mouse should have when in perfect health and condition. Remember that if Mice are in good cages, and have nice warm beds, they can stand any amount of cold; but damp and draughts will bring all manner of ailments in their train, and generally prove fatal to Mice. To my mind, the best place to keep your pets in is a nice dry attic. Shelves can easily be fixed around the walls on which to stand your cages; or, some trestle tables will serve the purpose. As to the number of Mice that can be kept in any given space, the fancier must decide for himself, always bearing in mind that overcrowding is a bad thing.

If the Mice are kept thoroughly clean, and only the barest number of bucks kept, you will not hear any complaints about your pets, especially if there is a window which you can open. This should be open all day, and partly so at night. If the window is in such a position that cats can get in you must fix a strip of wire-netting over it to keep the cats out.

An outside mousery should not be in too exposed a position; in the angle of a wall is a good place to build.

The shed should be built of grooved and tongued match-boarding, nailed to a framework, the uprights of which should be from $2\frac{1}{2}$ to 3 inches square. Build the frame first, and then nail your matching to it, leaving space for a good-sized window, which should be made to open. The floor should be raised from the ground to prevent damp penetrating. The roof should slope to the front and should be of

wood, well tarred with hot coal tar, heated over a fire. The tar is liable to catch fire during the heating, but if it is outside no harm can result. Roofing felt should be nailed on top, and given a couple of coats of hot tar, letting one coat dry before the other is put on. While the second coat is wet, sprinkle it well with sifted ashes or sand to preserve the felt. If a fresh coat with a sprinkling of ashes or sand on top is given yearly, you will always have a dry roof.

A good sound roof can be made by first covering with wood, giving a coat of tar, and then covering with sheets of corrugated iron, which may also be tarred and will then last for many years. It is essential that a wooden roof is under the iron, as it gets quite damp inside if no wood is underneath. The wood for sides and roof should not be less than $\frac{1}{2}$ inch; $\frac{5}{8}$ or $\frac{3}{4}$ inch would make a much better and more substantial job. The sides of the shed should have a couple of coats of hot tar, letting one dry before the other is put on. The inside of the mousery should be limewashed or coloured with one of the water paints once or twice a year.

As to the size most suitable for a mousery. If you have plenty of space, I advise one not less than 6 feet in height, 6 feet in length, and the same in width. If possible, 8 by 6 by 6 high would be a much nicer size. I have seen a nice compact little mousery, 4 feet by 4 feet by 6 feet high. This had shelves at back and sides, and there was just room for the owner to stand inside when attending to the Mice. As to how your mousery should be fitted up must be left to your own judgment. Rows of shelves around the sides is the usual way, but as much air space as possible should be left between the shelves: a table should also be provided on which the cages can be placed when being cleaned or the Mice being fed. A flap table hinged to the side of mousery, with a collapsible leg will be found most convenient. There should also be one or two boxes in which to place sawdust, hay, food, etc. Small galvanised iron bins, round or square, can be purchased at most ironmongers, and are very suitable. A small scraper will be necessary when

cleaning out the Mice. (See illustration). This can be purchased at most live stock dealers for a few pence. It is most useful to clean out the front of the cages and to scrape out the dirty corners.

If you have neither a room nor space in your garden to build a mousery, and yet would like to keep a few Mice, you may have a dry cellar, but it must be dry: if it is not it will be useless to attempt to keep Mice in it. I should not advise you to place shelves around the walls. The best plan would be to stand the cages on a table or staging in the centre, or obtain a large packing case and fit some shelves into this, for in an underground place there must be a certain amount of dampness and if the cages are standing near the walls they will be liable to get damp. The great drawback to keeping Mice in a cellar is the absence of light. Where light is absent the Mice are sure to be timid and frightened. Many fanciers are of opinion that Mice, particularly those of the brighter hues, retain their colour better when kept in a subdued light, as when exposed to a bright light they are subject to a certain amount of bleaching.

In outdoor mouserries good ventilation, combined with freedom from draughts, is a sine qua non. A good way to ventilate the mousery is to bore a row of 1 inch holes along the front, just under the eaves of the roof. The heat always ascends, and the cold air coming in through these holes will have to pass through hot air, and thus will not strike so cold as it would do if the holes were lower down. A wooden or zinc gutter should be nailed just under the projecting part of the roof to catch the rain and run it away from the mousery; if there is no gutter, the rain drops on the ground and soaks into the mousery at the bottom. If possible, the front should face the south, a southern aspect being much the warmest.

Some fanciers keep a lamp burning in their mousery during cold weather, but if Mice have good warm beds nothing more is required: even if there were no danger attached to keeping a lamp burning in the mousery, I am sure the fumes given off cannot be other than unhealthy and harmful to the Mice.

CHAPTER II.

CAGES.

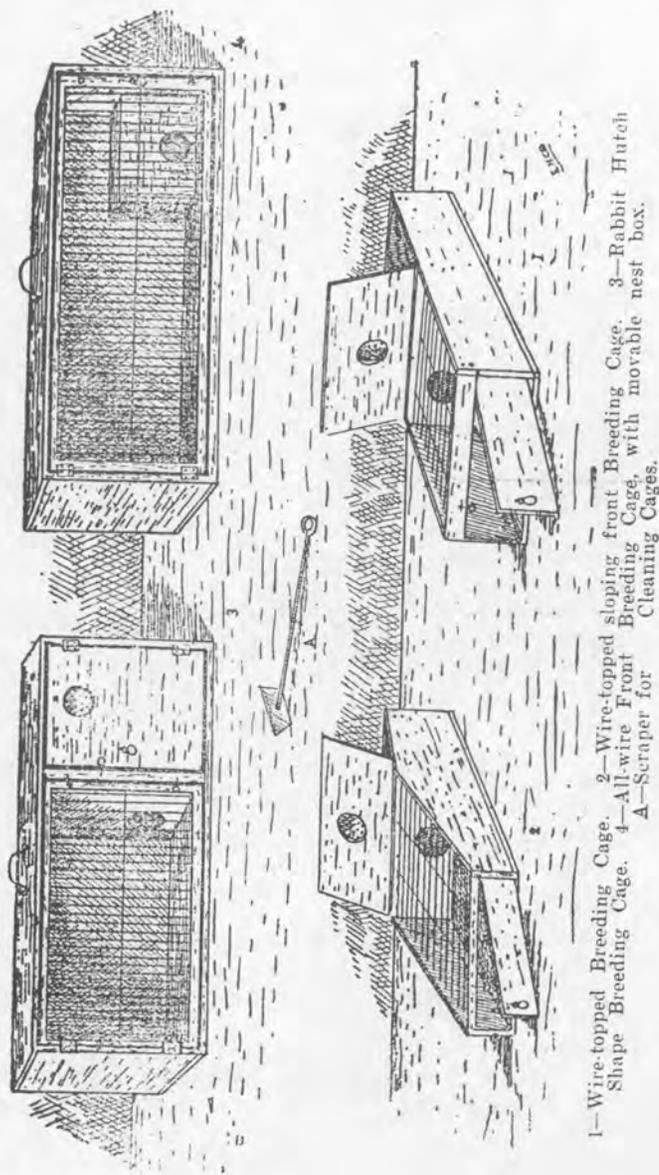
BREEDING CAGES.

These are of all shapes and sizes, and no hard and fast rule can be laid down as to which is the best or most suitable. The main point to be considered is this—there must be plenty of room in the cages used. They must be well made, wires well tied, and the nest hole must be of sufficient size to enable a doe in kindle to get in and out of her nest without squeezing or hurting herself in any way.

First, I will describe the kind of breeding cage which I think par excellence. It is a flat box cage, 12 inches long, $7\frac{1}{2}$ inches wide, and 4 inches in height (outside measurements). The nest part is $4\frac{1}{2}$ inches by $7\frac{1}{2}$ inches. The hole by which the Mice enter the nest is $2\frac{1}{4}$ inches across. There is a $1\frac{1}{4}$ inch hole in the nest door. This and the entrance give ample ventilation. The front of the cage opens in various ways, either to lift upward, to drop down, or open outwards. I have made and used all these, but now only use those that open outwards. The fixed piece at top of cage where the front opens is $\frac{3}{4}$ in. wide. Thus the piece that opens to allow of the cage being cleaned is about $2\frac{3}{4}$ inches in height. This is a nice size, and enables one to place his hand in the front part of the cage if it is required.

This cage can be fitted with wooden or zinc trays. They help to keep the cage sweet and clean; it is advisable to have trays fitted to all your cages.

There is another shape of cage, same dimensions as last, but instead of being 4 inches high in all parts, the bed part only is this height, and it slopes to $2\frac{3}{4}$ inches in front. These look pretty, but do not give so much room as the cages that are one height all over.



1—Wire-topped Breeding Cage. 2—Wire-topped sloping front Breeding Cage. 3—Rabbit Hutch
Shape Breeding Cage. 4—All-wire Front Breeding Cage, with movable nest box.
A—Scraper for Cleaning Cages.

Another kind of cage is one made rabbit-hutch shape. These have their admirers, and are very nice, for they can be hung up or stacked on top of one another, and the inmates can be seen without taking the cages down. The wires of this cage are usually fixed into two strips of wood—the bottom strip 2 to 2½ inches wide, and the top strip about ⅝ to ¾ in. This forms a door which can be made to lift up, drop down, or open outwards. The nest door is at end, and has a ventilation hole at top. The size of cage most useful is 12 inches long, 5½ inches wide, and 5½ inches in height, though some fanciers prefer to have them rather larger.

Another kind of cage is the same shape as above, but instead of having a fixed nest at end, the whole of the front is of wire, and the nest box stands in the cage. Thus you can have a relay of nests. Take the soiled one out and have a clean one all ready to replace it. The nest being loose, it can be washed out at leisure, and the cage can be quickly cleaned out when the nest is removed. The cage can be fitted with a tray to cover the whole of the bottom. The three kinds mentioned are suitable for breeding cages to contain a buck and two does, or they can be used to place a lot of young bucks or does in, or half a dozen mature does that are not being used for breeding.

Stack cages are very useful, and a half-dozen of these would be large enough to contain the inmates of a good sized mousery. There are various kinds of stack cages. First of all there is the cage of three or four floors, wire doors at one end, and wood door of nest at the other. In fact, it is the same shape as the small cage No. 3. These cages can be made with nests at each end of cage and the runs in the middle, with a wooden partition running down the centre. In this way one stack of four floors will have eight nests and runs. The wire door in the middle can be made to cover the two runs on each floor, or they can be made in two parts, a wire door to each run. The piece of wood at bottom of wires must be at least 2 to 2½ inches in height to prevent the food being thrown out. Size of the stack cage with four floors would be about two

feet high, from 6 to 8 inches (or wider if required) back to front, and from 12 to 18 inches in length. The nest box at end to be from 5 to 6 inches. If two nests on a floor are required, then the cage must be from two to three feet across the front. All strips of wood must be protected with thin zinc or tin, especially the strips of wood in which the wires of the doors are fixed. If this is not done, the Mice will soon gnaw the wood away and loosen all the wires.

A very useful stack cage is one with movable nests and partitions. A nice size is 20 inches by 20 inches by 11 inches. This has three floors, and each floor is partitioned off into three compartments. There is a nest box in each. This gives an open run to each cage of about 7 inches by 6 inches, and is large enough for a buck and two does, or half a dozen does or youngsters. The wire front is made to drop down on brass hinges, and each front covers three compartments. If a large number of Mice are put into each floor, the partitions can be taken out and each floor made into a single cage. There are small trays to each compartment and when the partitions are removed, one large tray to cover the whole of the floor can be put in. The trays can be made of either wood or zinc. This cage, when nicely enamelled inside and out, looks very handsome.

Another cage is same as No. 1, but instead of the wires being fixed into the sides of the cage, they are placed in two strips of wood about ½-inch in width. This forms a door which can be opened at will. Some fanciers prefer this cage, as the whole of run can be got at with ease, though well made cages of this description would cost more than cages with fixed wire tops.

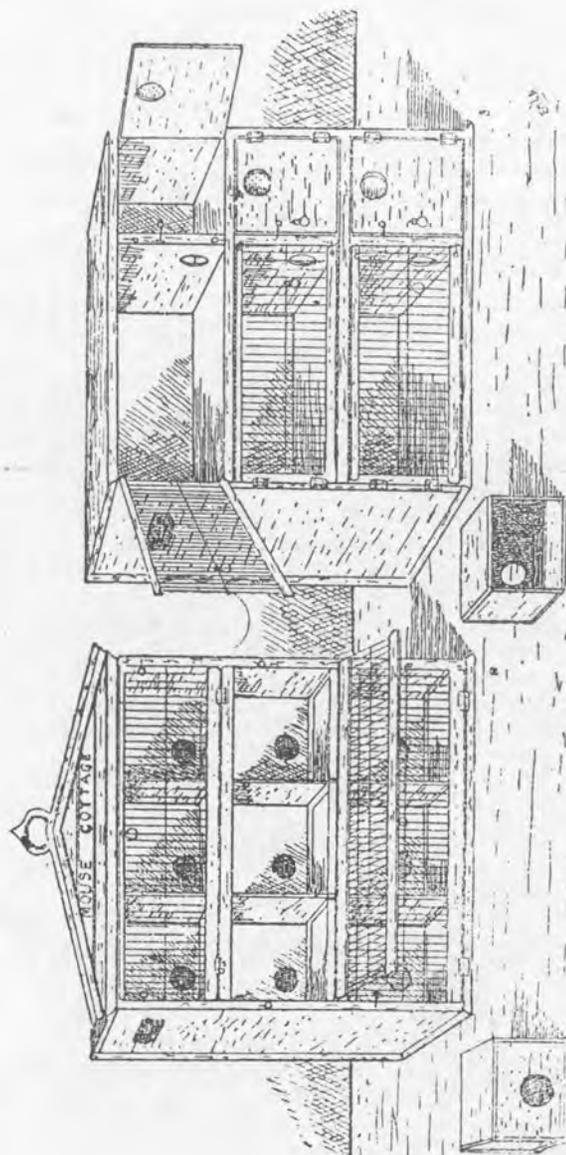
Many fanciers prefer glass fronts or tops as the Mice can be easily seen and cannot throw the food and litter out of the cage. A well made glass-fronted cage has advantages, and if care is taken that the ventilation is perfect such cages can be used without fear of harm coming to your pets; otherwise, they will become delicate, and never in good coat.

Another kind is that with a revolving large wheel about 5 inches by 5 inches. Total length of cage 18 inches, width and height 6 by 6. This size is just right. Wheel cages are most useful if you have a good Mouse with a tendency to put on too much flesh, for if a Mouse is run in one of these cages the wheel exercise will soon bring it into form. Mice should not be kept constantly in cages with wheels, for they like to exercise so much that they become quite thin, therefore they should only be placed in the cage when you want to reduce fat, etc. If you keep Mice constantly in wheel cages, you must fix the wheel so that the Mice cannot turn it around until you allow them to do so.

If you wish to keep bucks in separate cages and room is a consideration, then a box cage, size 11 by 6 by 3 inches in height is a useful size. The bucks would only be placed in them when not being used at stud, so that they would not require a very large cage.

Some fanciers keep their Mice in extract of soap boxes or chocolate boxes. They cut a hole in the sides, and nail a piece of perforated zinc over it. The Mice when in these boxes are nice and warm, and, so far as I know, seem to thrive and do well in them. One or two well-known exhibitors use nothing but these boxes to keep their Mice in, and have been very successful on the show bench. The boxes can stand one on top of another, and when gnawed or very dirty can be destroyed and new ones purchased for a small sum, but if you have a nice place in which to keep your Mice it is best to have nice cages.

Fanciers just starting need not go to great expense when they take up the hobby. They could keep the Mice in boxes for a time, and then, as their knowledge increased, they could purchase cages. One or two at a time would not be very expensive, and as stock increased, so the cages could be purchased.



5—Stack Cage, Rabbit hutch shape.
6—Stack Cage, with movable nests, trays, and partitions.

CLEANING CAGES.

If the cages are scrubbed out with boiling water, say about once in three months, they will always be sweet and clean. Wash a few at a time; when they are thoroughly dry and ready for use, empty a few more, wash these, and so continue till all your Mice are in clean cages. A little Sanitas placed in the water in which the cages are cleaned will give them a sweet and refreshing odour when dry. To wash the cages you will want a small paint brush and a nail brush. After the cages have been steeped in hot water, the paint brush should be well rubbed on a piece of soap, and the inside of nests and runs thoroughly scrubbed with it. The nail brush is for cleaning the outside of the cage. After the cage has been well scrubbed it should be well rinsed in cold water.

When the cages have been cleaned and dried, you can repair any that have been gnawed. If there are any holes zinc can be nailed over them. Be sure and cut the zinc much larger than the hole. Tacks 5-16ths of an inch long is the size that should be used. A foot of thin zinc can be purchased for a small sum, and will last a long time; it should be thin enough to be cut with an ordinary pair of scissors. When you find the Mice start to gnaw in a certain place, dip a small brush in paraffin, and paint the part that they have gnawed. This prevents them gnawing there, at least till the odour of the paraffin has evaporated when you can paint with paraffin again. Paraffin will not hurt the Mice.

ENAMELLING OR PAINTING BREEDING CAGES.

If you wish to have your breeding cages painted, purchase well-made unpainted ones and paint them to your own taste. A small pot of enamel will be sufficient to enamel a number of cages. A nice colour for the inside is azure blue and black or chocolate for the outside. Cages thus enamelled always have been

last a long time, and can easily be cleaned with a damp cloth.

CLEANING AND COLOURING STACK CAGES.

Large unpainted stack cages are rather awkward things to handle, and they cannot very well be scrubbed out in hot water, the same as a small box cage. The next best thing to washing is whitewashing. Get a ball of whitening. This is obtainable at any oilman's. Place this (or as much as you think will be sufficient for your purpose) in a pail or tin, cover the ball with water and let it stand overnight; in the morning drain all the surface water off, beat the whitening up with a piece of wood—it will now be the consistency of thick cream; get a pennyworth of size from the oilman. Place this in a tin, add a little water, and place on the fire, stir it with a stick, and as soon as it is melted pour it on the whitening, add a few drops of Sanitas, and stir well. If too thick add a little more water. If you wish the whitening to take a bluish hue add a little ultramarine blue. After thoroughly stirring all the ingredients together, you can paint the insides of your cages, using a small enamel or varnish brush. Work well into the crevices—this will destroy insects or red mite that there may be in the cages. If you paint your cages with this mixture about four times a year they will always be sweet and clean, and will not need washing in hot water. Do not forget the Sanitas. This has a pleasant odour, and destroys any germs or insects that it comes in contact with.

PURCHASING AND MAKING CAGES.

When purchasing cages remember that well made ones, though perhaps a little dearer than those that have been put together as speedily as possible, are cheapest in the end, for they outlast three of the cheaper kind of cage. Wires should not be more than $\frac{3}{8}$ ths of an inch apart. If wider, the Mice when young can squeeze through them. All wires

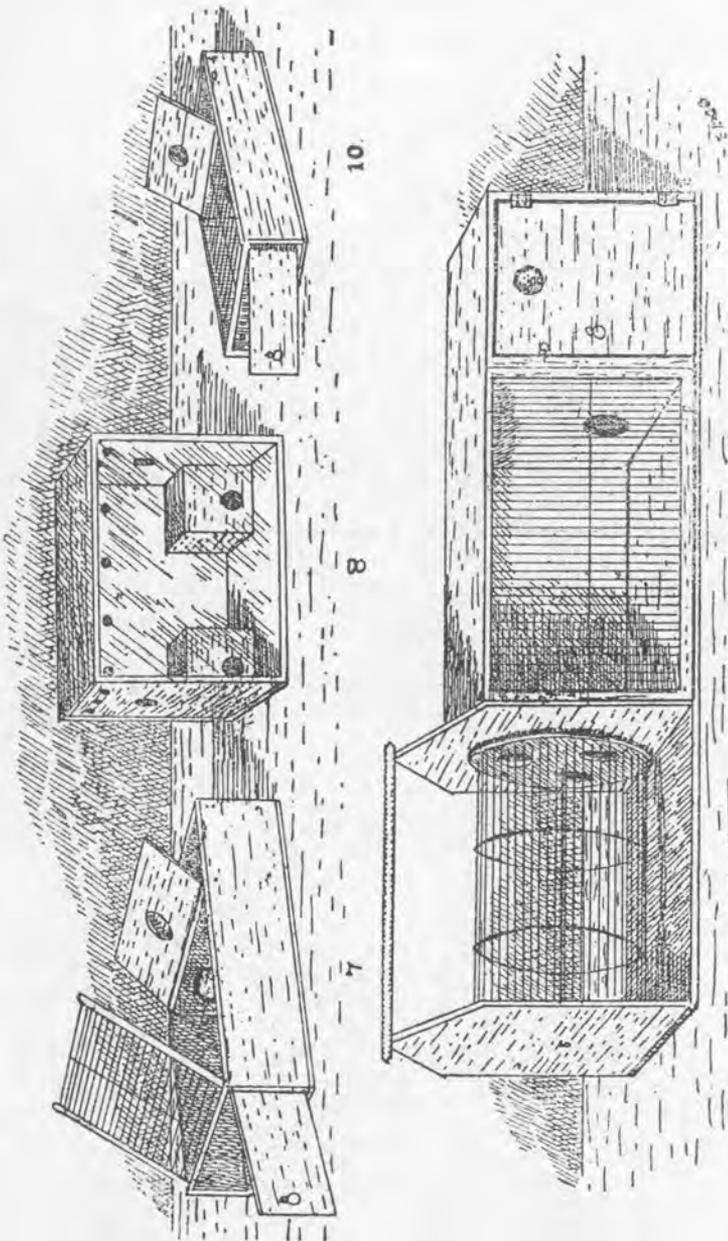
should have strengtheners of stouter pieces of wire across them, and to these strengtheners the cross wires should be fixed with thin tying wire. Wires for any cage should not be thinner than 17 gauge; the strengtheners should be a size stouter. 16 gauge should be used for cages in which long lengths are wanted. This is thick enough for any size cage. The tying wire should be 26 or 27 gauge. The wire used must be tinned wire.

If you wish to make your own cages purchase one (of whichever shape you fancy) from a reliable maker. You can then see exactly how it is made, and cannot go wrong when you commence work.

SHOW CAGES.

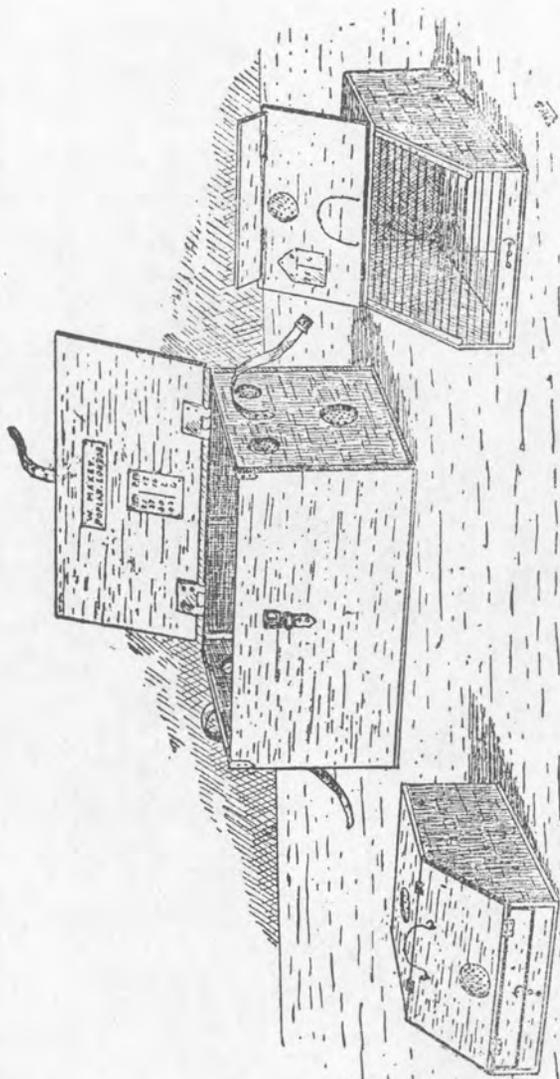
Except in Selling Classes (in which any kind of cage may be used) show cages of the "Maxey" standard pattern must be used, when exhibiting Mice. This cage, my own invention, has been adopted by the National Mouse and Rat Club as the recognised standard cage. It is necessary to have all cages enamelled in the regulation colours, viz.: Signal red inside and middle Brunswick green out. Cages must not have any distinctive marks whatever on them. Height at back over all 4 inches; height at front, not including thickness of lid, $2\frac{3}{4}$ inches. Length, $7\frac{1}{2}$ inches. Depth, back to front, $5\frac{3}{4}$ inches. Width of flat roof piece $2\frac{1}{2}$ inches sloping front lid $3\frac{1}{2}$ inches wide; strip hinged to front of lid, $1\frac{1}{8}$ inches wide. Strip on bottom of front, $1\frac{1}{8}$ inches full. The wire door to open is $3\frac{1}{4}$ inches by $6\frac{3}{4}$ inches.

Fanciers who intend to enter the list of exhibitors should start with at least two show cages and a travelling box to pack them in when sending to a show. Though these cages will travel safely to and from an exhibition without being placed in another box, I do not advise anyone to send them thus. Travelling boxes are light and strong, and if well made will last a lifetime. The same can be said of show cages. These should be cleaned as soon



7—Flat Breeding Cage, with movable wire top. 8—Glass-fronted Breeding Cage, with movable nests. 9—Large Exercise Wheel Cage. 10—Small Cage, suitable for housing odd bucks.

as they return from the show. Rub them well with a soapy sponge or flannel, polish with a dry duster, then pack in travelling box till again required. If given a coat of enamel inside and out once in two years they will look as good as new.



MAXEY SHOW CAGES (closed and open), AND TRAVELLING BOX, to hold Four Cages.

CHAPTER III.

HINTS ON PURCHASING STOCK.

(By A. Selby-Thomas).

The purchase of stock by a beginner is a matter which requires careful consideration, as on this much depends as regards his future career, both as a breeder and exhibitor. Good results cannot be obtained from mongrel or cross-bred stock, but if the foundation is laid with carefully bred specimens, obtained from a reliable source, then ultimate success is assured. To get the best results, quality should be your motto, not quantity. The first thing to decide is what varieties you intend keeping, and here let me say that I consider it fatal to the career of any beginner, without experience, to commence with more than two, or at the most three, different varieties. A very good plan would be to take up one of the self colours, a marked variety, and perhaps select a third variety from agoutis, cinnamons, tans, sables, etc. You should then select the names of one or two well-known breeders and exhibitors and write them stating your requirements, and, if your means are limited state what sum you are prepared to spend. Then you can make your selection and complete the purchases. Always endeavour to obtain young stock, i.e., from three to four months old, then you will get the full benefit for breeding purposes.

There is no need to spend a large sum on breeding stock. Exhibition specimens, of course, run into high figures, but a decent pair of breeders can be purchased for a few shillings.

CHAPTER IV.

BREEDING AND GENERAL MANAGEMENT.

(By A. Selby-Thomas).

When the Mice are fully matured ($3\frac{1}{2}$ to 4 months old) they may be used for breeding purposes. A good plan is to run a buck with two does. Some fanciers run three does with one buck, but this I do not advise. As soon as the does appear to be in kindle (the full period of gestation in Mice is from 19 to 21 days) remove the buck to another cage, taking care to feed him well on stimulating food, hemp, oats, canary, and millet seeds, with sopped bread, for not less than a week, before using him for stud purposes again.

The does should be furnished with a snug nest of dry hay, and provided with a slightly increased diet of sopped bread. They should not be disturbed more than is absolutely necessary, and the youngsters, when they make their appearance, should not be handled for four or five days, as some does object to their young being overhauled in the early stages. When you consider it safe to make an examination, remove the young from nest, and if a marked variety, the badly mismarked ones may be at once destroyed, but if self colours, then you must select the smallest and weakly, or those with pied tails for extinction. Three or four in a litter will be ample for one doe to rear, and by following this course you will soon build up a strong healthy strain.

Keep your does well fed and supplied with plenty of moisture, particularly in hot weather, or they will be apt to destroy or neglect their young. As soon as the youngsters commence to move about and fend for themselves, the food supply must be increased. When

about six weeks old the young bucks should be removed to a cage by themselves, as Mice will breed at eight weeks if allowed to run together. The young does may be left a week or two longer.

The old does should be removed, and rested for ten days or a fortnight before being paired up again. Mice begin to get their adult coat when ten weeks old, and are fully moulted at three months. They moult again when six months old.

Never use old stock or those out of condition for breeding purposes. Always select the best and strongest Mice of each litter for stock purposes. Never use a weakling, however well marked or good in colour it may be. Matured bucks must never be placed together, or they will fight until probably both are killed, and if young bucks commence to quarrel they should be at once separated, or there will be a similar result. Matured does may, however, be placed together. They will quarrel a little at first, but soon become friendly. Do not keep more bucks than absolutely necessary, as it is the bucks that cause the unpleasant musky odour.

If one of your most promising does happens to get in kindle at an early age, let her rear a couple of youngsters, feed her well the while, and she will be very little the worse, providing you do not pair her up again until she has had a good rest. Should you lose a doe whilst suckling her young, and have another doe with youngsters about the same age, which you would sooner sacrifice, make the exchange, taking care to give the doe a feed at the same time to attract her attention. It's worth trying, and comes off more often than not. In breeding, be careful not to get different varieties mixed up. There is no reason why you should not indulge in a little experimental crossing, but take care to keep these distinct from pure strains, or it will mean disaster.

COMMON AILMENTS.

If properly tended, Mice are as a rule hardy. Asthma is by far the most troublesome of any com-

plaints to which they are subject, and if neglected in its early stages quickly becomes chronic and incurable, and is liable to infect the other occupants of the mousery. The first symptoms take the form of a snuffling, wheezing noise, sometimes hardly perceptible, and if as soon as this is detected the sufferer is placed in a box well filled with warm, dry hay, and a little vaseline rubbed on the nostrils, it will often quickly disappear. If, however, it does not prove tractable to this treatment, add a liberal diet of hemp and linseed to the prescription. Mice suffering with chronic asthma should be destroyed, and never used for breeding purposes.

A too stimulating diet will sometimes cause the blood to become over-heated, and soreness of the skin is a natural consequence. Change diet to oats and sopped bread only, and if sores are wet, dust over with flowers of sulphur; if dry sores, apply sulphur ointment. After the sores have disappeared, vaseline applied frequently will soon encourage the growth of hair again. For sore ears, apply boracic glycerine.

Always isolate any Mice "on the sick list" from your other stock, and be careful not to handle the patients until you have finished with the others.

A spare cage should be kept for a "sick bay," and never used for healthy stock. Sometimes a Mouse will develop tumour, the growth generally making its appearance on the side or belly. There is no cure for this, and a Mouse so affected should be at once destroyed.

BEDDING.

I never use anything but sweet meadow hay. The coarse hay will do if you cannot get the finer kind, but it does not make such nice beds. Mice like a nice supply of hay for their beds, and usually eat a quantity of it. This helps to keep them in condition. I usually crumple the hay up into a ball, make a hole in it, and place in the cage. The Mouse does the rest, and doe Mice will weave it into a nice round nest. Some fanciers use cotton wool to bed their

Mice on, but this is most dangerous. The feet of the Mice are often damp. The wool clings to them, and Mice being clean little creatures, start to lick their feet clean. The wool is swallowed. This stops up the intestines, and the result is death.

Some fanciers use flocks. These are not so dangerous. Being cotton pods, they are nice and warm, but are liable to harbour insects. Still I believe some fanciers have been very successful who use them as bedding for their Mice.

CLEANING THE MICE.

This should be the first thought of a Mouse fancier. Clean beds should be given once a week. The front part of the cage should be thoroughly cleaned at the same time. Husks, etc., should be taken out of the cage almost every other day, and once a week the bottom should be well scraped (see scraper in illustration). By doing this your Mice will always be sweet and clean, and a pleasure to everyone. Deal sawdust should be thrown on the bottom of cages each time they are cleaned out. It absorbs the moisture, etc., and prevents an odour from arising.

Remember that Mice themselves are odourless, no smell whatever arising from their bodies. It is the moisture from the Mice that causes the smell. As soon as this moisture comes in contact with the air a musky odour arises from it. Bucks are the principal offenders. If you have no place to keep a sack of sawdust, perhaps your butcher or grocer would oblige you now and again with a small quantity. If sawdust is not to be got, then a substitute must be used, and the best I know of is bran. The bran or sawdust must be placed in both the nest and open part of the cages.

Special attention should be paid to the corners of the cage most used by the Mice. They should occasionally be scraped well and washed out. A little Sanitas fluid placed in the water is a good deodoriser.

Sanitas sawdust is also a splendid thing, and a half-cwt. sack will last a year if equal parts of Sanitas sawdust and ordinary sawdust are mixed together before being placed in the cages. It is best to use Sanitas sawdust in the nest part only. A good substitute is to pour a few drops of Sanitas on the ordinary sawdust, mix well together, and use in the nests. The Sanitas has a nice aroma, and is pleasant both to Mousey and its owner.



CHAPTER V.

HINTS ON FEEDING.

No hard and fast rule can be laid down as to what sort of food should be used. If your Mice thrive and grow to a good size and keep in condition on the food you are using, don't change it for another that you hear is better, though you can, of course, work in a little change now and again and see how it answers. All soft food should be placed in small earthenware pots or saucers, as this helps to keep it sweet and clean.

DRY FOODS.

Oats, canary seed, millet seed (white for preference, the Mice do not seem to care much for the red), hempseed and linseed. Oats is the staple diet of Mice. Canary and millet seed is usually given as an extra. Mice can be fed on canary seed alone, and will thrive on it, but when a quantity of Mice are kept this is rather expensive. A good mixture is as follows: One quart oats, half-pint canary seed, half-pint millet. Mice will always thrive if fed on this mixture. Some fanciers prefer to feed one day oats, another day seeds. Hemp and linseed are too heating and fattening to be used as staple foods, but are very useful indeed as conditioners for does with young or those that have just left a litter. Maybe you have a good Mouse out of sorts. A pinch or so of hemp and linseed will do wonders towards getting it in condition again. A pinch now and again given to all your stock will be a treat to them, and will help to keep their coats nice and glossy. To get your Mice a good size, they must be fed on suitable foods when young, such as crushed oats, whole groats, or coarse oatmeal. Young Mice fed on these when first

taken from their dams will thrive and grow into fine specimens. Crushed oats, etc., can also be given to stock Mice, but would be rather expensive if many were kept.

SOFT FOODS.

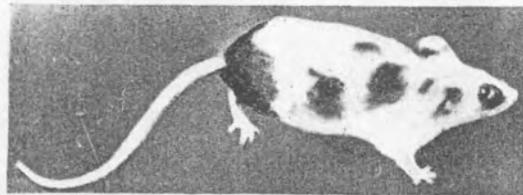
Bread and milk is the food par excellence for all pet stock. The proper way to prepare same is to scald some stale bread with boiling water, when cooled squeeze the surplus water out, and pour on a little milk, taking care in hot weather that it is quite sweet. This should not be used too freely. A piece about the size of a walnut given to each Mouse once a day is ample, an extra large portion to be given to does in kindle or with young on them; also to young Mice that have just been weaned from their dam. As a change from bread and milk, boiled rice is nice, or one of the advertised poultry foods can be used, scalding water to be poured on it, and left till cool. It will then be swollen to twice the size it was when dry and can then be given to the Mice. The Mice like this very much, but it must not be used too often, as it is very stimulating and fattening. A puppy biscuit broken up small and scalding water poured on it, if given to the Mice when cold, is another treat for them.

GREEN FOODS.

Fanciers living in the country can often give their pets a treat by gathering such things as dandelion leaves, milk thistle, chickweed, or groundsel. Any of these are good, dandelion being about the commonest weed, and the best for the Mice. It can be gathered in almost any field or hedgerow; you can recognise it by its broad, serrated leaves and bright yellow flowers. Green food should be used sparingly, for if given in abundance it has a tendency to make the Mice give off an unpleasantly strong odour. Watercress and lettuce are also relished by Mice. A small piece of carrot is also good now and again, or a piece of boiled or raw potato.

FEEDING TIMES.

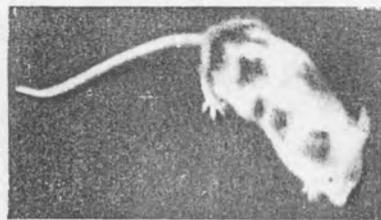
In the morning dry foods, such as oats and seeds, should be given—about a tablespoonful to each Mouse—but fanciers must use their own discretion as to what quantity to give. In the evening another small portion of seed, etc., should be given, as well as the soft food. Evening is much the best time to give this, for the evening is mousey's playtime. In the majority of cases they sleep during the day, and if the soft food were given no doubt the larger portion of it would be left lying in the cage till evening, and perhaps by that time would be sour, especially in hot weather; and if eaten by the Mice would give them scours and cause them to die.



Manston Maid.

Agouti-and-White nine spot Broken Mouse Doe.
Winner of 3rd N.M.R.C. Show, 1919, and 3rd Liverpool.

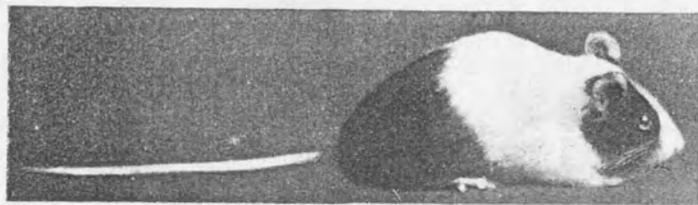
Bred and exhibited by Mr. Robert J. Cape.



Champion Blue Spot.

Seven spot Broken Mouse. A well-known winner.

The property of Mr. J. E. Wright.



Dutch-Marked Mouse, Van Tromp II.

Winner of 1st and special best Dutch, highest saddle, Carnforth; 1st and special London Specialist Show; 1st Maidenhead, etc. Van Tromp II. has the most perfect stops and highest saddle of any Mouse living.

The property of Mr. A. E. Baker.

CHAPTER VI.

HINTS ON EXHIBITING.

We will presume that the would-be exhibitor has a set of show cages and travelling box, as described elsewhere, and one or two Mice good enough to exhibit. The next thing to be done is to obtain schedules of shows that have Mouse classes. The budding fancier must purchase each week a copy of "Fur and Feather," in which advertisements of the various live stock shows are inserted. The advertisements should be read through, and where Mouse classes are mentioned, if the classification is not advertised, the name and address of the secretary should be noted, and a postcard sent asking him to forward a schedule of his coming show to the address given on the card. The schedule, if ready, will usually be sent per return. When it arrives, the would-be exhibitor must look it over and see how many classes for Mice are provided.

Exhibitors must bear in mind that the larger the number of Mouse classes, the better chance they have to win a prize. Where only two classes are given, self-coloured Mice are all together in one class, and Dutch, Even, Broken, Variegated, Agoutis, Sables, etc., have to compete all together in the remaining class. Consequently, if the entry is at all a good one, the competition is very keen, and many good Mice that would have won a prize, if the classification had been larger, have to be content with a commendation card; and very often, where only two or three classes are provided, many really good Mice do not get a card of any kind.

The majority of shows give at least seven classes, and for this number the National Mouse and Rat Club's bronze medal is granted for competition among

members of the N.M. and R.C., the best Mouse in the show winning the medal. Some shows provide ten or more classes, and then the Club's silver medal is put up for competition.

When you have the schedule, and have looked it over, according to the number of Mouse classes that are provided, you must fill in your entry form, which will have been sent with the schedule. If there are only two classes, Self and A.O.V., then Selves of any colour must be entered in the Self class, and Dutch, Brokens, etc., must be entered in the A.O.V. class. If there are three classes, they will usually be for (1) Selves, any colour; (2) Evens and Brokens—this classification includes Variegated and Dutch-marks; (3) Any Other Variety—this includes Agoutis, Sables, Tri-colours, Cinnamon, Black- and Blue-and-Tans, etc. When more than this number of classes are provided, the self coloured Mice are usually divided, Blues, Creams, Blacks, Whites, etc., being given separate classes. The same is done with the other varieties, Dutch-marks, Even-marks, Broken, Variegated, Agoutis, Sables, etc., being given a separate classification.

Some shows give classes for Mice under eight weeks old; others provide classes for novice exhibitors that have never won a first prize; and some provide selling, and doe and litter classes, the price of the Mice entered in the selling class not to exceed a given sum, cage included. If your exhibits are self-coloured, you must enter them in the class or classes provided for Selves. Fill in on the entry form, in the spaces provided for the purpose, full particulars of your Mice, colour, sex, age, and number of classes you are entering in, also the price at which you would wish to sell your exhibits.

If you don't wish to sell your exhibits, you can put a prohibitive price on them, such as £100. Write your full name and address (distinctly) on entry form, enclose a postal order for the fees, and send off to the secretary. The majority of shows, however, advertise their full classification in "Fur and Feather" and

do not send out schedules. In this case take a sheet of plain paper, write the name of the show at the top, and below this the numbers of the classes in which you are entering, and state how many entries in each with their selling price, add your name and address, clearly written and enclose the necessary fees. If possible, always send your entries on a few days before the date of closing, as this helps the secretary greatly. Remember, that once you have sent your entry form to the secretary, no alteration can be made in it; so be careful, when filling in particulars, not to make any mistakes.

But, if you have entered, say, a chocolate Mouse in a black or chocolate class, and that Mouse dies, or something happens to prevent its being sent to the show, you can send a substitute. If you have entered a chocolate, you can send a black or vice versa. The same thing can be done in any class, so long as the Mouse you send to the show is admissible to compete in the class it is entered in. Here is an instance. We will presume that a Dutch-marked Mouse is entered in a class provided for Dutch, Evens, Brokens and Variegated. If the Dutch cannot be sent, then you can send as a substitute either a Broken, an Even, or a Variegated Mouse; there is never any need to lose your entry fee, if the original Mouse entered is not in fit condition to be sent.

A few days after the secretary has received your entries, he will send you labels according to the number of entries you have sent. These labels are the only acknowledgement you will receive of your entry fees. The labels will usually consist of large railway labels to tie on the lid of the travelling box, and smaller ones to fix on the show cage.

If small labels have not been sent, you must make some of your own. A postcard, cut into four pieces, is just the size required. On these pieces of card you must write the class and pen numbers that are on the large labels. You must then fix these little tickets on your show cages, either with a draw-

ing pin or paper fastener. Strew a large handful of sawdust or bran on the bottom of each cage; then get some nice soft hay. If you can only get coarse, stiff hay, you must crumple it up well to make it as soft as possible and place it in the cages. Remember, it is better to put in a little too much than not enough.

The next thing is food. This should consist of a large handful of mixed seeds—millet, canary, a little hemp, and a small piece of raw carrot. The food must be tempting, or the Mice will not eat, Travelling to and fro puts them off their feed. Oats can be given as well as seed, but the seeds are most likely to tempt their appetite. When placing the food in the cage, remember that, if the show is a two-day one, the Mice will be at least four days from home, sometimes five; and if there are no Mouse fanciers connected with the show, poor Mousie may be forgotten, and no food at all given him. Therefore, it is always advisable to place enough food in the cage to last until the Mouse returns home. A nice piece of bread and milk, squeezed dry, is a treat to little Mousie, if placed in the cage just before it starts on its journey to the show.

When you have your cages all ready, place the Mice in them; tie one of the railway labels on the outside of your travelling box, first writing your name and address on it in the space provided.

When you have fixed the large label on the lid of your box, you must, with drawing pins, fix a card on the inside of the lid of your box, and on this card write your name and address distinctly. Then if, as sometimes happens, the large label on the outside gets torn off, by looking inside the box the show authorities know by whom it is owned; and thus you are certain to get your box returned to you, which, without this precaution being taken, might not be done.

In addition to this card on which is your name and address, you should also pin another one just

below it (see illustration of travelling box) to contain the class and pen numbers of your exhibits which you must copy off the labels sent to you. No exhibits should be sent to a show without this precaution being taken. If it is not done, the stewards have to search through the catalogue to see how many exhibits you have sent, and in the hurry of returning they may miss one of them; this is left behind, and has to be sent on later by itself when the mistake is found out. If you place a card in your box, none of your exhibits can go astray, and this card greatly facilitates the return of your exhibits.

Now, we will presume that you have your cages, Mice and travelling box all ready to send off to the show. If the show is on a Tuesday, the Mice must be delivered to the Railway Company at your end early on Monday morning, so that they can start away by the first trains. In fact, all exhibits should be started off to the show as early as possible on the morning of the day before the show. If the show is a distant one they must be sent a day sooner, otherwise they may arrive too late for competition.

The Mice, when being sent to the show, must have the carriage paid through to destination, and also the return fare paid. If this is not done, the exhibits will be refused by the railway authorities. As soon as the Mice return from a show, place them in their usual living cages and at once give them a nice feed of tempting seeds and some sopped bread. Tend them well, and they will be none the worse for their journey to and from the show. The entrance fees for Mice are usually 1s. and the prizes in many cases are—1st 6s., 2nd 4s., 3rd 2s., and sometimes 1s. is given as 4th prize—making in all 13s. per class for 1s. fee. Many shows, however, charge a slightly higher entry fee and give better prize money.

Never exhibit a Mouse when out of condition. It will never do justice to itself or its owner. Don't despair if you do not always win a prize. The big-

gest exhibitors have their share of coddling cards. If you send out a good Mouse and it comes home without a card, don't give up. Send it out again, and eventually, if it is really a good one, it is sure to catch the judge's eye. To enable you to compete for the valuable and handsome challenge cups and medals that are offered for competition by the National Mouse and Rat Club, it will be necessary for you to become a member, and as the subscription is small, and the advantages many, every "long-tail" fancier should join the club; unity is strength, and the Fancy would not be what it is to-day but for the grand work that has been accomplished by the club and its officials.



CHAPTER VII.

HOW TO BREED FOR EXHIBITION.

In order that my readers may thoroughly understand and recognise a typical Mouse when they see one, I give the following description from the standards of the National Mouse and Rat Club:

"The Mouse should be in length from seven to eight inches from tip of nose to end of tail, with long clean head, not too fine or pointed at the nose, the eyes should be large, bold and prominent, the ears large and tulip shaped, free from creases, carried erect, with plenty of width between them. The body should be long and slim, trifle arched over loin, and racy in appearance, the tail, which should be free from kinks, should come well out of the back, and be thick at the root or set-on, gradually tapering like a whip-lash to a fine end, the length of same being about equal to that of the Mouse's body. The coat should be short, perfectly smooth glossy, and sleek to the hand. The Mouse should be perfectly tractable, and free from any vice, and not be subject to fits or other similar ailments. Sunken eyes, kinked tails, or fits, to be penalised by 20 points in judging."

SELF COLOURS—REDS, CHOCOLATES, BLACKS,
AND BLUES.

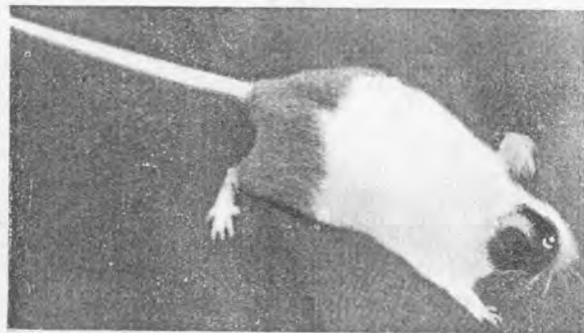
These four self coloured varieties are more or less inter-bred, reds with chocolates, chocolates with blacks, and blacks with blues. Red Mice, when of a rich golden hue, are sure to attract the eye of the judge, and also the visitor to a show. There are numerous shades of colour in reds; but those for competition should be of a deep, rich golden red, both top and undercolour. Reds have a tendency to put on

fat. This is not a desirable point, and breeders must be careful not to give their red Mice any food that is likely to fatten, and in selecting their breeding stock care should be taken to pick out the slimmest Mice.

It often happens that the best coloured Mice are those that are fattest. These cannot be discarded, as colour is the principal point in Self Mice. When fat Mice are being bred from, care must be used and unstimulating food given the young, so that they will not become as fat as their parents. But, to my mind, too much stress is laid upon the word "fat" as applied to red Mice. These have, and I think always will have, a tendency to get fat. Therefore, if a good, rich-coloured red be exhibited which is rather fat, yet has a sleek glossy coat, it should not be put back on account of its being fat.

There is as much difference between a Flemish Giant Rabbit and a Dutch Rabbit as there is between a red Mouse and a Broken-marked or Dutch-marked Mouse. The Flemish Giant Rabbit has a tendency to put on flesh; the same with a red Mouse. The Dutch Rabbit is a small animal. The same can be said of a Broken or Dutch-marked Mouse. These usually will stand any amount of over-feeding and never get fat (at least, not so fat as a red); they are racy animals. The other is totally different. Therefore, to my mind, a red, if fat, of good colour and sleek in coat, should beat a Mouse of better shape yet not so good in colour as the fat one. I am not referring to great, fat, podgy Mice that have no shape at all; these ought to be penalised. I refer to those that have rather more flesh than the standard requires.

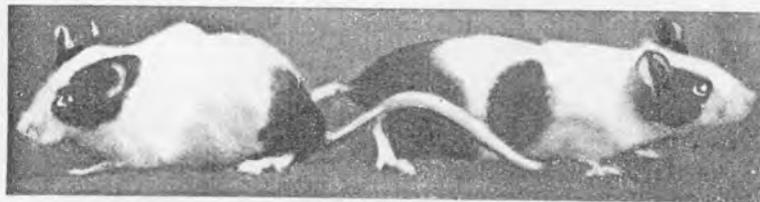
To get the rich colour desired in reds, stock must be got from a strain that is known for its rich coloured properties. There are many good strains of red Mice to choose from—all more or less related to one another. Having got your reds, say two does and one buck or a pair only, purchase a good, rich-coloured chocolate doe. When you see that your red doe or does are in kindle, take the buck from them. After



Dutch-marked Mouse.
Excels saddle, stops, and cheeks, and winner of several prizes.
Owned by Mr. H. Taylor.



A Famous Broken Mouse.
Winner of 1st and special best Marked Mouse St. Werburghs; 1st, Mason Appreciation Bowl, President's Cup and Silver Medal best Mouse, Western Counties; 1st N.M.R.C. Bronze Medal best Mouse, Erewash. Described by some as an "eleven-spot," by others as a "twelve-spot."
Bred and exhibited by Messrs. Anstee & Son.



Two of Mr. A. E. Baker's Noted Even Mice.
LEFT:—Four spot Doe. Dutch cheeks and saddle, spot centre of back. Winner of 3rd Bristol, only time shown.
RIGHT:—Event II. Five patched. Dutch cheeks and saddle, shoulder patch each side. Winner of two firsts, etc.

he has been by himself for a week, place the chocolate doe with him. When you think she is in kindle, take her away and place her in a cage by herself. By this time the red does ought to have kindled down, or be near doing so. In the litters of the reds there may be some chocolates. Most strains have chocolate blood in them. If the chocolates have sound-coloured tails, select the best for stock purposes. Any that have partly white tails destroy at once. A chocolate that has a pied tail will often produce the same fault in the progeny, though by selection this fault can be bred out.

When your young does are about $3\frac{1}{2}$ or 4 months old, select the best coloured ones and pair to their sire. Select the best of the young bucks and pair to their dams. The best of the young chocolate bucks (if any) could be paired to the red does, and the most typical of the young red bucks to the chocolate doe. You could also pair one of the young red does and one of the young chocolate bucks together, or a young red buck to young chocolate does (if you have any in the litters). You will from the resulting litters select the best of each colour, and continue to breed as mentioned above. Sometimes pair dams and sons together, other times sister and brother, or sire and daughter. In-breeding will not harm the Mice if done with care.

My reason for crossing chocolates with reds is to increase the golden hue in the latter. When you have a good stock and plenty of each colour, refrain from crossing the chocolates with the reds, and start to pair each colour separately—chocolate to chocolate, and red to red. The chocolates from the red litters can be paired to chocolates, and vice versa with the reds from the chocolate litters.

Chocolates should not be too light; they must be a rich dark hue; in fact, as near the colour of a cake of chocolate as it is possible to get them.

Continuous crossing of the chocolates with reds has a tendency to lighten the colour of the chocolates till they assume the colour of cocoa, instead of the rich dark chocolate they should be. To increase the

depth of colour and darken it, recourse must be had to blacks. Purchase a pair of blacks, of good strain, black-bred for several generations. When you have the blacks, pair the buck to the chocolate does which you have selected, and one of your best chocolate bucks to the black doe. From the resulting litters select the best specimens of each colour and pair up as stated above. No doubt, in some of the litters you will get some reds owing to the chocolates having red blood in them. These may be of good colour and make good exhibition specimens, but on no account must they be paired to your other reds, for if you were to do so continuously you would in time quite spoil your strain of reds, and make them of a dull, muddy colour. If your strain of reds want a little fresh blood, pair a cross-bred red buck, or one of your richest coloured chocolate bucks, with pure-bred red does. But this must not be done too frequently. This crossing out holds good for all varieties of Mice. After you have selected your young from the chocolates and blacks, and have bred a good stock of each colour, you can then pair chocolate to chocolate, and black to black, and in this way form a separate strain of each colour, occasionally giving the black strain a dash of chocolate and the chocolates a dash of black blood.

Blues, if of a nice medium slate colour, are very pretty, and they breed very true indeed. Blues are in most cases paired to blacks, as this has been found to give a brighter hue to the blue and also to improve the colour of the blacks. To form a strain of blues and blacks, purchase a pair or trio of each from a well-known fancier who can be relied upon. Pair them together, black to blue, and blue to black. From the resulting litters select the best specimens, pairing as advocated above, occasionally using a blue-bred black buck to a blue doe, and a blue buck to a blue-bred black doe, always remembering that only the very best should be used as stock.

Those who cannot afford to pay the price for perfect Mice should start a strain with a pied-tail pair from

a good strain. In the litters of young there are almost sure to be a few with sound-coloured tails or tails that are not very faulty. These should be paired together when old enough to breed. From the litters select the best, and so continue. But it is best to start with a perfect pair, as this saves time: I may say that blues are of various shades of colour, some light, others dark, and some medium. The medium-coloured should be selected to breed from. At any time, if your blues are getting too pale, use darker blue sires, and also black sires. After a little judicious crossing you will find the colour a richer, deeper hue.

Some blues have a tendency to breed young of a rusty hue. Care should be taken to keep your strain free from this. When blues were originated, most had this fault, but lately it has not been so much in evidence; still, it is well to take care that this fault does not develop in your strain.

When your strain of blacks and blues is well fixed, you can keep the two varieties separate except for an occasional cross to improve the colour. Remember that blacks want to be a very deep, lustrous raven colour, free from tan hairs, with sound coloured feet, ears, and tail.

SELF SILVERS.

(By A. Selby-Thomas).

The original black-eyed silvers were undoubtedly produced by a cross between red and blue, and the term silver was quite a misnomer, as they were nothing more or less than blue fawns. This has been altered by the advent of the pink-eyed silvers, which are true to colour, although said to originate from blacks. The correct shade of colour must be as near as possible that of a silver coin, both in the pink and black-eyed varieties. The pink-eyed specimens, of which there are now a great number, breed very true when paired to each other, but a cross between the pink and black-eyed varieties will often produce a fair percentage of self blacks in the litters. These blacks

should be at once destroyed, and only the silvers retained for breeding purposes. If you are starting with black-eyed specimens of the old type (i.e., blue fawns), it will require time and patience before you can get the correct shade of colour into your black-eyed strain, but by pairing a pink-eyed buck with a black-eyed doe or does, and vice versa, and from the resultant litters pairing some of the young does from the one cross back to the original buck of the other, also mating a young buck back to the original doe or does of the opposite cross, and then bringing the two strains together again at a later mating, the result should be satisfactory, and the blue fawn shade nearly, if not quite, obliterated.

WHITES.

The pink-eyed white is one of the oldest varieties of the Fancy Mouse. This colour is very easy to breed, providing you have a pair from a good strain to start with—one that has been kept pure, and not crossed promiscuously with other colours. Pair together, always selecting the best of the progeny to perpetuate the strain. Whites must be the purest of colour—that is, if white can be called a colour. Some whites are of a yellowish hue. This is a great fault, and care must be taken not to breed from Mice showing it.

Whites must be as large as possible, of good, short coat and bold eyes of a rich ruby red. Other colours must, of course, have these points also, but whites must have them in a greater degree, as they only have these points to carry them up top in strong competition, this colour being so easy to breed good.

Whites, after being bred for many generations in and in, should have a cross of black put into them. Pair a black buck to several of your best white does. Destroy all the blacks in the litter, as they must not be used to your other stock. The young whites from the cross use among your other whites, always destroying any blacks that may appear.

There is a strain of whites with black eyes. These are very pretty, and were originated by Mrs. Atlee. Great credit is due to her for bringing out this pretty variety. I do not know how Mrs. Atlee originated this variety, but I think she bred out the colour of some faintly-marked black-and-whites. If you start with stock having a touch of dark colour you most likely will get a perfect specimen. If none are perfect select the best of the litter, and keep for stock. You will soon found a strain of black-eyed whites. These, when of good size, are really very pretty, the black eyes and the white coats being something quite out of the common.

A simpler method, of course, is to purchase a pair or trio from some breeder who has an established strain. Black-eyed whites are now plentiful.

CREAMS.

(By Robert Clark).

This is a very pretty variety, consisting of black-eyed and pink-eyed strains. Great improvements have been made to perfect creams in the last few years. The present trouble is to get a good undercolour. Cream is not an easy colour to breed exactly to standard, owing to black pigment being present. You get in the litters pink-eyed whites, sooty blacks, blues, dark silvers, and pale chocolates. The sooty blacks, blues, dark silvers, and chocolates are no use for the show bench, therefore throw them out. The whites are very useful for exhibiting in the eight weeks class. My advice to the beginner is to purchase a trio from a reliable breeder, stating if black-eyed or pink-eyed Mice are wanted. Select the best of the litters, keeping an eye on the undercolour, also avoid all with bleached patches. The correct shade of colour is Devonshire cream.

CHAMPAGNES.

(By Thos. Jackson).

I produced this variety more by accident than design. In the first place, I mated a red buck to a

blue doe. The latter had for her sire a self silver, and her dam was a blue with a dash of self silver blood in her veins. The result of the mating to the red buck was an eye-opener. There were sables, blue-fawns, a dark shade self silver, and a fawn.

The second round I mated the self silver, which was a buck, to a pink-eyed white, whose parents were pure self silvers. From this litter I got two beautiful self silvers and two light shade champagnes. These were so mealy that they were almost white. When these turned up I knew I was on the track for Champagnes. One I mated back to her sire, the other I mated back to his grand-dam.

These matings and inter-matings gave me a strain of Champagnes that were a treat to behold. Larger and more typical Mice I never saw.

To be successful with Champagnes the novice must include self silvers and reds in his mousery. The reds can have chocolate blood in them, but on no consideration must they have Agouti in their make-up. A dark shade silver buck of pure red and chocolate blood, can be mated to the mealy does with advantage. Never mate two light shades together, or you will soon get your stock as mealy as a flour bin, and their value will be lost.

Champagnes, like self silvers, will soon go mealy, and eventually white, unless you introduce a Mouse whose blood carries, say, 50 per cent. red and chocolate and 50 per cent. self silver. The pigment in the latter is fed with blue, in the former with self silver (which is a diluted blue), red and chocolate. Experimental breeding requires a big stud, and also takes up a great deal of one's time, but it is full of fascination.

DUTCH-MARKED.

(By A. Selby-Thomas).

Having devoted my energies for many years past almost exclusively to this popular variety, and achieved a little more than ordinary success on the show bench, my experience in breeding and mating

may be helpful to others. At the time when I took up the variety in real earnest, there were plenty of the old-fashioned saddlebacks as we used to call them, with fairly good cheek markings, but scarcely any saddle worth the name.

There were many theories as to how an ideal Dutch-marked Mouse might be produced, amongst them being that of introducing self colour blood. So having selected the best headed Dutch buck I possessed, I paired him to a self black doe, and at the same time crossed a young self black buck with a Dutch doe. The resultant progeny was a veritable eye-opener, something of all sorts, but nothing any good. However, in litter No. 1 there was a black doe with a white streak on the head, and when she had matured I paired her back to the Dutch buck, and nearly all the youngsters in that litter threw back to the buck, i.e., old-fashioned Dutch with the saddles slipping off. One or two, however, had heavy body markings, but nothing approaching a saddle. Litter No. 2 of the original cross produced several patched youngsters, also some self blacks. One of the best marked bucks from this litter, when matured, I paired back to the original black doe, and some of the other youngsters I crossed with the youngsters of litter No. 1. For a considerable time I persevered with the progeny from the original matings, always, of course, selecting the most likely in markings to produce my ideal, but without success.

Sometimes forward, sometimes backward, went the saddles, sometimes one cheek mark only, and at other times none at all, and I began to think I was on the wrong tack altogether. I may say that the self blacks I used in the first cross were blue bred, and the blue blood commenced to show itself in the sixth and seventh generation, and at one time I thought the blue would predominate in my search after the idea. But after breeding the blue and white even-marked (which was really a beautiful Dutch-marked with one spot in the middle of back) that won the young class and was reserve for the

Woodiwiss bowl at Club Show, Cheltenham, a few years back, the black blood reasserted itself again.

During the time I had been experimenting, I kept a strain of pure Dutch going, from which I bred many winners. My experimental stock had been in existence between three and four years, and I had not bred a single Mouse fit to show, when I selected half-a-dozen of the most likely does, taking care to have those which carried the colour well on to the hind legs, in view of obtaining the stops, and paired these in couples to my three best bucks of the pure Dutch strain. This cross, it would appear, was just what was required to balance things, as the youngsters did not exhibit that ragged appearance in markings which was the case with the earlier experimental litters.

Having now laid the foundation of a high saddle strain, I introduced further crossings with my pure strain of Dutch, and little by little the goal seemed to draw nearer. Champion Invincible, with his wonderful record of twenty-one firsts, under thirteen judges, was a very big hit, as with perfect cheeks, and good high saddle, splendid undercut and stops, he proved his value by the above fine performance. But although having a high saddle, Champion Invincible was not so cleanly cut as several I have bred since. My experience of breeding Dutch has taught me that in-breeding is the only way that a really reliable strain can be built up, but it has to be done judiciously, or size will be lost.

To the beginner in Dutch my advice is, apart from experimenting, always select for your breeding stock those specimens which are the nearest to perfection. In mating, endeavour to supply from the one whatever good points may be lacking in the other, and though you may have to wait a little time before you reap the benefit of what is undoubtedly a game of patience, you must eventually succeed.

The illustration of what an ideal Dutch-marked Mouse should be will assist you in your efforts to gain perfection. The face or cheek markings should be

evenly balanced, the patch covering each side of the face should be egg-shaped, extending from underneath the eye, and not run further back than the ear, forming a wedge-shaped blaze from the nose, tapering to a fine point between the ears, and the cheek markings should not run underneath the jaw. The saddle should come up well from tail to middle of body, and be clean cut, top and under, the stops on hind feet



AN IDEAL DUTCH-MARKED MOUSE.

should be cleanly defined, leaving the "hand" part white. The colour of markings should be carried out in ears.

EVEN MARKS.

These are very pretty if really even. There are various kinds of even marks, those most frequently met with having Dutch cheeks, saddle, and two patches or spots on the shoulders or middle of the back. These are called five-patched evens. The patches should be of nice size, about the size of a threepenny bit. A Mouse with patches of this description, combined with nice even cheeks and clean cut saddle, will soon become a champion; and when the markings have been bred for through several generations they come fairly true, though, of course, it is only now and again you get a really even one.

Some even-marks I have seen have been seven-patched—that is, cheek-marks, four patches on back, and saddle. Other evens have a band around the centre of body. Some of the evens have a patch about

the size of a threepenny or sixpenny piece in centre of back. This, with cheeks and saddle, constitutes a four-patched even.

One of the most attractive even-marks I ever saw was bred by Mr. Richards, of Dursley. Its colour was black and white. It had a Himalayan-marked nose, black ear marks, and a very even saddle. This Mouse won its championship, and the N.M. and R.C. £10 10s. Woodiwiss cup at the Club Show in 1902. Another really good even was the blue and white four-patched bred by Mr. A. Selby-Thomas, of Gloucester.

To produce good evens, purchase a pair from a breeder who has a good strain. A mis-marked pair or trio will do to start with. Pair together, selecting those with the most even markings. Don't despair if none in the litter are even. Many generations will have to be bred in and in before the markings become fairly true. Even then champions will not be bred very frequently. But once you have bred a good one, it is sure to bring your name to the front, and by pairing with some of its brothers or sisters, dam or sire, according to its sex, you will certainly produce others of similar markings, always bearing in mind that plenty of patience is required when breeding even-marks. A point that should be aimed at is to get even-marks removed as far as possible from the Dutch-markings.

VARIEGATED.

These were first produced by Mrs. Atlee, and in breeding black-eyed whites it is no uncommon occurrence for a variegated to be amongst the litter. When these variegated specimens appear, select the best of them and pair together, always pairing up those that have the best markings, said markings to be in tiny streaks of any distinct colour and free from any spots or patches. The ground colour is usually white, well distributed all over the body. In time you will find a strain of variegated. You will, of course, do so much quicker if you purchase a pair of variegated to cross with those you produce from

your black-eyed whites, or they can, be bred independently of the black-eyed whites.

These variegated are wonderfully pretty when the colour is distributed all over the body. The colours I have seen are black and white, chocolate and white, and agouti, or grey and white. The old type of variegated were quite different in markings. They were really broken-marked, but, instead of the patches being clear and distinct as required in brokens, they were joined one to the other, and thus were termed variegated.

BROKENS, SPOTTED AND PATCHED.

By J. E. Wright.

This is one of our oldest varieties, and when the spots are of equal size, good colour, and well placed, there is no variety more attractive. The chief aim is to breed a specimen with as great a number of spots as possible, combining the above mentioned properties. When selecting stock for the breeding pen, I find that the best results are obtained from lightly marked Mice of a good colour on the buck's side, mated to heavy marked does. This selection was used in producing Champion Black Spot, and Champion Sun Spot. These brokens, in the opinion of leading fanciers were the best that have ever been bred, and won the National Mouse and Rat Club's Silver Medal for best Mouse in show six times in succession, under six of our oldest club judges, which constitutes a record. Also the record price of £10 was offered and refused for Champion Black Spot.

Brokens are bred in various colours, black-and-white, blue-and-white, chocolate-and-white, agouti-and-white being the most popular.

The youngsters show up their colour when about five days old. Destroy those you do not wish to keep for showing or breeding, and, as a guide to what is fit to show, look out for the ones that have a good

nose patch. This should be on one side of the nose only (not a full muzzled patch, similar to the nose marking on an Himalayan Rabbit). The next patch of importance should be at the root of the tail. This should be a patch, not the clean-cut marking that is called the saddle on the Dutch variety, nor a split saddle, as this savours too much of an even mark. The body and head should be covered with as many spots as possible, all of the same size, of good colour, unevenly placed and the same distance apart.

With reference to crossing colours, black-and-white can be crossed with chocolate-and-white, red-and-white with chocolate-and-white, grey-and-white with cinnamon-and-white. Remember always that brindling in the patches is a bad fault.

GOLDEN AGOUTIS.

These must be of a rich golden brown colour, ticking well defined and undercolour of a rufus red. Great improvement has been made in this colour of late years, many very pretty specimens having been produced and exhibited. Their worst failing has been in undercolour, this not being so red as it ought to be. Purchase a pair or trio, and also a pair of the deepest reds you can get. Pair the agouti buck to the red doe, and the deepest red buck to the agouti does. From these pairings select the best of each colour, and cross the young reds with the old agouti does, and the young agouti does with the old red fawn bucks, etc. You may in the young produced get some chocolates or blacks. These may be good specimens of their respective colours, but they should not be used again in producing golden agoutis; only the reds and agoutis should be used. In some of the litters you will no doubt produce some cinnamon browns. These are most useful to cross with the agoutis and reds. The reds are to give richness of undercolour, also of top colour in the golden agoutis, and the cinnamon browns will help to keep the ticking well defined in the agoutis. This crossing for golden agoutis will produce some real good reds. These may

be fit for exhibition, and could now and again be crossed with a strain of reds to infuse a little fresh blood into them.

GREY AGOUTIS.

Many grey agoutis are much too dark in colour; in fact, almost the shade of grey found in a Flemish Giant Rabbit. This is the colour of the Mice usually described as grey agoutis, which is a misnomer. When I say grey agouti, I mean a Mouse of a silvery hue, with ticking clearly defined, and the belly of the same colour as the body. Fanciers who may produce one near this colour should, if not quite the correct shade, keep it off the exhibition bench and use it for stock purposes, pairing it with some of the family from which it was bred, and so in-breed them, and in time I see no reason why one should not be produced as good in colour as a grey Agouti Cavy.

How to produce this colour is what fanciers would like to know, but though I am an old hand at Mouse breeding, this is more than I can tell them. Still, here is my theory—I give it for what it is worth. But I may tell those who may think of having a try that success will not come in a minute. The Mice will have to be in-bred for many generations before anything approaching the colour wished for will put in an appearance. But when once you get one approaching the colour you are trying for your success is assured; better ones are almost sure to follow in successive litters.

Now for my theory. Get a trio or so of grey Mice or golden agoutis, though those specimens that are the darkest in colour, with plenty of ticking, almost approaching the wild or house Mouse in colour, are those from which in my opinion, the best results will be obtained. Then, from a fancier who has a good strain of self silvers, purchase a trio of the lightest specimens you can get; pair the grey buck to the silver does, and the silver buck to the grey does. From these litters select the best of each colour. The litters will no doubt consist of greys,

silvers, and perhaps some blues. When you have selected your youngsters, pair the grey sire to the young silver or blue does. Pair the old silver buck to the old grey does. At the same time pair a young silver buck to the old grey does, and a young grey buck to the old silver does. Continue in this way, sometimes pairing brother to sister, sire to daughter, son to dam, always keeping in mind the colours you are trying to produce, and I feel almost certain that success will follow. When you have bred a good number of blues, for I feel almost certain you will do so, keep these separate and do not use them for grey agouti breeding. Only use the silvers to cross with the greys.

CINNAMON BROWNS.

These are produced when breeding for golden agoutis. They are really a light golden agouti, and when of nice colour and well ticked are very pretty. Some of the specimens exhibited have been of a washed-out colour, minus ticking, or nearly so. These are not worth putting on the show bench. A Mouse to do any good must be of the colour described below, and with dark ticking, clearly defined, intermixed with the body coat.

To give a clear idea of what the body colour should be like, I can only describe it by saying that it should be the colour of a stick of cinnamon, with darker hairs intermixed all over the body. The belly or undercolour should be of a rich golden hue, without any ticking.

To bring them to perfection you must select the best of those you breed when pairing up to produce golden agoutis. (This is how the cinnamon browns first originated.) Pair together, always selecting the brightest coloured and best ticked ones to use as breeders, occasionally using a cross of golden agouti. You will, whilst breeding these cinnamons, no doubt produce some very nice golden agoutis. These can, of course, be paired to golden agoutis, and so keep your agoutis from getting too in-bred, for the agoutis bred

from the cinnamons, though really related to the golden agoutis that you may have, are yet very distant so far as relationship is concerned. Thus when they are paired back to their original family they infuse fresh blood and fresh life into your strain of agoutis. The same can be said when you breed a cinnamon from your agoutis; you can cross this with the strain of cinnamons, and so keep that strain or family bright and vigorous.

Remember that pied tails are a fault in this variety; also in golden and silver agoutis. In fact, pied tails are a fault in all varieties when the colour of the fur shows on the tail. This is, of course, excepting broken coloured or marked Mice of any description, colour of tail in these varieties not being taken into consideration when judging.

SABLES.

The sables are recognised in three shades, light, medium, and dark. How they first originated I really cannot truthfully say. It is so many years ago since I first bred them that I have quite forgotten how they were first produced, though I have a slight recollection of their coming from a lot of Mice I had running about in a large cage. The Mice being principally blacks and reds, I have a slight remembrance of the young reds starting to come of a sooty or cloudy colour. Those I used to call sooty fawns (or sooty reds, as they would now be known). The Mice in the cage were, of course, breeding anyhow, no care being taken of them, the young ones only being taken away, and now and again the old ones. This all happened long before we ever thought of exhibiting our pets. Such a haphazard way of breeding would not do at all now, unless you were breeding to sell to dealers. Then size and colour is no object at all, quantity being the principal point aimed at.

As already stated, the Mice in the large cage all running together produced young of a sooty red colour. Later these were done away with, only a few of the best being kept. I believe that from these Mice

my sables were produced. I cannot say, but it was no doubt in a similar manner other strains of sables were first bred. However, present-day fanciers need not trouble themselves as to how they were produced. All they have to do is to purchase a pair ready-made and direct their efforts towards improving them.

We all know sables come in a variety of shades, all being equally beautiful. Some of them are almost approaching a black-and-tan in colour. These look really lovely when at the height of their beauty, their coats shine like a piece of satin; this and the dark tan shading on sides and muzzle complete a very pretty picture. Unfortunately, a sable's colour soon changes. One that looked simply lovely at one show will have quite changed before it can be sent out again. The colour will become patchy, and the Mouse will most likely change into a medium coloured specimen by the time it has finished changing its coat—I ought to say by the time it has finished changing its colour, for really the colour of the fur seems to change from dark to light, or vice versa. This is very singular.

When a sable Mouse has its full coat, and is not due to moult again for some time to come, its colour will all at once commence to change. I have sent a beautiful dark Mouse to a show, and when it has returned it has been quite patchy in colour, and not like the same specimen. This is a great drawback to sables, and deters fanciers from paying a high price for what one day may be a grandly coloured Mouse, the next may be quite patchy and not worth exhibiting, though I may say that these dark specimens by the time they have finished changing colour will very often make good exhibition Mice, though several shades lighter than their original colour.

It was at one time suggested that only one colour should be recognised, and that the medium one. This, if adopted, would have made no end of trouble; confusion would have reigned supreme. Firstly, all the beautiful dark sables would have been worthless as exhibition specimens. Secondly, how would an exhibi-

tor have known what colour constituted a light, medium, or dark sable? I am positive that had the standard been fixed that only one colour or shade be exhibited there would be no end to disqualifications, for in a class with, say, twelve specimens in it, I guarantee that no two would be alike in colour. Therefore, it is much the best to recognise all shades in sables, and let the best specimen win. Be it light, dark, or medium, the darkest Mouse at a show will not necessarily be the best specimen there. It may be small, or a bad shape, or out of condition; therefore, on the show bench, all shades have an equal chance of winning, though I should not advise that a very light Mouse that is minus shadings be exhibited. To attract the judge's eye, the Mouse must have a dark, distinct shading on the back and head.

As to breeding sables, it is best to start with a pair of the darkest colour you can get. When starting this variety, purchase a pair of sables and a sable bred black doe. Pair these, and from the resulting litters select the best of each colour—blacks and sables; that is, if there are any black ones in the litters. Pair the blacks and sables together (there are most sure to be some blacks in one or other of the litters sooner or later), the old sable buck to some of the young sable does and some of the young black does. Pair a young black buck to the old sable doe. If there are no blacks, then pair a young sable buck to the old doe and a young sable buck to the old black doe. Later on you can pair brother to sister. In fact, proceed as stated right through this chapter, always bearing in mind that only by selection and careful breeding can the most perfect specimens be produced.

After you have a fair stock of sables and blacks bred from the sables, you could start pairing sable to sable and black to black, only occasionally crossing out by pairing a black with a sable. This will keep the colour fixed in your sables. The blacks when bred together will no doubt breed some good sables of a rich dark colour. These can be paired back to the other sables which you have. The majority of the

blacks will be of a nice dark colour. In fact, from sables some of the finest blacks have been produced. You can by constant in-breeding and judicious selection found a strain of good blacks from the sable bred ones.

BLUE-AND-TANS.

These are very pretty when of a nice bright colour. I have seen several blue-and-tans that have been almost perfect, the tan being very distinct on jowl, sides, and underneath, the blue top colour also being very bright, and of a nice slate hue. I am much surprised that more of this variety are not bred. I am sure there is a good opening for anyone taking up blue-and-tans, a good one of this colour being able to hold its own in strong competition among the older varieties of Mice. Blue-and-tans are produced by crossing very dark sables with self-blues. The two varieties must, of course, be in-bred with one another for quite a long time before a blue-and-tan will be produced, but by judicious selection and crossing, success is sure to crown your efforts.

Purchase a pair or two of well-bred sables, dark if you can get them, though the colour will not much matter, providing they are bred from a strain or family of dark Mice. When you have the sables, purchase a pair or trio of blues; dark ones will be better for your purpose than the lighter coloured ones.

When you have your stock Mice, pair the blue buck to the sable does, and the sable buck to the blue does. From these litters select the best of each colour (sables and blues), discarding any blacks that may be produced. Or if you do not like to do away with them, select the best of the does and pair one of your darkest sable bucks to them, and any sables that are bred from them you can use to cross with your other Mice. The sables and blues that you have selected from your litters you must pair to each other, blue to sable, and vice versa, crossing the old buck with the young does, and young buck with the old does. By following the advice given, I am sure blue-and-tans of good colour will be bred.

BLACK-AND-TANS.

Many beautiful specimens of this attractive variety have been bred and exhibited. They can be produced on similar lines to the blue-and-tans, except that only the darkest of sables should be used for breeding from, and self blacks introduced instead of blue for obtaining solidity of top colour. By crossing the very darkest sables with the sable bred blacks, and perhaps occasionally crossing in with a black bred red for deepening the tan, a very good strain of black-and-tans should be built up.

CHOCOLATE-AND-TANS.

The same instructions equally apply in the breeding of this variety, as in blue-and-tans and black-and-tans, the only difference being the introduction of self chocolate blood instead of blue or black, for the body colour.

TRI-COLOURS AND SABLE-AND-WHITES.

These two varieties must not be confounded one with another, because in the case of the tri-colours the standard clearly states that they should be of three distinct colours, and although the colours may join each other (as in the tortoise-and-white Cavy) there must be no mixing of same, nor any shadings as in the sable and whites. Both tri-colours and sable-and-whites may be Dutch, even, or broken marked. The great fault of the sable-and-whites of the present day is that they are too heavy in markings. The colour ought to be more broken up—that is, a much larger percentage of white patches to be intermixed with the sable colour. When this is accomplished, then sable-and-whites will begin to come to the front.

I have bred many a score of these sable and whites. Some of them have been truly magnificent, so far as colour and shadings have been concerned, but they have always, or nearly always, had too little

white, thus they have been little more than sable Mice with a little white intermixed. I think that were a fancier to make up his or her mind to try and perfect these sable-and-whites, this could be done with very little trouble.

These sable-and-whites when young are very often almost dark enough to pass for black-and-white, but as they get older the tan shadings begin to appear, and as they mature this shading gets brighter, and very often the colour will moult out in such a manner as to make the Mouse look like a tortoiseshell-and-white. I have seen several that have moulted in this way but the worst part is that they usually finish up by moulting into a dull coloured yellow-and-white or a very pale coloured sable-and-white.

The problem as to how the three colours can be distinctly separated as laid down by the tri-colour standard, has yet to be definitely solved, and the fancier who does succeed in overcoming the difficulty may congratulate himself on having achieved a feat which dozens of experienced fanciers have unsuccessfully attempted.

To produce good specimens in sable-and-whites, I advise you to purchase a pair or trio of dark sables, the darkest you can get. Pair these, and from the resulting litters select the best of the youngsters, only keeping those that are the darkest, or that you think will grow into the darkest Mice. After you have taken a litter of sables from each doe, give each a rest for a couple of weeks, feeding them well in the meantime. When you think they are again in breeding condition, pair a well broken black-and-white buck to the sable does. If the buck is pure black-and-white bred for several generations, so much the better he will be for your purpose. When you see the does are in kindle to the black-and-white buck, take him away from them. As soon as the sable does litter down and the colour of the young ones is distinguishable, select the best of the sables from the litters, also the best of the black-and-whites (if any).

When the young ones are old enough to breed from, pair the young black-and-whites to a sable buck, if they are does, and vice versa if they are bucks. If there are no black-and-whites in the litter, then you must pair the young sables to the old black-and-white buck, and keep crossing till you produce some black-and-whites. In the first litters bred, the young sable does, as stated, will have to be paired to the old black-and-white buck, and if there are any black-and-white bucks in the first litter, these, or the best of them, could be paired to the old sable doe. In fact, cross old with young, and so continue, always selecting the best of each colour for breeding purposes. After a time you will find some of the sables come with white patches. You will then be nearing your goal. Select these sable-and-whites, pairing to the best broken black-and-whites you have, and so continue till you produce well broken sable-and-whites.

If you do not care to start a strain of your own, purchase a pair of sable-and-whites from any well-known fancier who has Mice of this colour to dispose of. They will, no doubt, be heavily marked, still they have white blood in them, and it ought to be an easy matter to get the markings more broken up, by pairing them with some black-and-whites of a well-bred strain, always selecting the best marked and coloured ones to perpetuate the breed.

TORTOISESHELLS.

I cannot tell you how to produce these, because I do not know how to do so. As to whether they ever will or will not be bred, I should not like to venture an opinion, or say positively they never will be. Nothing is certain in this world. But really I am rather doubtful of a tortoiseshell ever being bred from black-and-whites or fawn-and-whites, as the colours do not seem to intermix. If the Mice you are using were pure bred, with no admixture of sable or sable-and-white blood, the young from the black-and-whites and fawn-and-whites would come the colour of their

parents, or perhaps there might be some chocolate-and-whites in them. If any chocolate-and-white blood was in the original Mice, interbreeding would be sure to bring it to the top again.

I do not think tortoiseshells will ever be produced from broken-coloured Mice unless they have at some time or another been crossed with sables. With sable blood in them, good coloured specimens can be bred, and some of a real good tortoiseshell and white colour. But these so produced are very disappointing, for the colour is not fast, and, like sables, in a very little time the colour will quite change, and the specimen be worthless for exhibition. I hope the day will come when tortoiseshells that will keep their colour can be bred, but that day, I am afraid, is long distant.

A few years back a real good tortoiseshell-and-white buck Mouse was exhibited by a young fancier at a show held at Stratford, London. It was beautifully broken up, the black-and-fawn patches being simply grand. The Mouse, unfortunately, only had a stump tail, but the judge said the colour was so beautiful he could not pass it by, and awarded it a third prize in a strong class. Eventually this Mouse (which Miss C. J. Grimston and myself purchased between us for a good figure) moulted into just an ordinary yellow-and-white, but while his colour was at its best, he was without doubt a real gem. Unfortunately, we did not succeed in breeding any youngsters by him, to perpetuate the strain, and the fancier who first succeeds in breeding one like him in colour and markings will be able to congratulate himself on his success.

Another specimen of this variety was bred and exhibited by Miss Twort, and during its short career was very successful. Colour was undoubtedly its strongest point, as it was on the small side, and never seemed to be in really good condition, apparently lacking stamina. This strain, unfortunately, has also become extinct.

SILVER GREYS, BROWNS, AND FAWNS.

(By W. Russell).

These are three of the most attractive and beautiful varieties of exhibition Mice, the breeding of which appears to have had an attraction for many fanciers from the earliest days of the Mouse Fancy, although no reliable strain seems to have been made. Mrs. Atlee is mentioned as having had some nice silver browns, Mr. McIsaac, of Peebles, a very nice silver fawn, winning several first prizes with it, and Mr. Pollock and Miss Roads, of Liverpool, silver greys. No doubt others, including Mr. Elms, of Bristol, were pegging away in that direction. But the production of a reliable strain of silver greys that would breed true and reliable show specimens, fell to the lot of myself, and created at the time quite a sensation.

The first silver greys I showed were light shades, beautifully silvered from nose to tail. Then I began to work for dark shades, which, after much perseverance, were produced. Champion Silver King, a real darkie, and winner of first prizes under five different judges, was the result, and he sired many youngsters as good as himself. In trying for the dark shades, many lovely medium and 'tween shades were produced, and were taking the judge's eye almost as often as the darker ones. It was a medium that won the Woodiwiss Challenge Bowl in 1912 for Mr. Kilminster. The demand for silver greys became very great, and although I had a breeding stud of nearly 200, it took me all my time to supply requirements, and my winners were sold almost before they got home from the shows. So popular did they become that two, and in some cases three, classes were provided for them at shows, and were generally well filled.

About two years ago I parted with most of my silver greys, as I thought they were well established and in the hands of many well-known exhibitors who would keep them going, and that I could give more time to working up my silver fawns and browns.

Unfortunately, this was not to be, as my health broke down, and in the height of my success with silver fawns I was compelled to give up. I had built up a splendid strain of silver fawns, winning the Woodwiss Challenge Cup with one in 1918, and many first prize winners, including Mr. Hall Taylor's champion. In silver browns I had not succeeded in establishing a thorough reliable strain, but it was only a matter of time.

I would advise anyone wishing to produce silver browns to try with a very light, well silvered silver grey buck, light cinnamon doe, and light agouti doe. Let three run together, and then breed the does back to the silver grey buck for two or three generations. As silver greys and fawns are being exhibited at all shows, anyone going in for these would do much better to buy a pair of winners than try to make a strain, which would be most tedious, and in all probability very disappointing.



THE COMING RAT.



Mr. H. C. Brooke's "Mus Rattus."

Winner of 1st and Club Medal, Wadebridge, 1914.

The above was the first of this variety to be penned, as far as we know, the first to be tamed, and certainly the first to be photographed in absolute freedom. This was a typical example of "*Rattus rattus rattus*," the Old English Black Rat, and she and her companion, an Alexandrine "*Rattus rattus alexandrinus*," were very successful when shown. The war, with the consequent destruction of that class of vessel in which these Rats used to be brought to this country, stopped the development of the varieties for exhibition purposes. It is now possible to obtain specimens again, and it has recently once more been demonstrated that "*Rattus*," from a fanciers' point of view, will amply repay the trouble entailed in producing him. Some of our present Fancy Rats were not long ago evolved from wild stock, and if due care is taken there seems no reason why "*Rattus*" should not form a beautiful addition to our Fancy breeds. Who will assist in developing them for exhibition purposes?

FANCY RATS.

By H. C. Brooke,

Committee-man N.M.R.C., vice-president of London and Bristol Mouse and Rat Clubs, 1920.

CHAPTER VIII.

Fancy Rats, from an exhibition point of view, are of more recent origin than the Mice, having been first shown under Club auspices at Aylesbury in 1901, and added to the Club's list of varieties at the annual meeting held at Blackburn that year. They may be said to owe their existence as a Fancy to the energetic support of Miss M. Douglas, for many years Hon. Secretary of the N.M. and R.C., and its President at the time of writing.

At this period they were extremely limited as to varieties, there being only the P.E. whites, black-and-whites, with an occasional agouti-and-white, and now and then a black. All the other varieties we now see have been "made" since then, or perhaps I should rather say "re-made," as it would appear from a book published about the middle of the nineteenth century that nearly a hundred years ago Jack Black, the Queen's Rat-catcher, possessed fawns and fawn-and-whites of various shades, and perhaps tri-colours, which varieties in the meantime became extinct.

There are two varieties of Rat with which we are concerned—*Mus Rattus rattus*, the old English black Rat and its sub-varieties; and *Mus decumanus* or *Norvegicus*, the Common Brown or Norway Rat, from which our fancy Rats spring. It is singular that some naturalists persist in considering our Rats as sprung from *Rattus* or from a cross between the two varieties, a belief for which there is not a shadow of justifica-

tion. All attempts made in this country and abroad to cross tame or wild Rats of the two varieties have absolutely failed, and, what is still more remarkable, artificial impregnation has been successfully carried out, and a female house Mouse made to produce hybrids of which the sire was a *decumanus* Rat, whilst similar experiments with *Rattus* and *decumanus* have proved fruitless. Dr. Arend Hagedorn saw some *Rattus* bucks mate with tame "fancy" does, but there was no result. I have never heard of anyone else even progressing thus far.

It is only fair to say there are a couple of specimens of reputed hybrids in Exeter Museum. They are pale brown, probably faded; show the *Rattus* ears and tail. Bred in captivity by Mr. Else, of Torquay, in 1880. Now, it is somewhat significant that the Alexandrine or agouti variety being then but little known, about 1880 Alexandrines were exhibited at the London Zoo as supposed hybrids. I can vouch for this, having bought specimens myself as a lad, and black *Rattus Rattus*—agouti *Rattus Alexandrinus* cross have since then been taken for the other hybrids.

The N.M.R.C. has laid down the following standard description of an exhibition Rat (*decumanus* variety):—

The Rat should be of good size, long and racy in shape, arched over loin, plump and firm but not fat, with clean long head, not too fine or pointed at the nose. The eye should be bold and prominent and of good size. Ears, nose, and tail should be free from warts or roughness, and the coat in all Rats should be close, soft, and glossy, sleek to the touch, and not too long. In bucks the coat is apt to be somewhat harder and longer than in does. The tail should be well set-on, thickish at butt end, clean, and tapering to a fine point, the length being about equal to the Rat's body from end of muzzle to root of tail. The ears should be of good size and tulip shape, carried erect, and not be set too close together. In Sells, the feet, ears, and tail should be slightly covered with fur, as nearly as possible the colour of

the fur on the body. The Rat should be perfectly tractable and free from any vice, and not be subject to fits or other similar ailments. Sunken eyes, kinked tails, or fits to be penalised 20 points.

The standard description of *Rattus* adopted by the Club, and compiled by present writer in 1915, differs very considerably from this. By an oversight it was omitted from the Club's Rule Books. I shall revert to it later on.

The oldest variety of fancy Rat is the pink-eyed white of our boyhood's days, an albino form of *decumanus*. It is not known when or where this Rat originated. The naturalist, Frank Buckland, believed it to have been brought to this country by a travelling showman, probably from France. It could not have been common in this country in the beginning of the last century, for the afore-mentioned Jack Black said: "I ketched the first white Rat I had at Hampstead, and the first blacks at Messrs. Hodges and Lowman's, in Regent Street, and them I bred in." Here, perhaps, we have the explanation of the curious fact that 999 out of 1000 of the piebald Rats of our boyhood's days were black-and-white, instead of brown or agouti-and-white, as one would naturally have expected. About the same time, too, Jimmy Shaw, the well-known sporting, "fancy," and doggy publican, of London, said: "The first white Rat as I heard of came out of a burial-ground." (Possibly this was Black's Hampstead find.—H.C.B.)

The great difficulty with the P.E. white is to keep its fur from assuming a yellowish tinge. Great cleanliness of bedding and avoidance of steamy or sweaty conditions must be observed. The eyes should be deep ruby, not pink. A really good pure white can usually hold its own at a show. The black-eyed white, singularly enough, has always been a longed-for but unattained ideal, no authentic case being on record until, in 1919, the result of five year's work, I produced Champion Snowflake and her sister, who died unshown. About the same time, too, from

Rats of the same strain, Sir Claud Alexander bred a buck which was very near the mark, but never shown.

CREAMS.

On more than one occasion the occurrence of wild white Rats with black eyes has been reported, but these have invariably turned out to be creams. The cream Rat is now a well-established and a very handsome variety. It was introduced to the Fancy by Mr. Marriott, who in 1910 obtained a pale cream buck caught in a provision shop in Chesterfield. Four others were caught, but would not breed. This specimen killed twenty does before he at last mated up with a P.E. white and a "Jap." The cream did not turn up again until the second generation, and in 1912 Mr. Marriott exhibited the first cream Rat. This was at Liskeard, and the day being dull, it was "passed" as a dirty white! Creams may have either black or pink eyes. The colour should be pale but distinct and level throughout, free from fawn or white patches, undercolour same tint. Colour has a point-value of 45 in the hundred.

FAWNS.

Fawn Rats have cropped up in the wild state at various times and places. As mentioned in the introduction, they were domesticated nearly a century ago, died out, and were forgotten. How this could happen the reader will more easily grasp when I mention that within the last five years or so, despite the existence of a Rat Fancy, we have entirely lost that very handsome variety, the black-eyed fawn, all the present-day fawns being pink-eyed! This variety sprang from a wild doe caught in Liverpool, and sent by Mr. T. Robinson to Mr. E. F. Tilling. This doe was exceptionally tame for a wild Rat, was exhibited, and won at the Club Show at Bristol, 1912. She killed a number of bucks before she found her match in a savage old black buck, who mastered her after a terrific battle. The progeny from the first cross, just as in the case of Mr. Marriott's cream, were all wild

Rat coloured. These, mated together, produced a proportion of fawns and creams. Many of these were exported by Mr. Tilling to America and the Continent. They did a lot of winning, and, to my thinking, were handsomer than the P.E. variety. They entered largely into the composition of the early chocolates, and of such attempts at blues as we have seen.

I said just now that all our present-day fawns were pink-eyed, but have we really any Self fawns in 1920? I rather think we have only

SILVER FAWNS.

These are certainly a pretty variety. They should be evenly ticked or silvered with white hairs all over the body, on a ground colour rich and dense. The belly should be richly coloured, too, but they all have white bellies. Richness of colour counts 25 points and silvering 20.

SILVER GREYS

are rarely seen, and are a very undeveloped variety. Silver ticking on a grey ground.

CHOCOLATES

are one of the most striking varieties we have. They were first produced by Mr. A. E. Baker, of London, in 1915. The parents of the first chocolates were a fawn buck and his daughter, a black doe, whose mother was an agouti. It is singular that the possibility of chocolate as a Rat colour manifested itself to several in 1915. Sir Claud Alexander produced a chocolate youngster which, however, moulted out wrong. In the same year Dr. Hagedorn, in Holland, produced a chocolate *Rattus*. The career of the early chocolates was very chequered, some judges calling them bad blues, others bad blacks. The best blue Rat seen, which won the breeders' cup at Bristol, and was described as being "as good a blue as any Mouse," came from Mr. Baker's strain. It moulted out into a good chocolate later on. The standard is rather vague. It says: "Chocolates should be the

colour of rich eating chocolate, feet, ears, and tail to match." Well, one can buy eating chocolate so dark as to be almost black, or of a lighter, warmer tint, which I personally prefer.

REDS

have not appeared in the pen. In fact, we are further from them than we were in 1914, when Judge Selby Thomas wrote anent a fawn I showed at Bristol: "Reds are in sight." Alas! he was premature. The only red Rat I ever heard of was a chestnut-coloured wild doe I killed when ferreting some piggeries near Woolwich, about 1900.

BLUES

have appeared several times in litters, but never retained their colour through the moult.

BLACKS

seem to be the least popular of any. They are also usually the worst-tempered. The wild black variety of *decumanus*, it is quite possible, on the strength of what Queen's Rat-catcher Jack Black said, may be one of the progenitors of our black-and-white fancy Rats. These melanistic or black common Rats seem to have become far more frequent than they used to be. They abound in many docks. Fanciers of blacks should obtain them to improve colour and size, but not temper! How many people have been taken in, in all good faith, by having these Rats passed off as *Rattus* I do not know. The thing occurs to-day as it occurred 25 years ago!

A puzzle to me always is this: If, as it may well be, the black wild common Rat played a big share in the making of the black-and-white fancy Rat, how is it black self tame Rats were so rare? The first black self tame Rat I ever saw was in the 'seventies, amongst a batch destined for snake food at the Zoo. The keeper, who handled hundreds yearly, had never seen a self black before, and it was years before another cropped up. Nor was it until the twentieth century had begun that Miss Douglas saw her first black fancy Rat.

In 1837 a variety of the *decumanus* Rat was noticed in Ireland by Thomson. It was a black with a white spot on the chest, and by him christened *Mus hibernicus*,

THE IRISH RAT.

This was not a species but merely a local variation of the melanistic variety of the common Rat. Early in this century Miss Douglas, by admixture of white-bellied blacks, agoutis, and black-and-white pied Rats, produced a variety with a triangular star on the breast, which, after *hibernicus*, she christened the Irish Rat. These Rats are now found of other colours, agouti and chocolate. The feet should be white, the triangle on the chest should be clean cut, of equal length on each side not extending down the belly, and should occupy all the space between the front legs. It is remarkable that the black or agouti in the Rats is usually of a richer hue than in selfs of the same colour. The triangle in these Rats has a value of 10 points.

AGOUTIS.

may be said to be the ordinary wild Rat colour improved and idealised. Agouti is pronounced "agooti," and is derived from the name of a South American rodent akin to the Cavy. Agoutis are grey and golden. The latter is incomparably the more handsome. In fact, a really good golden agouti is one of our handsomest varieties. The ground colour is rich ruddy brown, evenly ticked with black. The belly in existing specimens is grey, but a ruddy colour is desirable if possible. The eyes are black, but (if I am correctly informed) a P.E. strain of grey agoutis exists in America. This variety I find very prone to cage gnawing.

I have purposely refrained from giving any hints whatever as to mating up for colour breeding, because our Rats are so inter-bred that to do so could be of no service. A practical knowledge of the strains you are working with is essential. Some will breed

fairly true, others, themselves of excellent quality, may produce such an *olla podrida* of colour varieties as beggars description.

THE MARKED VARIETIES

are, in my opinion, the best for the novice to start with. Further removed from the wild strain, they are usually more tractable than many selfs. Their markings can be determined when they are a few days old and the useless ones destroyed. Nor will the novice be disheartened by vexatious moulting changes.

The varieties we have are: (1) Japanese, (2) Evens, (3) Broken. The Japanese used to be called striped or saddled evens, as apart from the spotted evens, until Miss Douglas gave them a distinctive name. This is a highly attractive variety, found in all colours. The description is:—"Sides, legs, and feet pure white, with hood and saddle of any distinct colour. The hood should cover head, shoulders, throat, and chin, without a break, or any white on throat, and the saddle extend in a straight and unbroken line of moderate breadth from hood to tail. The edges of both hood and saddle should be clean-cut and free from jaggings or brindling, and there should be no spots. Ears to correspond in colour with hood. Eyes black or ruby. White fur to be pure in colour. Tail parti-coloured. The hood and saddle count 25 points."

EVENS AND BROKENS

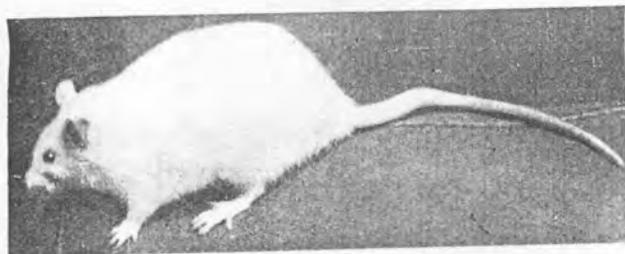
have of late been extraordinarily successful, the old Loyal Cup and Breeders' Cup having been won outright in 1919 by specimens of these varieties, both of which may occur in the same litter. The compilers of the Standard imposed, to my thinking, too hard a burden upon breeders by running counter to the laws of Nature, which appear to lay down that colour remains to the last in the head of the Rat, and when you drive it from the head you also drive it from the body. Consequently, years of experiment on my



Fourteen-Spot Even Rat.

Winner of 1st and Loyal Cup, Bristol, 1919; and 1st Bristol, 1920.

The property of Mr. H. C. Brooke.



Champion Snowflake.

Unique Black-eyed White Fancy Rat. Winner of 1st and Silver Medal best in Show; N.M.R.O. Summer Cup Show, Bristol, 1920.

The property of Mr. H. C. Brooke.

part and that of others goes to show that if you want really nicely broken-up hoods, reducing the head marking either to "Dutch" head marking in the case of evens, or nose-patch and unevenly patched head in broken, you have to be content with an all-white body, or one with either very few or very thinly coloured patches. It is useless running one's head against Nature's laws, and the best we can do seems to be nicely spotted bodies with very small hood or head covering, not coming all down the neck.

The early spotted Evens mostly had hoods of good size, and three or four spots down the centre of the back—in other words, a broken Jap stripe. We are long past that now, and can get nice spots on sides and haunches, and these, with the centre of the back left unmarked, in order to as much as may be deviate from the Jap or spine-marked type, are preferable but hard to get—for after head marking, the most obstinate colour to remain is that on the spine. All primitive pied Rats show in the rough, hood and saddle, hence Jap breeders had but to refine and improve an existing natural marking. So firm is this natural law that I have never heard of a Rat with a white head and patched or coloured body. One of the charms of this variety is, to my idea, the great number of various kinds of markings, all different yet all good, which may be produced. You may have a Rat with 28 spots, or you may have one with three or four, and both may be good. The spotting in Rats seems to tend to smaller size and greater number than in Mice. In the case of Evens the markings should be as evenly balanced as possible; in Broken, unevenly placed, as long as a harmonious effect is obtained. For instance, a Rat with seven spots on one side and none on the other would not produce a harmonious effect. Number of spots, odd or even, does not matter. A 20-spotter may be a good broken, a 7-spotter a good even.

A Rat with the "hood" reduced to a mask on face only, with a spot in centre of back and one at root of tail, is an even of merit, and hard to get. In

Brokens the edges of whatever head marking there is should be raggedly cut. Some specimens are, of course, very close on the border line. The best definition I know of, I make bold to say, is my own: A Rat is an Even if the markings on one side of an imaginary straight line drawn from nose-tip to root of tail reasonably correspond with those on the other side. It is idle to argue that because certain markings can be obtained in Mice they can in Rats. Such is not the case. So very strong in Rats is the law as to colour remaining to the last in head, whilst easily being driven out of the rump, that I believe it presents a practically insuperable obstacle to

DUTCH-MARKED RATS

being produced. We have had some—a very few—Dutch-headed Rats, with white bodies, and even this seems to run so antagonistic to Rat nature that the most careful selective breeding, from individuals as well marked in this respect as the Mice, has so far failed to perpetuate this marking. To obtain a Rat with Dutch head and saddle—to so far reconcile two conflicting laws as to retain a great mass of colour on the rump whilst reducing that on the head to two cheek patches, would be an achievement indeed, and if reached by reasoned effort, and not by chance, perhaps one of the most admirable in the annals of livestock breeding. I doubt if it has ever been done, and I note that even the over-sanguine compilers of the Standard, basing their descriptions upon ideals they hoped might be attained, did not let their fancy soar to this height.

As with the Japs, the spotties may be produced in all colours, though in 1920 they are almost all black and white. A few years back some excellent agouti-and-whites were shown by Mr. Wait of Bristol.

BERKSHIRES,

a variety classified in 1918, are considered by many fanciers to be merely a refinement of the old white-bellied blacks. The distinguishing mark asked for

by the Standard, a white spot in the middle of the forehead, has not been produced. It takes its name from the variety of pig whose markings it is supposed to imitate.

We now come to the varieties of

RATTUS,

one of the most graceful of existing quadrupeds, a thorough aristocrat. It used to be thought that its extreme activity and timidity unfitted it for shows. I believe I am the only person in this country to tame it; but the fact that I won well with *Rattus*, both the "Old English Black" variety, and the agouti Alexandrine, at Wadebridge and Newquay Shows in 1914 and 1915, shows what can be done. The agouti variety, with or without white belly, used to be but little known, and its occurrence gave rise to reports of the existence of hybrids between *Rattus* and *decumanus*. Dr. Lewis Bonhote, now of the Cairo Zoo, first produced a fawn *Rattus*; when he left for Egypt Dr. Hagedorn took over his stock and produced more fawns or yellows, some with fawn bellies, which we have not yet attained in our fancy Rats, also dove-coloured or blue-fawn, with a very blue tinge, and chocolate. Skins of these were inspected by Miss Douglas, Mr. Tilling, and myself. Sir Claud Alexander informs me he has seen some B.E. cream *Rattus*, and at the moment of writing I possess two lovely B.E. whites, the like of which, Mr. R. I. Pocock, of the London Zoo, writes me he has never heard of. I also have a beautiful B.E. fawn *Rattus*.

One of these white *Rattus* has at the time of writing just won first and best in show at St. Werburgh's and first and best in show, N.M.R.C. Summer Cup Show, Bristol, 1920: thus again proving the value of *Rattus* for exhibition purposes. The presumed mother of these Rats, a beautiful fawn doe, was unfortunately killed in Bristol in August, 1920.

The Club description is as follows: In build, the varieties of *Mus rattus* (the typical representative of which is the Old English Black Rat) are much

more slender and elegant than the common Rat, and considerably less in size. The head is long, nose well pointed, ears (as large as possible) about twice the size of those of the common Rat and so thin as to be almost transparent; eyes very black and full; coat rather long and shiny; tail very long and slender, tapering to a fine point. In the black variety the tail is black. The colour of the typical *Rattus* is a slaty black, the belly being of a bluish tinge. Slate-blue, greenish, blue-fawn or dove colour, cream, yellow, and chocolate are existing self colours. In the Alexandrine varieties the colour is, first in order of merit, a rich, well-ticked ruddy or sable agouti, with pure white belly (*Mus rattus lectorum*, Bonhote); the next, agouti with grey belly (*Mus rattus Alexandrinus*).

The rarest fixed variety appears to be greenish, an exotic form. I possessed specimens of this beautiful form in 1903: it did not appear to become known to scientists until 1905, when a specimen was taken in a London granary. Judging from descriptions, the later known specimens were far inferior in colour to those I possessed, which included in one litter greens, agouti, sandy, and blacks: the mother I was told was a beautiful green specimen, but too wily for capture.

CHAPTER IX.

THE MANAGEMENT OF RATS.

(By M. Douglas and H. C. Brooke).

The almost entire absence of smell from well kept Rats—the bucks alone giving forth a slight odour—undoubtedly makes them by far the most suitable of all small fur stock for house pets, another strong recommendation being, given proper treatment, their quietness and affectionate nature.

As regards cages, the well-known Tate's sugar boxes are ideal for this Fancy. They are just the size for a doe with young, or a breeding pair or trio. They should be laid on one side, and a wire-netting door made to open over the entire front. A shelf, three inches broad, should be fixed near, but not touching, the back, about half-way up the cage. Whatever boxes are used, avoid fixed sleeping or nest boxes. The best thing is a small lidless grocery box. This will keep the bed tidy, without conducing to an unhealthy, sweaty condition, such as is caused by sleeping boxes with lids or tops—an encouragement to, if not a cause of, that nasty complaint "rough ear." A supply of these boxes should be kept. Then in an instant the nest can be taken out, a new clean box and bed substituted, and the soiled one cleaned and dried. The Tate's boxes being all one size, can be added to and stacked tier on tier as required.

Where possible, I advise the bottom row of cages, in the case of a large rattery, to be of larger boxes with wire-netting bottoms. These can be sufficiently raised from the floor to allow of sweeping underneath. Much labour in cleaning is avoided by using these stock cages, in which, according to size, ten to twenty Rats may be kept. On top of these may stand the

smaller cages. This is the system I adopt, and it was used by Dr. Hagedorn in his experimental rattery containing hundreds of specimens. White and pied Rats naturally retain their purity of colour much better kept this way. Where fowls are kept there need be no waste, as they will pick over the daily sweepings from under the cages.

In cold weather pieces of cardboard half the size of the open wire fronts may, if necessary, be tacked over the cage fronts. It is well to tack bits of perforated zinc or tin over the vulnerable places in some of the cages. Some Rats are incorrigible gnawers. Others never gnaw their cages. If one begins to do so, a drop or two of neat Jeyes' Fluid rubbed on the woodwork at the gnawed part will often choke them off altogether. All cages should be limewashed occasionally. It is well to have a few spare cages in store so that the Rats can be transferred to them during the white washing and drying process. No Rat should be returned to a cage that is not thoroughly dry. Glass fronts to cages are entirely objectionable, as they do not allow of proper ventilation. If boxes are used for cages, the rattery should be fitted with shelves on which to place the cages.

Show cages for Rats are of the standard "Maxey" pattern, but differ from the Mouse cage in size, also in not having the front lid or shutter. The dimensions are: 9in. square, outside measure; 5 $\frac{1}{2}$ in. high at back; 4 $\frac{1}{2}$ in. at front, of which 1 $\frac{1}{2}$ in. is taken up by wood strip. Breadth of strip, or roof piece on top 3 $\frac{1}{2}$ in. The colours are the same as Mouse cages. Extra care should be given to the matter of the travelling boxes for Rat show cages, and the ventilation of same, so arranged that no draught can reach the exhibits, as the cages have no lid to protect them from the cold air.

CLEANING.

The floor of the cage should be strewn with a thick layer of sawdust, which should be scraped out and renewed when damp or soiled—how often this is

necessary depends largely on the size of the cage and the number of Rats kept in it.

For the nests, hay, straw, and shavings may be used. I do not think there is much to choose between them. The main points are that whichever is used should be thoroughly dry when placed in the nest, and that it should be renewed as soon as it becomes damp or dirty.

FEEDING.

Though the Rat is by nature omnivorous, experience shows that when domesticated he thrives best on a somewhat restricted diet, and many troublesome, if not serious, disorders seem to be caused by improper feeding.

The following menu is that carried out by one of the most successful Rat fanciers of the day: Morning, barley and wheat, and once in a way maize, also every now and then a bit of carrot or some green food; evening, bread and milk, or soaked Melox or Rodnim. On this diet they keep very fit, and have no skin trouble at all. Table scraps, unless they are free from grease, should not be given. If a Rat is low in flesh, sunflower seed is a very good feed. Boiled rice once a week or so is excellent, as also occasionally a boiled (not raw) potato.

The question as to whether Rats require water is a moot point; they certainly need liquid of some kind, but results seem to show that they thrive better without water if a daily supply of bread and milk is given, prepared in a similar manner to that recommended for Mice, except that the bread be soaked in cold water instead of hot. In hot weather the milk should be boiled, and allowed to cool before use, as it is then less likely to become sour; in cold weather the milk should be given warm, but not too hot. As an occasional treat a few nuts are greatly appreciated, and the Rats like the fun of cracking them. Only the smaller kinds, including monkey nuts, should be given. Green food may include grass, dandelion, lettuce, cauliflower leaves, milk thistle, chicory,

watercress, etc.; in winter a piece of raw carrot or swede is a good substitute. Growing youngsters, especially when they first leave the nest, should have a supply of bread and milk daily. A few crushed oats are also good when they begin to eat, but their teeth and jaws quickly gain strength, and by the time they leave the nest they are usually able to eat the ordinary feed.

For weakly Rats and growing youngsters an occasional bone, with little or no meat left on it—is an excellent tonic, affords much amusement, and will frequently bring backward youngsters into show condition in wonderfully quick time. Avoid ham or any salted bones, or any pickled food.

GROOMING.

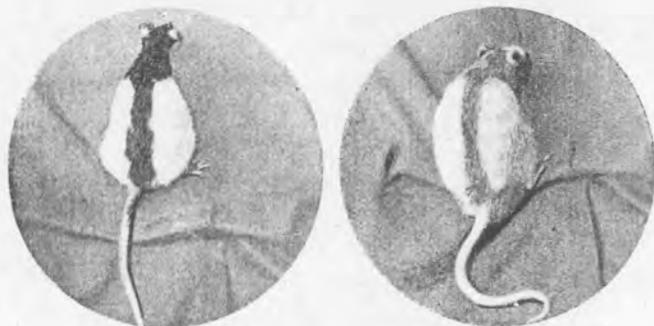
Regular grooming does much to improve the appearance of the coat and keep it in the glossy condition which goes far towards securing prizes. A small drop of glycerine should be placed on the palm of the hand and both hands then rubbed together until all visible moisture has disappeared. The Rat should then be placed in any convenient position—on a table covered with a cloth, or on one's chest, so that he can hold on with his claws—and then stroked rapidly hand over hand from head to tail. By this means all loose hairs are removed and the coat acquires a beautiful gloss. Care must, however, be taken to use as little glycerine as possible, or more harm than good will result from the process.

In white Rats the fur, after the first moult, is very apt to become stained, or to acquire a cream or ivory tinge instead of the pure white required by the standard. To keep the fur a good colour many fanciers dust into it arrowroot, cornflour, or powdered chalk. This should be allowed to remain for a few minutes and then be carefully brushed out with a soft brush. The Rat may then be groomed with clean hands, and the greatest care taken to rub the hands well dry as well as to brush all powder out of the coat before the grooming is begun.



A Rare Dutch-headed Rat.

Bred by Mr. H. C. Brooke, and now in the Natural History Museum.



Japanese Rats.

Exhibited by Mr. R. Blake.

LEFT:—Agouti, Champion Florentine. Winner of 1st and 3rd Bristol, 2nd Barnsley, 1st and Silver Medal best in show, Morpeth; 1st and Bronze Medal best in show, Barnsley; 1st Widnes; 1st Gloucester, 4th London (Club Show). Now in the South Kensington Museum.

RIGHT:—Fawn, Champion Speculation. Winner of 2nd Gloucester, 1st London, 1st and Bronze Medal best in show, Hoxland Common, and 1st Bristol. Bred by Mr. T. Garrett Jones. These two Rats and their litter brother, Champion Florentine, won the Rat Team Cup and Gold Medal, London.

EXHIBITING.

When sending to a show, place a good layer of sawdust on the floor of cage, and provide a bed of soft, dry hay. Do not fill the cage up so that the Rat has not room to move comfortably. Moreover, if you put too much hay, it is a certainty that most, or all of it, will be pulled out at the show, and in the hurry of repacking the Rat will probably be sent home without any bedding. More hay is, of course, necessary in winter than in summer. Also place a good supply of corn, a fair sized piece of carrot (not slices), and a little extra dainty in the shape of a biscuit, some sunflower seeds, hemp, or a few nuts, in the cage, giving sufficient to last the whole time the Rat is likely to be absent from home, so that it will be all right even should there be no regular steward to look after his wants at the show.

AILMENTS.

The most common ailment to which Rats are subject is asthma. In many cases the only apparent symptom is rough, rasping breathing. The patient does not lose flesh, nor is the coat perceptibly affected. Such an attack usually begins suddenly, and may continue for months, but often disappears on the return of warmer weather. It is certainly not infectious, nor do I think there is much need to fear its being transmitted if a Rat so affected is used for breeding, although unless in the case of a particularly valuable specimen it is, of course, not advisable to do so. On the other hand, chronic asthma is not easy to cure, although in favourable atmospheric conditions it may disappear of itself. The patient should therefore be kept in a fairly warm, even temperature, and the cure may be assisted by administering daily a small quantity of Scott's Emulsion mixed in bread and milk, in which form the Rat will readily eat it. A few drops of oil of eucalyptus on the bedding will often effect a cure if persevered with. Starcross Snuffle Mixture is good.

In the acute form of the disease, in addition to the affection of the breath the Rat loses flesh rapidly. This form of the complaint is probably akin to consumption, and appears to be incurable, therefore the "happy despatch" is the kindest treatment, the more so as the disease is certainly infectious. Sprinkle a few drops of eucalyptus oil on bedding as a preventative. The regular use of D.I. is tonic and beneficial.

Bald patches, which sometimes extend over a considerable portion of the body, occasionally appear, probably the result of weakness. Small doses of sulphate of iron mixed with the food have been suggested as a possible cure. A little vaseline well rubbed into the skin will also help matters, and flowers of sulphur rubbed into the coats often effects a cure.

Two allied and most irritating complaints are rough ear and scaly tail. They are parasitic. Judges could help to stamp them out by ruthlessly passing rough-eared specimens at shows. Low sleeping boxes with lids, against which Rats rub their ears, are hot-beds for this disease. It begins with little crusts on the ear-edges, the veins swell and congest, the ear in time is eaten into like a saw-edge, nose and vent become affected. Taken early it is easily cured. Make an ointment of a tablespoonful of vaseline, ten drops of Jeyes' Fluid, teaspoonful flowers of sulphur, well rub in all affected parts, removing gently any scabs, wipe off any left on coat, repeat twice at two days' interval. In the case of biters roll them in a soft cloth to do this, so that they are incapable of movement. I once had the ticklish job of treating 15 wild *Rattus* like this, did it safely, then got bitten by a tame broken to wind up with!

Another good remedy is sweet oil 8 parts, oil of tar just under 2 parts, paraffin just under 2 parts, thickened with flowers of sulphur to the consistency of thick liquid cream, shake and apply with a camel-hair brush, repeating the application in two days if necessary. Slight cases generally yield to one dressing.

Bites or sores of any kind may be bathed with diluted Condry's Fluid, and then dusted with dry flowers of sulphur, or dressed with Fiasby's Fanciers' Ointment, or vaseline with a drop of Jeyes.

Rats are also liable to abscess and tumour, but they seem to experience but little inconvenience therefrom. The swelling may be bathed with warm water and Condry's Fluid to bring it to a head, and with a little surgical knowledge it may be opened with a lancet or sharp knife, or it may be left to break by natural process. In either case the cavity should be cleansed daily with warm water and Condry's Fluid, and then filled with dry flowers of sulphur, which will speedily heal the wound, and leave little or no disfigurement. In cases where the growth is internal, and only apparent by the swelling of the body, the only merciful treatment is painless death by chloroform or otherwise.

What appears to be a form of internal cramp is often caused by cold, especially in youngsters. The best treatment is to hold the sufferer before the fire, and when life and movement return, administer a little warm milk to which a few drops of brandy have been added. If the Rat cannot drink, the milk can be given with a small spoon, or drop by drop off the finger. This treatment will frequently restore Rats which to all appearance were already dead. To complete the cure, the patient should be kept for an hour or two in a bit of warm flannel in a ventilated box placed near the fire.

BREEDING.

As a rule, bucks and does may be kept together in numbers without fighting, and they will frequently rear their young safely in such circumstances. If the buck is left with the breeding doe they will usually mate directly after the birth of the litter, and this results in undue weakening of the doe, with bad results to both lots of young. If a buck or doe, which has been away from its usual companions for breeding purposes, is returned, fights sometimes occur. To

avoid this put them all into a fresh cage together till they settle down. Do not put a buck into a spiteful doe's cage or she will likely savage him. Put her into his cage. Rats go 18 to 21 days with young. The young can be weaned at a month old, but it is better to leave them six weeks with the mother.

Friendly does due to litter about the same time often pool their litters in one nest, but sometimes they make separate nests and keep on stealing each other's young, which results in the tails and feet of the young being torn off in the resulting tug-of-war. Valuable does are best left to litter by themselves. In the case of wild or spiteful does from which good youngsters are expected, it is good policy to put their young on a tame and gentle foster-mother, when the young will grow up tamer. The young should be accustomed to the feel and smell of the hand from a few days old, when the does permit it. They then grow up quite fearless. As a rule, Rats very readily foster another Rat's young, if they are rubbed against each other to mix the odours. Young bucks are often very precocious, and should not be left with does after seven or eight weeks old. Young does should not be bred from till about five months old. If a pedigree book is kept and the stock bred on reasoned-out lines, far more enjoyment will be obtained than from haphazard breeding.

Rats, or any other animals, kept in a very quiet secluded place, will grow up far more timid and nervous than those kept where they constantly hear and see something going on. The timid, nervous Rat is sure to be handicapped when shown. They should be taught by frequent handling to allow themselves to be picked up anyhow. Strange or spiteful ones must be firmly taken by the thick part of the tail. When dealing with shy animals avoid sudden unexpected sounds and movements, which are liable to make them bite or bolt. The intelligence of the Rat is of the very highest order, and properly trained and treated he will accustom himself to all circumstances and become a constant source of pleasure.

When purchasing stock, go to a reputable fancier, a member of the N.M.R.C., or any of the principal "Long-tail" clubs. Ask him to tell you how his stock is bred, and how it has been fed in order to avoid sudden changes of diet. Do not attempt too much to start with, and concentrate on the variety you like best.



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