

FORESTRY COMMISSION

BOOKLET No. 14

Rabbit Control in Woodlands

By E. V. Rogers



LONDON

HER MAJESTY'S STATIONERY OFFICE

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INTRODUCTION

For some years now, since the spread of myxomatosis in 1953, there have been few rabbits and there is a generation of young men coming into the forest who are too young to remember the great damage that can be done by rabbits, or how quickly they can breed. Many old warreners have retired and there is no reservoir of professional rabbit catchers from which to recruit new warreners.

In this booklet I have tried to include all the practical methods of controlling and killing rabbits in this country. Much has been written on the rabbit as the quarry of the sportsman and poacher and it is upon their experience I have had to draw. Neither of these have the extermination of the rabbit as their aim but the methods used are the same.

I hope that through reading this booklet warreners and foresters will be encouraged to try all the methods described that suit their conditions, and will acquire the fieldcraft and skill needed to outwit this most expensive and destructive pest.

THE RABBIT

The European rabbit is a native of southern and central Europe, North Africa and the Mediterranean islands. It was first brought to Britain by the Normans. It has been introduced into all other European countries and has established itself wherever the winters are not too severe. It has also been introduced, and thrives, in Chile, New Zealand and Australia and is a primary pest in those countries.

The rabbit colony has a definite social structure. The main warren is inhabited by the king buck and his queen, and litters are produced within the warren by the queen. Other does, including offspring of the queen, breed in the "stops", short burrows which each doe closes with grass and earth and only visits to suckle the young.

Sexual maturity is reached at about four months and the period of gestation is twenty-eight days. The main breeding period is between January and July, although litters are found throughout the year. A doe will produce litters of about six young at monthly intervals from January, provided the weather is suitable. Under adverse weather conditions, if there is overcrowding in the warren or if food is short, the doe reabsorbs the young, thereby increasing the period between litters. The number of young produced may also drop.

The young are born naked and blind in a nest lined with fur from the female's breast. They weigh about two ounces at birth and do not venture out of the nest until they are about three weeks old. When they reach maturity, at about four months, they are driven from the home warren by their parents.

From this it can be seen that one doe can, under ideal conditions, produce over thirty young in a year, many of which will themselves be breeding before midsummer. The need to catch the last rabbit in a plantation is obvious.

A curious feature of the rabbits' digestive process is the eating of their own droppings while at rest in their burrows. This provides extra nourishment, rather like the cud-chewing of a cow.

In Britain the rabbit appears to have been introduced by the Normans but did not become numerous until the 19th century. Up to that time they were largely kept in warrens. Any escapees were probably quickly dealt with by the rural population and the much larger number of flesh-eating birds and beasts in existence before the introduction of the breech-loading shotgun and the popularity of game preserving. The rabbit is not a true forest dweller, and the clearing of so much forest and scrub since the Norman Conquest has facilitated its spread throughout the British Isles.

STRATEGY

It is futile to attempt rabbit control without a definite long-term plan covering all the woodlands likely to be involved. The need for absolute and unrelaxing control must be written into every Plan of Operations or Forest Working Plan. Where timber-growing is concerned, the rabbit is *never* a casual pest, with which it might be possible to come to terms on some "live and let live" basis. No, it must be completely exterminated and its re-entry entirely prevented.

Wherever rabbits still abound, the forester, with the map of the whole forest or estate beside him, should decide what steps to take in each successive season. If he is carrying out a steady annual programme of clearance and planting, then his fencing and warrening programme should proceed in a related direction.

Thus, when replanting a large woodland block, a permanent fence might be set up, at the outset, around the whole area. Then, as each section is dealt with, from one end to the other, a temporary fence can be moved one stage forward each year. This will be far more effective than trying to clear several hundred acres in one operation.

Particular attention must be paid to boundaries with neighbouring estates, since promises of mutual help may not always, in the long term, be equalled by performance. Where the boundary of two

estates runs through a block of woodland, it is particularly difficult to prevent rabbits moving across from one property to the next, and back again at some later date! Even if rabbit fences are not needed internally, within one's own property, it may still be advisable to set them up along the marches.

Broken ground, such as old quarries, sea cliffs and railway cuttings, and patches of dense bramble, gorse, or scrub, are very apt to harbour colonies of rabbits. In such places, the cost of eradication may be quite uneconomic, while it often happens that they lie outwith the jurisdiction of the threatened estate. Again, a well-maintained boundary fence is the only sufficient answer.

FENCES

The forester's first line of defence against the rabbit in this country is the netting fence (Plate 1). As such, its erection and siting should be given much thought; and when it has been erected it should be properly maintained. The strength of this defence line is as strong as its weakest link, for once rabbits have gained a bridgehead they soon multiply, rendering the fence useless.

The fence line should be as straight as possible to economise on material and make it strong. On the other hand it can be sited to avoid the obstacles which might be difficult to make rabbit-proof. Stumps, including coppice stools, should be removed, or cut low with a chain saw and treated with herbicide to make the fence line easier to keep clear. Stumps in the line or on the outside make weak places. The soil and vegetation condition will decide whether the bottom of the netting should be dug in or lapped out, but it may often be worth the extra cost to dig in.

The following is the normal specification:

Wire netting 42 in. by 1½ in. mesh by 18 gauge.

Plain wire No. 8 gauge—One strand at top, one near bottom. (A third may be used for extra strength against stock).

Stakes 5 ft. by 3 in. top diameter or 3 in. face if cleft, set at 9 to 12 ft. apart.

Straining Posts 7 ft. by 6 in. square top, placed at all corners, or changes in slope. 6 in. diameter and at intervals of 100 yds. on straight lengths.

Struts 7 ft. x 3 in. top diameter, or 3 in. face if cleft.

N.B. The bottom six inches of the netting is laid on top of the ground, turned outwards and held down by odd turves, as necessary. Alternatively it can be buried in a single furrow turned out by a plough.

GATES

These are often the weakest part of a fence. Put in as few as are required for fire and management access. More can be put in, after the crop is established, for timber extraction. No gate is effective if it is open, so take measures to see that they are kept closed.

There are various types of gates.

The Hinged Field Gate

It is false economy to fit narrow field gates as a lorry will soon hit a post and upset it. Twelve feet is normally suitable but, if long timber is to come through, a wider gate can be made by swinging two gates to meet in the middle. It is most essential that there is a durable and solid sill of timber or concrete, and that the bottom of the gate fits so there is no room for a rabbit to get under. The sill should be kept clean and a brushing of creosote will deter rabbits and preserve wooden sills.

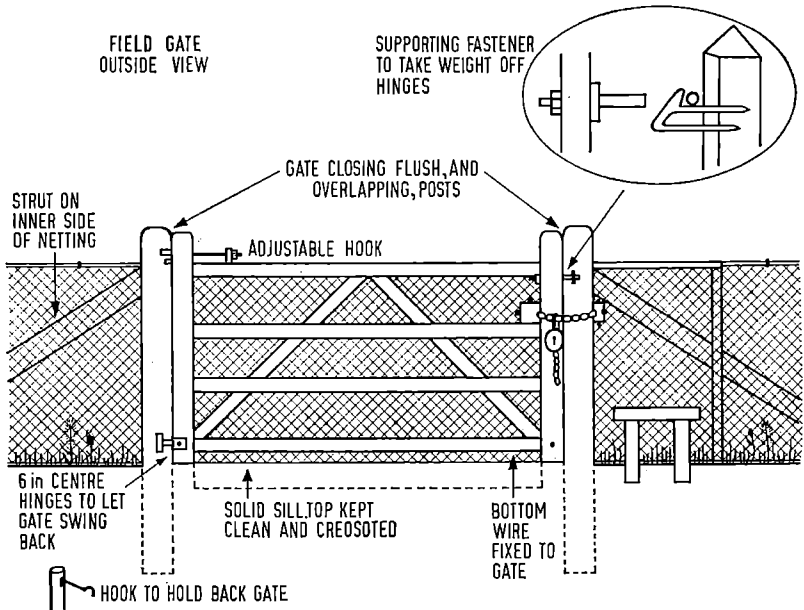


FIG. 1. Rabbit-proof field gate

The Lift Gate

A cheaper type of gate suitable for routes which do not have regular traffic. Most of the points mentioned previously apply. A special point is that the gate should be made of durable material so that it has a life as long as the fence.

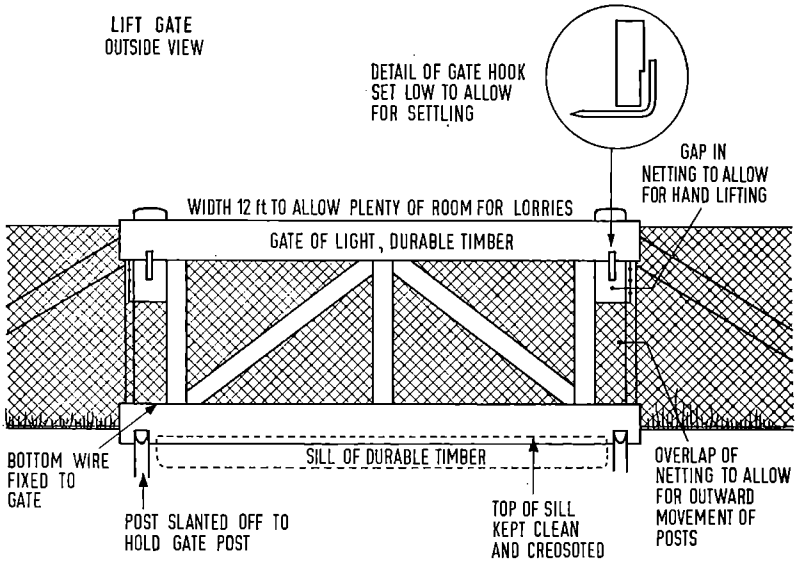


FIG. 2. Rabbit-proof lift gate

The Stile

Where foot traffic only is anticipated it is best to erect a stile as the fence then remains permanently rabbit-proof. The materials again should be durable and should not go through the netting. As dogs will often accompany walkers put a dog gate in the fence to stop people pulling up the netting to let the dog through.

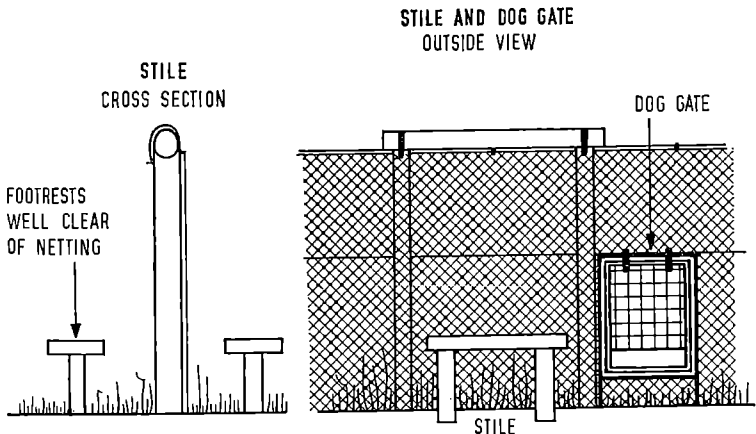


FIG. 3. Stile and dog gate, suitable for a rabbit-proof fence

Cattle Grids

These may deter rabbits, but are not proof against them, so the gate should be kept shut.

Rivers and Lakes

A wide lake or river, or fast stream, is a reasonable barrier against the rabbit. The cost of fencing saved may be worth the risk, but the rabbit *can* swim and if the stream becomes low in drought it is best to fence. Care should be taken at the point where the fence line comes down to the lake or river, and the netting should be carried out into deep water.

Drains

Where a fence crosses a drain it must be made rabbit-proof. Where there is a flush of water after rain, or a steady flow, a gate should be put in so that the fence is not swept away when debris builds up against the wire. It is important that the gate be kept swinging free so that it closes itself when the flow of water drops.

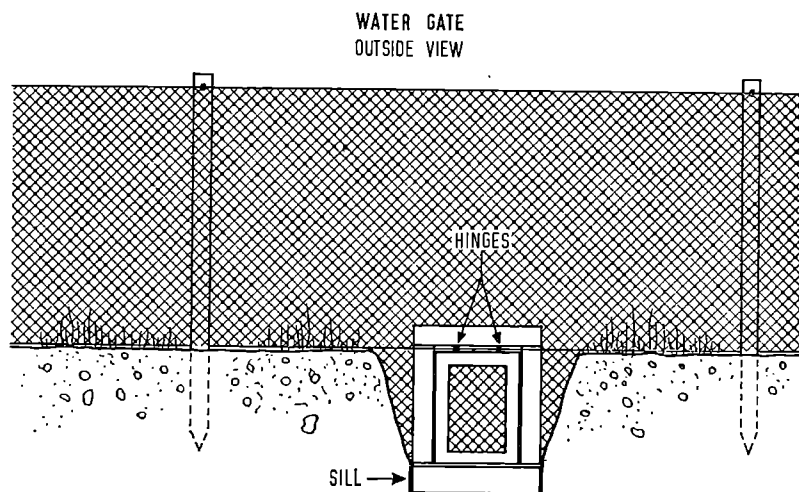


FIG. 4. Rabbit-proof water gate; swings open, downstream, in times of spate

Stumps

Where stumps, rocks or banks on the outside of the fence cannot be removed, the fence should be built up at this point. It is well worth the trouble to make these additions to the fence strong and durable so that they will last the life of the fences. Stumps etc. on the inside of the fence will act as jump-outs. Decayed roots from old

stumps can provide ready-made burrows under a fence so should be well dug in when the fence is erected.

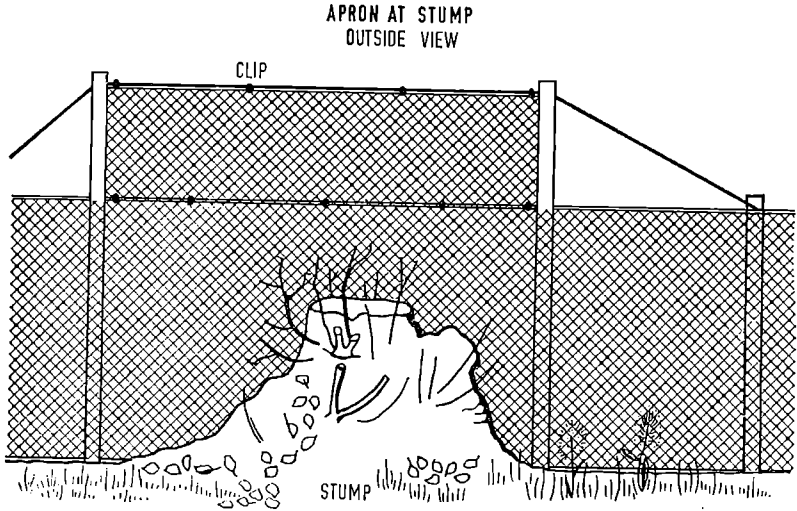


FIG. 5. Wire-netting apron, to increase height of fence beside a stump

Maintaining the Fence

The warrener should be supplied with tools and materials to keep the fence line in good repair. In areas of heavy weed growth he will need help in keeping the rubbish cleared back so that he can walk round. FENCE LINE MAINTENANCE IS AS IMPORTANT AS CATCHING THE RABBITS WHICH GET IN.

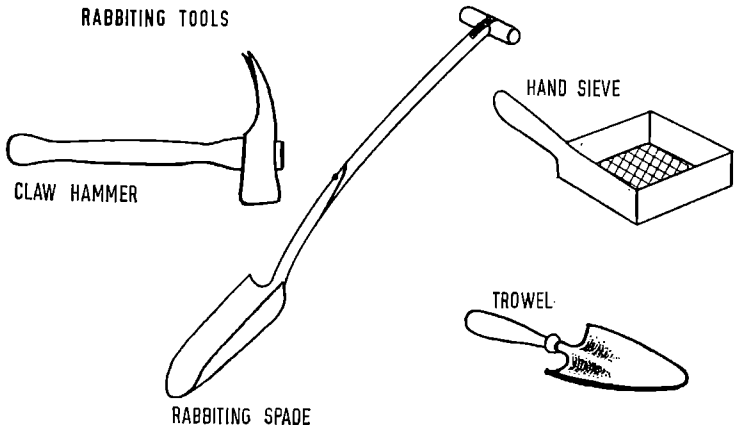


FIG. 6. Tools for rabbiting

A fence cannot be properly maintained by a man carrying a gun. The warrener should have a light spade, claw hammer, tying wire, some small squares of netting, a short length of top wire, staples and netting clips. A bag should be used to carry all the oddments. Sometimes a pair of strainers should be taken, for re-straining broken or slack fence wires.

During heavy or drifting snow all efforts should be made to dig out the fence line to stop rabbits walking over it. As soon as the snow has melted a programme should be put in hand to repair all fences which have been pushed down.

HUMAN TAINT

Rabbits have a good sense of smell and the odour of humans, tobacco, dogs and ferrets, or indeed anything unusual, will make them wary. It is therefore a good idea to rub the hands in some grass or dry earth before setting traps or snares. When stalking a rabbit, always work upwind. I have often smelt a concealed, shag-smoking warrener a good way off in the woods myself, so I am sure a rabbit can!

DIGGING-IN WARRENS

An important part of the work of clearing rabbits from a planting area, and to ensure easy control in the future, is to destroy all the existing warrens and holes where rabbits may hide. This should be done systematically, going over the ground with traps, ferrets and gas first, and then making a good job of filling up the holes as the rabbits are caught. Old tree stumps should be included as rabbits will often get into them, especially old coppice stumps.

Large warrens can be ripped out with a deep plough or tractor-mounted tines, on suitable ground. If the machine is available a bulldozer might be used to rip out hedge banks.

When the work has been well done there is little question of rabbits lying up in the treated area. Dogs will quickly put up the odd "top rabbit". If the work is not done, there will be endless unnecessary work going over the same ground many times.

In established plantations it is a good idea to have a few holes open near to paths used by the warrener; he will then be able to check the holes and put a trap in if one has been used. Wandering rabbits will examine holes even if they do not lie in them.

If they cannot be destroyed, banks which are infested with rabbits should be dug through at intervals to make control easier.

TRAPPING

As a means of eradicating the rabbit, trapping still has a bad name—due to the activities of commercial trappers who always moved their traps on to new areas as soon as their catch fell below certain limits, thereby always leaving a strong breeding stock with plenty of available food. However, the forestry warrener is not concerned with the value of the rabbits but with that of the trees. That commercial trappers used traps to a large extent in the past, points to the trap as a very effective method of catching rabbits quickly. Instead of taking the traps up they should all be left down until no rabbits are being caught.

Since the gin trap was abolished three very effective traps have been developed, the Imbra, the Sawyer and the Jubby; which one to use is a matter of personal preference. One trapper can work up to 100 traps or as many as can be got down in a reasonable area. On most forests 20—40 traps per warrener will be sufficient.

The trapper should work quickly and quietly. Some holes will need enlarging with a small spade, others can be filled in. Bolt holes should be looked out for. The bed for the trap should be firm and the plate set parallel to the floor of the burrow and below the roof. Over-wide holes should be narrowed with stones or dead wood so the rabbit will pass directly over the plate. Soil should be placed round the trap and firmed, and most of the jaws covered; care should be taken not to get soil under the plate. A trowel, small hand sieve and a small stick should be used to put the soil round the trap to avoid leaving scent. If the soil is not firm on either side of the trap, the rabbit will be suspicious. Make sure that the safety catch is “off” before leaving the trap, and also that it cannot be thrown “on” by a rabbit coming into the hole.

Tunnel traps set against the wireside can be very effective for picking up odd rabbits, especially outside the fence. Traps can also often be set in holes made under the fence by rabbits, but be sure the plate is under the netting. A sod can be placed on the lap-out.

Traps which have not caught should be re-set after a few days, as they may not be set “fine” enough, or soil may have sifted under the plate. In sandy soil, a leaf or piece of paper on the plate will stop soil sifting under it. Where there is sandy soil a bucket of damp sand can be used in dry weather to cover the trap.

GASSING

Hydrocyanic acid gas, normally generated by a powder, is a very effective method of dealing with the rabbit underground or in stumps.

It can be applied by spooning or pumping. Either method produces gas on contact with moisture. The gas kills the rabbit quickly and painlessly.

It is generally easier for two men working as a pair to do gassing with a pump. Dogs and ferrets must be left at home. Both men should understand the use of the antidote. When a bury is found, the man with the pump should start downwind and pump the gas into a hole. As the gas, in the form of a white powder, is seen escaping from holes, the second man should block the holes with a thick sod. As the gas is lighter than air the stopping must be done well. Many bolt holes which are not visible will be found. Any holes from which gas does not escape should be seen to separately, as they are not part of the main system.

The second method is spooning (Plate 5); this can be done easier by one man using an old dessert spoon on a long handle and putting a heaped dessert-spoonful of powder well down each hole. He can then stop up well with sods. Bolt holes should be searched for. Spooning produces a pocket of gas which the rabbit encounters when it tries to get out of or into the burrow.

100% kills of rabbits are seldom obtained by gassing, due to rabbits facing pockets of fresh air or breathing through small holes and waiting until the gas has cleared before escaping. However, for the time spent it is one of the most productive ways of getting rid of rabbits.

After an area has been treated it should be gone over again after about a week, re-gassing any opened holes with the spoon. Gassing discolours the flesh making it unfit for sale. Gassing must not be done in wet weather as the operator can be affected by the fumes given off by exposing the powder to the damp air. Snow is all right as long as the temperature is below freezing and the air dry.

POISONS

It is illegal in England and Wales to set down poison for rabbits, and it is doubtful if a poison which is selective enough for safe use will ever be found. In Australia and New Zealand very high measures of control are achieved with poison, but conditions in those countries are very different to our own. The bait used is lethal to domestic stock and dogs, and is generally applied by specially trained teams.

THE GUN

Shotguns

All too often the only tool of the warrener is the gun. When there are large numbers of rabbits the gun is best left at home and traps,

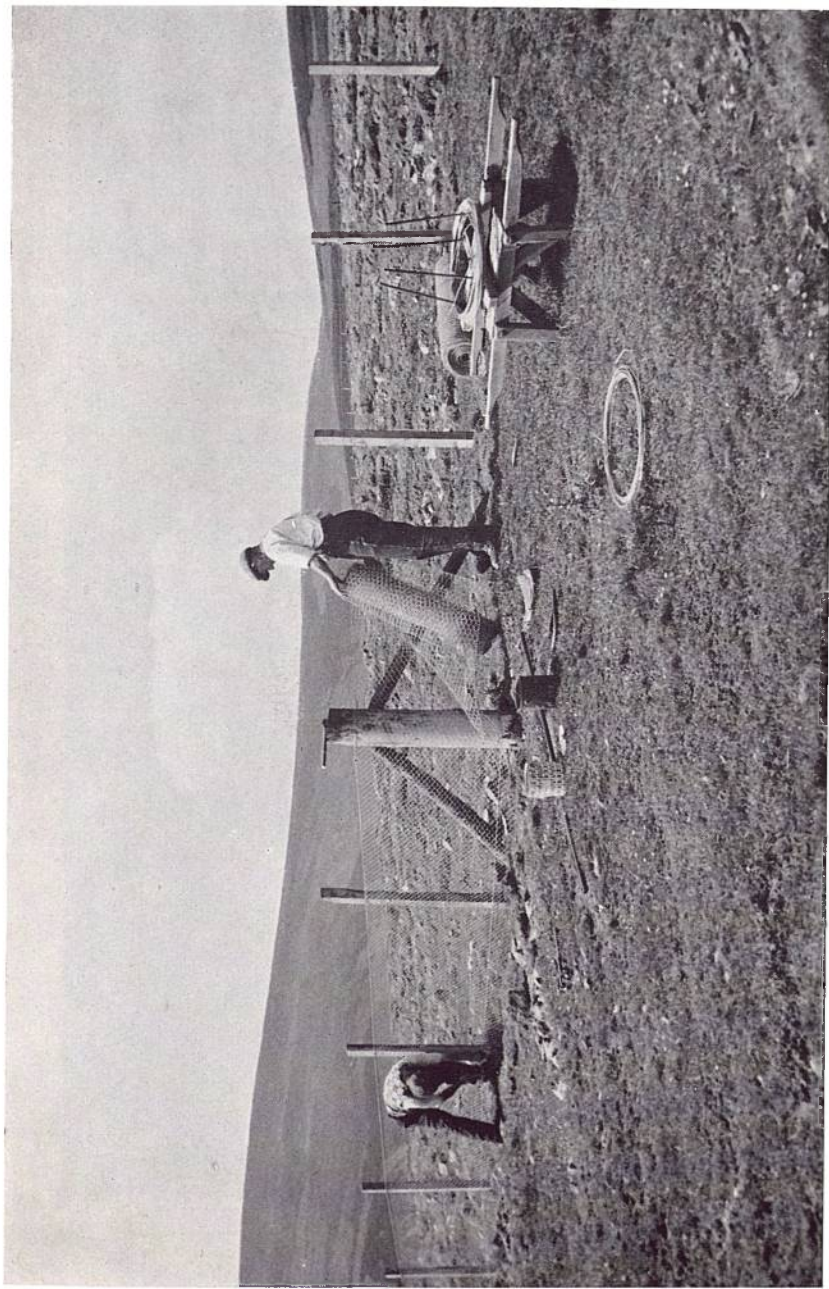


PLATE 1. Erecting a rabbit-proof fence at a new Scottish forest; note struts at corner post



PLATE 2. Despatching the rabbit



PLATE 3. Putting in the ferret



PLATE 4. Waiting for the rabbit to bolt



PLATE 5. Spoon gassing, using powder



PLATE 6. Setting up a long net

snare and gas used instead. Only when the population is very low is the gun the most economical way of killing rabbits.

The gun can be used to kill rabbits which escape the nets when ferreting, if a good dog is not available. It can also be used to advantage with dogs to kill rabbits in the low cover of young plantations if they have gained entry. And it is useful when the successful warrener is walking his fence lines etc. looking for signs of rabbits.

The best gun to use is probably the double barrel 12-bore with 28 or 30-inch barrels; although single-barrel guns and smaller bores have their uses, especially in cover. The warrener should have a canvas case to protect the gun when being carried on a bicycle or in a van, and also plenty of cleaning materials. The latter should be used after each outing. Foresters should ensure that the guns are kept clean and are free from defects, and warreners must be careful to avoid denting barrels and to check that no dirt, dead leaves, etc. gets up the barrels during use. A fatal burst can easily happen. Every year a number of people are killed by loaded guns being set off when being knocked over, sometimes by dogs, or being carelessly handled in vehicles. To put the safety catch on is not enough.

When a warrener is issued with a gun the forester should ensure that it is a good fit. A few shillings spent altering the stock will be well repaid in improved performance.

The shot used is normally Number 5 or 6. Number 6 has a closer pattern but does not have the stopping power of number 5.

Rifles

.22 rifles are sometimes used for pot-shooting rabbits; but they have no place in the armoury of the forest warrener and are in fact usually a very dangerous weapon in woods.

Shooting rabbits under forestry conditions is mainly a matter of practice. A good stance and quick reaction is necessary when ferreting or dogging low cover. If many rabbits are getting away when ferreting, the warrener would be well advised to leave the gun at home and concentrate on finding more bolt holes to net.

REPELLANTS

There are a number of repellants available, but their cost of application is far too great in relation to their very limited effect. Farmers sometimes use creosoted binder twine suspended four to six inches above the ground to protect cabbage plants; I have found this method successful around a small group of trees which had to be planted before the area was clear of rabbits.

In all other circumstances, repellants must be regarded as *useless*. They will never deter any really hungry rabbit in hard weather. Since every thriving tree puts out fresh shoots every spring, only *annual* application could be effective, and this costs far too much.

FERRETS

Ferrets have been used for over 2,000 years and were probably introduced into Britain soon after the rabbit. The polecat ferret is very closely related to the native polecat. (See Plates 3 and 4).

Ferreting is generally a slow method of catching rabbits and unless many can be caught and sold it is often more economical of time to use traps or gas, especially if the ferret "lies up" with a kill and has to be dug out.

Undergrowth should be cut from around difficult holes, two or three days before they are ferreted.

When ferreting, approach upwind as quietly as possible, put purse nets over all the holes, watch for concealed bolt holes, and slip the ferrets in. Two or three are much better than one, especially in a big warren. Quietly kill any rabbits that bolt into the nets and replace the net quickly. Rabbits which escape the net should be caught by a dog or shot. Big warrens should be netted round if there is a chance of the rabbits escaping.

Some buries, especially by roadsides or where dogs are normally at large, contain rabbits which are loath to bolt; these should never be ferreted as the rabbits will usually be killed underground and the ferret laid up.

The ferrets will soon lose interest when the last rabbit has been caught. The warren should be blocked up before the warrener moves on.

Pains should be taken to retrieve any ferret that "lies up", as a lost ferret can do a great deal of damage to wild life and chickens. A dead gutted rabbit can be shaken about in the entrance to a burrow or pegged down just outside, and the ferret will often fasten on to it, and so it can be recovered. A good dog will sometimes pinpoint the ferret lying up with a kill below ground. Like dogs, ferrets should not be overworked; more should be taken out than are used at any one time, so that one or more are resting while the others are working. A drink of water or milk should be given during the day, especially in hot weather.

LONG NETS

Not now in general use since the number of rabbits declined after myxomatosis. The long net is 50 to 100 yards long, of three-foot-wide $1\frac{3}{4}$ in. mesh net, with a string threaded through top and bottom. The top string is tied to the net at intervals. The net is pegged at

either end and supported by canes at about five-yard intervals so that the top is suspended about two feet six inches above the ground. (See Plate 6).

If the net is to be used for a drive from either direction, the canes should be pushed in from alternate sides and the bottom of the net turned towards the drive in progress.

The usual method of using the net is to quietly run it out at night between the rabbits' warren or wood and their feeding ground. The wind should be blowing from the rabbits to the net, so that scent and noise is carried away from them. The rabbits are then driven by men and steady dogs into the net as they run for home.

A useful adaptation of the long net to forestry requirements is to use it along the rides in young unbrushed plantations and to drive each section towards the net. Men can beat along narrow racks and dogs hunt between them.

At either side of the section being driven, a walking gun can deal with any rabbits which try to slip out. It is often advisable to have a gun on the ride from which the beaters commence, as rabbits can be stubborn about being driven. An experienced warrener will learn and can sense the way rabbits can be best driven.

Sometimes a rabbit will shy at the net and not be tangled in it. If the person dealing with the rabbits carries a light gun he can pot these rabbits, providing the beaters are still well back. As usual it is important that beaters should keep in line and should not come out into the ride until called or whistled to do so. If the net is set for two-way working, the bottom can be turned, and the beaters then file off to their new starting line.

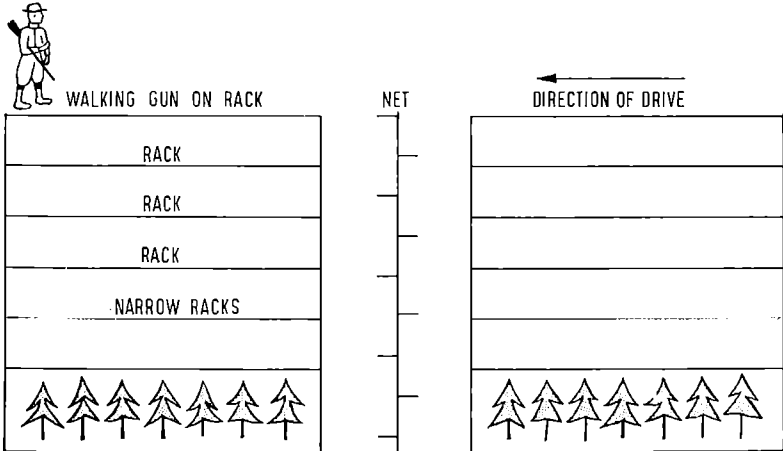


FIG. 7. Driving rabbits to the net

PURSE NETS

Apart from their use in ferreting, purse nets are useful when driving cover, to put over drain-pipes or runs in the bottom of open drains.

SNARES

One of the most-used ways of catching rabbits. It is sometimes difficult to apply under forest conditions. Snares are usually set in a line, some way out in a field between the rabbits' cover, or warren, and its feeding grounds. When the rabbit first breaks cover he is very wary and slow, but when he feels the coast is clear he will move more swiftly with less caution towards the feeding ground. It is here that he is best caught.

Snare and pegs and teelers should not be new: hang them up when first made—on a wooden peg, not on a nail—for them to weather for a week or two. The noose should be about one fist high, above the ground at its lower edge, but estimate this, do not put the hand on the ground and leave scent. The rabbit run will show distinct patches where the rabbit puts his feet: between these patches is the spot to put the snare. It is sometimes said that it is no use snaring as a fox or badger will take the rabbits, and indeed a fox will sometimes learn that he can get a quick dinner where snares are set, but this matters little to the forester as the rabbit is dead anyway!

Take care not to set snares on rights of way or in fields where there is stock, as catching people or stock could result in heavy claims for damages. One man can set and see to as many as 300 snares.

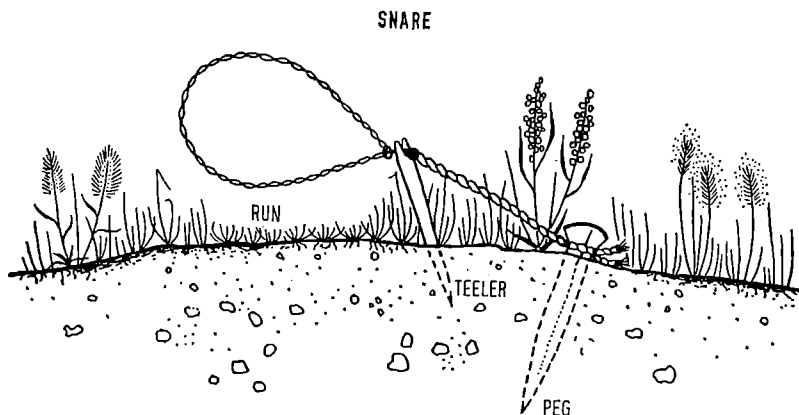


FIG. 8. Setting a rabbit snare

DOGS

A warrener is incomplete without his dog. The dog can do two things that a warrener usually cannot; one, smell a rabbit in set or hole nearby, and two, run after it and catch it. Every dog has different qualities which are useful: some hunt by smell, some by sight, some have an excellent nose for smelling rabbits in holes or underground, some will point a rabbit and others are as quick as lightning to snap up a rabbit hiding in cover. The breed of dog is not important, but generally a short thick coat is preferable. A good diet with one main meal at the end of the day is important if the dog is to work well. Few dogs can hunt all day and every day, so the warrener should arrange his work so that the dog has the right amount of rest, or it will lose interest. For this reason, many warreners keep two dogs, so that each can be worked, and rested, on alternate days.

Sometimes a number of dogs can be used together if they can be kept under control. The pack instinct comes to the fore and the individual qualities of the dogs are well used. Shooting interests must, however, be kept in mind.

Usually the warrener will shoot over the dog when a rabbit bolts. In some conditions the dogs will run down the rabbits themselves, especially in netted young plantations. A dog is indispensable when ferreting in scrub, and a trained dog is used to drive rabbits into long nets.

A warrener and his dog are a team, but it is often difficult to say which is the more important member. A man will often walk past, within feet of a sitting rabbit. A dog seldom does.

KILLING THE RABBIT

Many rabbits will come to hand that are not dead and need dispatching. There are two ways of doing this, both of which dislocate the neck. The first method is to hold the rabbit up by the back legs and give it a chopping blow behind the ears with the other hand. Another method, and perhaps the best, is to take the rabbit by the back legs again but to put the thumb of the other hand on the top of the head and the fingers under the chin; the rabbit is then stretched and the head turned back. With a little practice the neck is easily dislocated (See Plate 2.). Take care though, a rabbit can give a nasty bite!

After killing, the bladder should be emptied by firmly stroking the lower abdomen. The abdomen should be split down with a sharp knife and the stomach and intestines removed and buried. One back leg should be slipped through a cut made between the bone and main tendon of the other, to hang the rabbit up by.

MYXOMATOSIS

This virus disease, endemic among the South American cotton-tail rabbits, spread throughout the British Isles in 1953 and 1954 with great rapidity, killing about 99% of the rabbits in the areas through which it passed. Unfortunately, this great reduction in numbers was not followed up by a determined extermination drive, as many people were sorry to see the rabbit go. Since 1954 the virus has become less effective and the rabbit, by selection, has become more resistant, so the population has increased year by year. The effect of myxomatosis may eventually be little more than 'flu in humans from which the majority will recover. Spreading of the disease is illegal, but where it breaks out the warrener should take the opportunity to kill off all suffering rabbits he sees, for they often recover; and also, of course, any resistant ones. Ferrets should not be used if myxomatosis is suspected, as they can easily kill and lie up. The attitude that, because myxomatosis is in an area, it can be left to take care of things, is quite the opposite of what should be done.

NATURAL ENEMIES OF THE RABBIT

The rabbit has many enemies in the animal and bird world, besides man. It is probable that before game preservation the rabbit was kept in check by the large numbers of native flesh-eating birds and beasts. However, the number of such creatures is now low, and we must also consider them in relation to farming and sporting interests. It is generally true to say today that the number of predators is controlled by the size of the rabbit population, rather than the reverse. Considering the main predators individually:—

The Badger

This interesting mammal presents the warrener with a problem. Generally harmless in its eating habits the badger will seek out and eat nests of young rabbits; however he will root up any rabbit fence which is erected across his usual paths, thereby letting in rabbits. The senseless way to deal with this problem is to kill the badgers. Other methods can be used to control them. Firstly, if a large set is to be included in an area to be planted, the badgers can be moved on by disturbance and by stinking them out with rags dipped in creosote or one of the proprietary repellants. When activity has ceased the holes should be well filled in, including logs, old netting, etc. in the filling to discourage recolonisation.

Secondly, where badgers are pushing up netting, they may be trained to use small gates fitted where their runs cross the fence line. These gates can either be made locally or purchased ready-made in galvanised iron. In a properly gated area the fox is probably more to blame than the badger for holes under the wire.

The Fox

Rabbits form part of a fox's diet, when available, but due to the interests of poultry keepers, shepherds and sportsmen he is not to be encouraged for the little good he does. Most of the rabbits he destroys are nestlings or unhealthy animals. Part of a warrener's duties may include fox destruction, but whilst there are rabbits it should never be his first consideration.

The Stoat

The dependence of the stoat on rabbits as a food source was very obvious when myxomatosis came. I remember that in Lincolnshire the snow was covered by stoat tracks in the first winter after the disease. The following winter there were none. The stoat is a relentless hunter of rabbits but is generally almost absent if the rabbit is well controlled. The game preservationists are very "anti-stoat" but no problem need arise if the rabbit is kept right down. Where there has been commercial rabbit trapping the stoat may have been nearly exterminated.

Predatory Birds

All the eagles, harriers, hawks, buzzards and owls in Great Britain are protected by law, and the few remaining birds should be welcome in the protection of our plantations.

The buzzard is the only bird that relies on the rabbit as its main food supply, but it has little effect on the numbers of rabbits. Many of the birds of prey are useful in keeping small rodents such as voles in check, especially kestrels and owls.

THE WARRENER'S EQUIPMENT

To be effective, the warrener must be equipped with the necessary tools. These will vary according to the number of rabbits and the type of area he covers. The following list covers most items.

- (1) Transport. Bicycle or van according to area covered.
- (2) Gun, double barrel, 12-bore. Cleaning Outfit and Gun Case.

- (3) Dog or dogs.
- (4) Ferrets. At least two.
- (5) Traps. Of an approved make, such as Imbra, Juby or Sawyer—minimum of 20.
- (6) Snares.
- (7) Purse nets.
- (8) Long nets where necessary.
- (9) Rabbiting spade and Fencing spade.
- (10) Fencing pliers and Claw hammer.
- (11) Shoulder bag.
- (12) Ferret Box and Hutch.
- (13) Staples, netting clips, part roll of netting. Top wire.
- (14) Gas gun, hand sieve and trowel.
- (15) Gassing powder.
- (16) Antidote to gas.

In addition to these items a steady supply of cartridges and gas must be maintained, beside replacements of all gear.

SKINNING THE RABBIT

If the skin is to be used, or a sale can be obtained, the rabbit must be correctly skinned, and the pelt dried. Hang the rabbit up by a nail or hook passed between the bone and tendon of one leg just below the hock. Cut the skin below each hock and cut off the tail. Slit up each back leg between the hock and tail, and pull the skin down over the rabbit, carefully separating any fat from the skin. Cut off the head skin and, while it is still warm, pull the skin on to a stretcher made of 10-gauge wire. Keep the skin of both forefeet to one side. Hang the skin to dry in an airy place and stop the bottom ends curling with clip clothes pegs.

HOME CURING OF RABBIT SKINS

After drying, slit the skin down the belly and soak in several changes of water. When it is soft lay it out on a board and scrape all flesh and fat from the skin with a blunt knife. The skin should be soaked for

at least two hours, but not too long as the fur may drop out. Wash in warm water containing one ounce of washing soda per gallon. Carefully squeeze out. Next work in petrol to remove all grease and dirt. The skin is now ready for tanning.

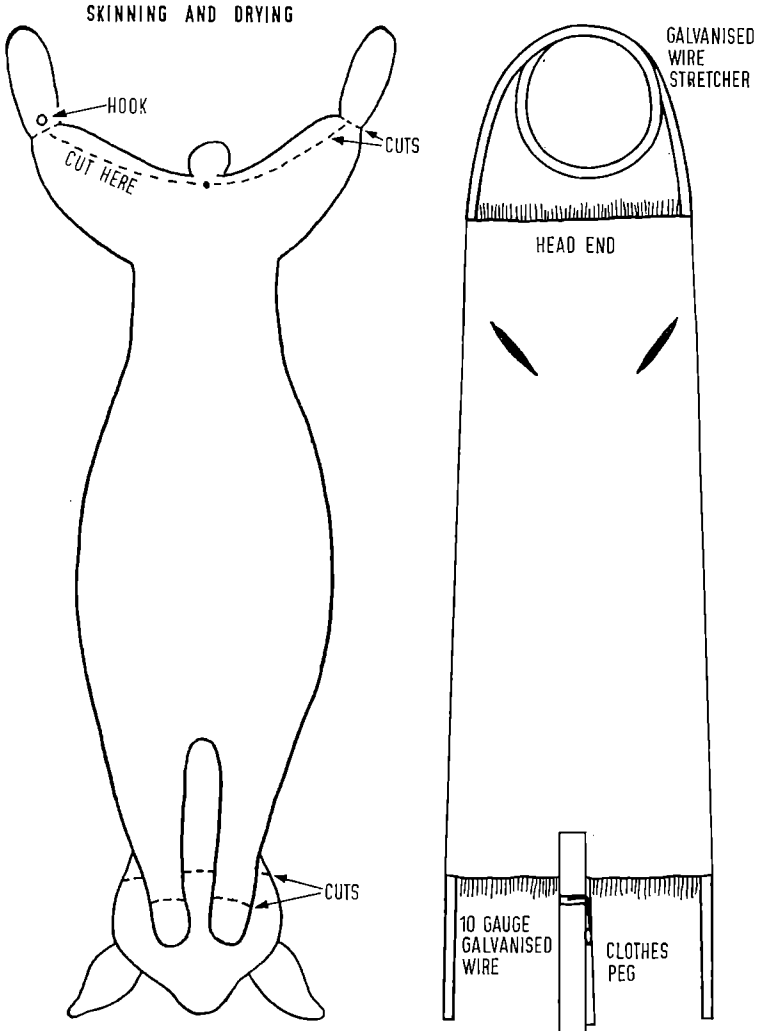


FIG. 9. How to remove and dry a rabbit skin

Dissolve one pound of common salt in a gallon of water and stir in one ounce of concentrated sulphuric acid. Use only glass, earthenware or wood vessels. Take great care not to splash the acid or inhale the fumes. Allow the mixture to cool and then put in the skins. Keep them covered with the mixture and stir regularly for one to three days. Take out the skins, rinse in cool water and work for ten minutes in a solution of one ounce borax to one gallon of water. Rinse, press all the water out, work for a few minutes and tack out on a board, apply a thin coat of butter or olive or neatsfoot oil. When the skin is nearly dry, work it well by pulling over the edge of a board as if buffing shoes. Sandpaper if still rough. If not soft the skin can be dampened and worked again.

CONCLUSION

I have briefly described most of the methods that can be used to control the rabbit in forest plantations. A booklet is no substitute for experience, so I hope warreners will try to add a number of new methods to their repertoire. It cannot be stressed too much that the first line of defence is the fence, and every effort should be made to keep it rabbit-proof.

THE SUCCESSFUL WARRENER IS NOT THE ONE WHO BRINGS IN THE MOST DEAD RABBITS, BUT THE ONE ON WHOSE LAND A RABBIT CANNOT BE FOUND.

Remember that the good warrener costs the forest **X** pounds; the bad, **X** pounds + the value of the damage done. Foresters can greatly help their warreners by providing them with the necessary equipment and giving them time to work over the forest, systematically destroying the last rabbit in each enclosure and then patrolling the fences to keep the rabbits out.

Warrening is not a sport, but a serious job of work.

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