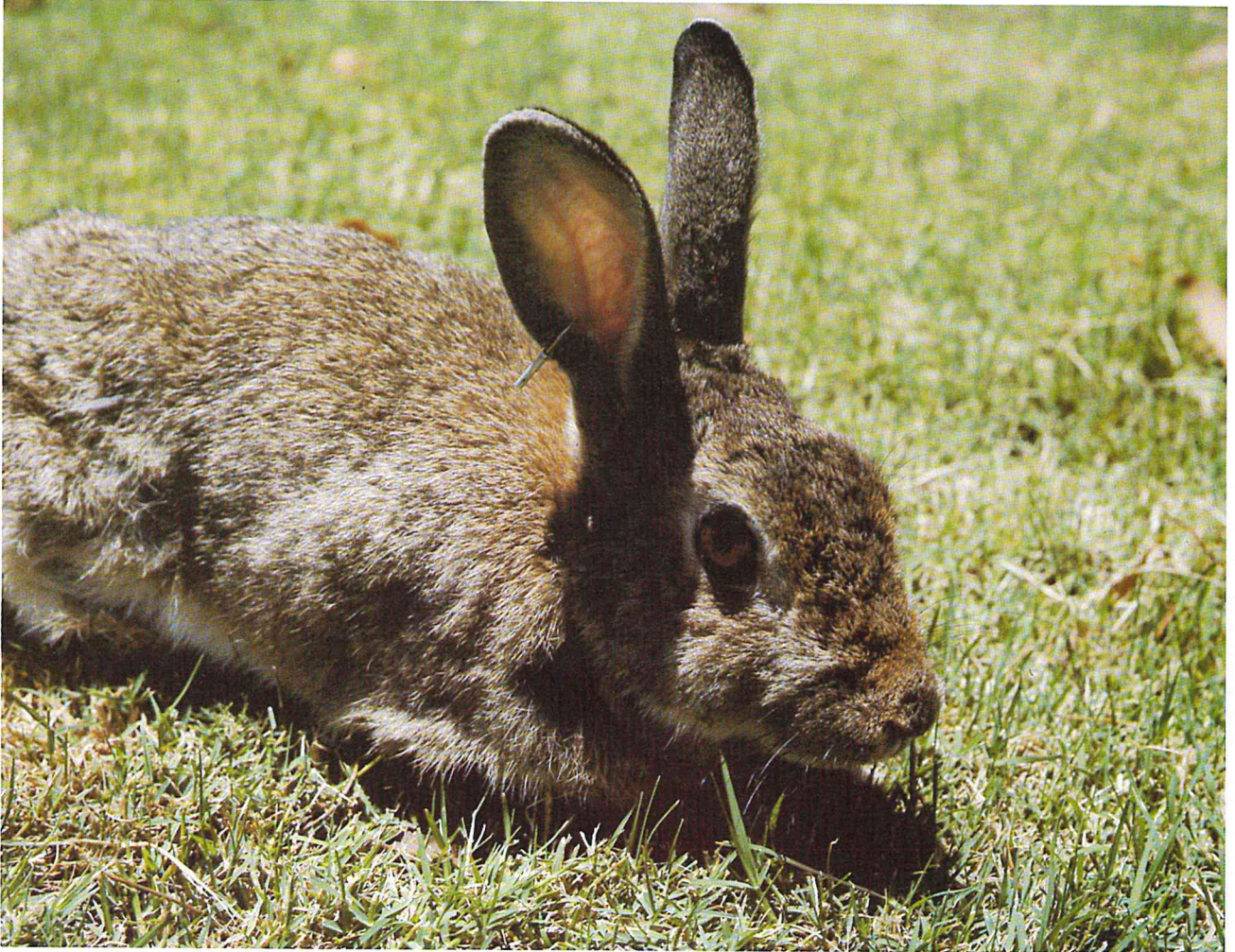


THE RABBIT



THE EUROPEAN rabbit (*Oryctolagus cuniculus*) has now spread throughout most of the temperate regions of Europe, North Africa, Chile and Australasia. The majority of Australian rabbits descended from 24 European wild rabbits released near Geelong in 1859. By the turn of the century, the progeny of these rabbits had spread and were breeding in their millions. Rabbits have a well deserved reputation for causing severe environmental damage. They are declared animals throughout W.A. under the Agriculture and Related Resources Protection Act. The long term objective of the Agriculture Protection Board is to eradicate them from the State. However this objective is not attainable in many areas of W.A. where expensive control work is not economically justified.

Distribution:

Rabbits evolved in the western Mediterranean region which has a cool wet winter and hot dry summer, similar to the climate of the south-west of W.A. Rabbits do not readily colonize heavily timbered country. They also avoid summer rainfall areas with a dense under-storey of rank tall growing grasses. Land clearance has replaced much timber and scrub with improved pasture and cereal crops, very much to the rabbit's advantage. In addition, grazing animals help maintain a short sward which is palatable to rabbits. Rabbit numbers in the drier wheatbelt districts are limited by the shortness of the winter breeding season and by areas subjected to frequent cultivation which limit rabbits by destroying warrens, and making the environment less

hospitable.

Rabbits are better suited to districts with a long winter. The biggest populations occur where areas of uncleared scrub or other suitable cover interspersed with pasture make for ideal conditions for breeding and kitten survival.

Behaviour:

Rabbits avoid high temperatures by living in burrows or in the shelter of scrub or fallen timber, emerging only at night. During the breeding season, they live in small coherent social groups which tend to break down when breeding ceases during summer. Within each group there is a social hierarchy; high ranking females breed more successfully and have lower kitten mortality than lower ranking animals. A large warren may contain several groups. Each has its own territory which it

(continued overleaf)

THE RABBIT

actively defends against intruders. Members mark their territory on logs, grass or other objects with faeces, urine and the secretion of a gland beneath their chins.

Diet:

Rabbits prefer feed with a high water content. They seek out green feed such as perennial grasses or low growing shrubs in summer, and they sometimes gnaw bark from shrubs and trees.

As pastures mature, rabbits will seek out seeds to maintain the quality of their food. Adults can subsist on dry feed and seeds, but the death rate among juveniles increases sharply once pastures start to dry off.

Breeding:

Rabbits usually begin breeding in autumn. Females (does) may conceive shortly after rain, thus ensuring the maximum number of litters are born while green feed is available.

Gestation takes about 30 days.

Young (kittens) are usually born in warrens, but sometimes in short breeding burrows (stops).

The percentage of pregnant females rises steadily to nearly 100% in July/August. Later, the pregnancy rate falls and after September, the average litter size declines. Breeding ceases when pastures dry off.

Where favourable conditions for breeding persist for a long time, a doe may produce up to 30 kittens in six or seven litters.

The high reproductive rate is offset by a 60-70% death rate amongst kittens up to a month old. Kitten mortality may rise to nearly 100% at the end of the breeding season

due mainly to lack of suitable feed. However climatic factors, predators and diseases cause many deaths.

As kittens become older, the survival rate rises. At birth, kittens weigh approximately 30g, and grow rapidly under ideal conditions.

A mature rabbit can weigh up to 2.0kg.

Significance:

Rabbits eat a lot of pasture that would normally be available for livestock. It is frequently estimated that eight rabbits eat as much as one sheep. Some farmers put the damage much higher.

A rabbit grazes more closely than other stock, killing germinating clover seedlings, thus preventing clover establishment.

Grazing rabbits may weaken perennial grasses during summer, even eliminating them from the pastures. The sward is then likely to be invaded by broadleaved weeds and annual grasses.

Rabbits do considerable harm to the natural environment; during drought they strip bark from shrubs and trees and the increased grazing pressure due to rabbits has helped degrade the vegetation cover leading to soil erosion. They also compete for food with native animals of similar body size.

Myxomatosis:

Myxomatosis outbreaks (epizootics) are very important in determining the size of rabbit populations from year to year. The disease is transmitted on the mouth-parts of biting insects such as mosquitoes, sand flies and fleas. European rabbit fleas are particularly effective in transmitting myxomatosis because

they are most abundant during winter. A winter outbreak of myxomatosis is likely to have greater impact on a rabbit population because then rabbits are most susceptible to disease. The European rabbit flea can neither live or breed on any other animal. It depends on blood from pregnant female rabbits for its hormone supply.

Studies by APB research officers have shown that myxomatosis by itself cannot always control rabbit numbers at an acceptable level.

In some years, high mortality may occur but the rabbit population quickly recovers. Following an outbreak, most survivors possess immunity which is transmitted to their offspring. Therefore, a further outbreak of myxomatosis is unlikely to occur the following year. For maximum value to be obtained from myxomatosis outbreaks, survivors must be controlled while rabbit numbers are low.

It is illegal to keep rabbits in Western Australia. Rabbits are unsuitable as pets because they are prone to die from myxomatosis. Vaccinating rabbits against myxomatosis is prohibited as the vaccine is a live virus which may spread resistance to the wild population.

For advice on rabbit control, contact the Agriculture Protection Board, Jarrah Road, South Perth. Telephone (09) 367 0111 or any district officer of the APB or the Department of Agriculture.