Rabbit Husbandry Part 3:

Selection of Stock for Breeding by John Sandford

THE SELECTION OF STOCK on the basis of health, condition and age, is as important as the correct selection of stock to produce the desired improvement in coat, colour, type and so on, i.e. the inherited factors. In fact it may be argued that it is more important, for unhealthy animals cannot produce and rear good youngsters.

Health is of course of great importance. The signs and indications of positive health or disease cannot be dealt with here but the reader is referred to other books which consider the matter fully.

Both buck and doe must be free of disease. Two of the most important (coccidiosis and vent disease) should be particularly guarded against, for the first causes much loss in young rabbits which become infested from the carrier doe, while the second is spread through matings. A thorough check of all animals just prior to mating should be made in addition to the normal routine checks.

Both buck and doe, but particularly the latter, should be in hard breeding condition. This condition implies that the animal is not fat, whilst at the same time it is well fleshed with firm flesh. The doe should also be in improving condition.

Too young animals should not be mated and it is probable that animals exceeding some three years will not be retained for breeding unless for some special purpose.

Use of animals at too young an age will frequently spoil them. On the other hand it is advantageous to commence breeding from stock as soon as it is wise to do so. To leave the animal too long is as bad as using it too early.

The development of the individual is a far better guide than the average ages of the breed.

THE FREQUENCY OF BREEDING

The number of litters which a doe will produce during the year depends on the purposes for which she is being bred. Under normal management the doe will, or should, be required to produce four litters, although some breeders, particularly when breeding for exhibition will restrict the number to three, two or even one litter per year.

More than four litters is not to be recommended, except under peculiar circumstances.

It should perhaps be noted here that the strain imposed upon the doe by pregnancy is less than that imposed by lactation. For this reason continuous pregnancy is not so great a strain as intermittent pregnancies and lactation.

When a large number of youngsters is required from a particular mating, or when a new breed is being reproduced as fast as possible, it is a fairly simple matter to obtain a large number of youngsters by fostering all the youngsters produced, and remating the does producing them immediately after kindling.

In this way as many as eleven litters from one doe have been produced in a year.

This same procedure can be used in cases where very small litters are produced by a particular breed. For example, in the Netherland Dwarf breed, litter size is usually very small, but the does may be used to rear a fair sized litter as the adult breed size required is small. If several does are mated on the same day the youngsters from several does may be fostered onto one or two does and the remaining adults rebred.

In this way the percentage of fertile matings is increased, as fertility is usually highest immediately after kindling, the size of the youngsters is partially restricted as the one doe will rear more youngsters than usual, and a larger number of youngsters is obtained than would otherwise be the case.

Allowing one month for pregnancy and two for suckling, the maximum number of litters normally taken is four per year. To sacrifice some part of the suckling period i.e. to wean early, is a practice to be condemned.

Well fed and well managed does can and should be regularly bred, but not over-bred.

NORMAL MATING METHOD

The doe should always be placed in the buck's hutch, or in a stud hutch after the buck has been placed in this. It is however always preferable to allow the buck to become settled into his surroundings before introducing the doe, as some bucks are slow to service in new surroundings, and in fact may refuse to mate under these conditions.

The doe may seriously resent the introduction of a buck into her hutch, and may attack him and injure him severely.

The doe should not be left with the buck for any extended period. If this is done the buck may make a number of services, and fighting may occur when the breeder is not there to separate the animals.

Usually the mating will be made within a minute or two of the doe being introduced. If after a few minutes no mating has taken place the doe should be removed and tried again within six hours. If after this period the doe refuses to mate normally an assisted or forced mating should be made.

The practice of trying a doe daily is not to be recommended as it may easily lead to pseudo-pregnancy. Alternatively the buck may be removed and the doe left in the buck's hutch. This often has the effect of making her more desirous of mating later.

A hand placed in front of the doe when she is running from the buck will often have the effect of making her halt, and the mating may then take place.

THE STUD HUTCH

Usually the buck's hutch is that in which the matings are made. In other cases a special stud hutch may be used. There is little advantage in using a special hutch if the buck's hutch conforms to some general requirements.

Firstly, and most important, the hutch must be so designed that the breeder has easy access to it, and can catch the animals at a moment's notice. If one animal attacks the other, serious damage may be done unless the breeder is quick.

The hutch should also have a completely open front, it should be of a convenient height for easy handling, and it should not be too deep from front to back. Twenty inches is about the best depth, or sometimes even slightly less.

FORCED AND ASSISTED MATINGS

On occasions it will be found that a doe will not mate, or that a buck, particularly with his first services may be reluctant to mate a doe. In these cases a forced, or restrained mating may be made.

The doe is held by the loose skin over her shoulders together with her ears. The other hand of the breeder is placed under the doe, the vent is gently held between the first finger and the thumb and pressed backwards and upwards. At the same time the doe's hindquarters are slightly raised to the normal mating position. The mating will then usually be easily accomplished by the buck.

Restrained mating does allow a greater number of matings to be made than would otherwise be the case. The percentage of infertile matings does not appear to be increased by these matings.

SEPARATION OF THE SEXES

The sexes should preferably be separated at weaning. The latest time at which they must be separated, particularly in the smaller breeds is 3 or 3½ months. Fighting and attempted matings will occur after this age, and indeed may sometimes occur before it. In some exceptional cases there is a possibility of young does having unwanted litters at this age. If mating is observed then of course the sexes should be separated immediately.

THE DIAGNOSIS OF PREGNANCY

There are three common methods of telling whether a doe is in kindle. Ability to do this is of great value to the breeder, as much time may be wasted if the doe proves to be not in kindle only after a month from mating. Also if the doe is definitely proved to be in kindle, then she can be properly managed and fed.

One of the methods (palpation) is more difficult than the others and requires a good deal of practice and experience, but as this method is the most reliable, and in addition the doe may be tested as early as the 14th day after mating with every hope of successful determination, the method is to be recommended and preferred to the others.

The three methods are given below.

TEST MATING

This is the oldest method and has been used by breeders for a very long time. The doe is placed in the buck's hutch for mating. If she refuses to mate then it is assumed she is in kindle, if she mates it is assumed that she was not.

This method has been improved by test-mating on the eighteenth day. If the doe was pseudo-pregnant then she will probably become pregnant at this time. If she was pseudo-pregnant a mating before this time would be quite unsuccessful.

However, test mating is not reliable as it is based on the incorrect assumption that a pregnant doe will not mate and a non-pregnant doe will. The percentage of does which will mate when pregnant is very much the same as the percentage which will mate when not pregnant.

PALPATION

This method is the one to be recommended. When used by an experienced breeder it is very reliable. It consists of examination with the fingers of the abdomen of the doe to feel the developing embryos in the uterus.

The doe may be held with one hand whilst the other is placed under the doe with the finger tips just in front of the pelvis. The fingers then feel for the developing embryos which on the 12th or 14th day are about the size of marbles.

The doe must be held gently otherwise the muscles of the abdomen may be rigid and difficulty will be experienced.

A second way of feeling the developing embryos is by exerting a gentle pressure with the fingertips of both hands in an upward and backward direction towards the pelvis whilst the doe is facing the breeder.

INCREASE IN SIZE OF MAMMARY GLANDS

The last method of determining pregnancy is quite reliable, but unfortunately may only be used some 24 days after mating. The mammary glands of the pregnant doe increase in size from the middle of pregnancy onwards, and on or after about the 24th day there can be felt an increased thickness of a fold of the skin in the mammary gland area is rolled between the fingers.

It is of course necessary to know the normal thickness, and two does, one pregnant and the other non-pregnant should be tested in this way to obtain experience.

ARTIFICIAL INSEMINATION

Although the technique of artificial insemination has been well-developed in the case of the rabbit it is doubtful whether it will be ever widely used by the rabbit breeder, except for possibly some types of practical experiments where a particularly valuable buck is to be used in more matings than could be conveniently made naturally, or where difficulties in natural matings occur, i.e. in crossing very large with very small breeds.

It may be mentioned however, that it has been used to some extent in practical rabbit farming in Russia.

The sperm is first collected by means of an artificial vagina, which usually consists of a glass tube about one and a quarter inches in diameter into which is fitted a rubber sleeve which tapers to about ½ inch in diameter.

Warm water is introduced into the glass tube and surrounds the rubber sleeve, thus keeping it at the right heat and regularly the pressure.

The artificial vagina is held between the legs of the doe, or beneath a muff made of fur, and the buck allowed to mount, and ejaculate into the rubber sleeve.

The semen is collected from the artificial vagina, examined for its quality, and then it may be diluted with a specially prepared solution to about 15 times its amount.

The doe must ovulate before the semen is introduced and therefore a sterile buck is mated to her.

A second method is to use a buck on which is fastened an "apron" to prevent correct mating. The doe is usually sufficiently stimulated by the activity of the aproned buck to ovulate.

The semen is then inseminated into the vagina of the doe with the aid of a small glass tube with a bulb, or a syringe.

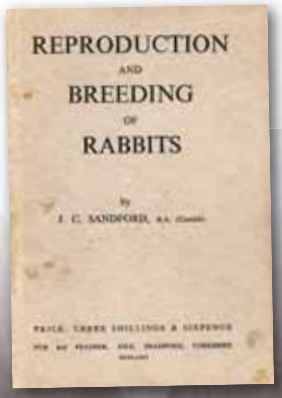
EXAMINATION OF SPERM

In cases where poor fertility is being experienced in a stud it is good practice to examine or have examined, the sperm of the stud bucks.

This can be done by obtaining some of the ejaculate from the vagina of the doe, after a mating, with the aid of a narrow blunt glass rod, or small smooth spatula. Alternatively the buck can be made to ejaculate into an artificial vagina.

The sperm is examined under a microscope after a drop is placed on a warm glass slide. The appearance of the sperm under the microscope will indicate whether they are viable i.e. whether they are alive and capable of movement.

Other tests can also be applied to sperm to determine their quantity and quality, but this is a skilled proceeding.



These extracts are from Reproduction and Breeding of Rabbits by J C Sandford B.A. (Cantab) (Fur & Feather publications, 1952.)

Title is being reprinted and will be available shortly from the *Fur & Feather* Bookshop.

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