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Department of Agriculture, Western Australia

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Saving the State from rabbits

Agriculture Protection Board of W.A.

One of the greatest achievements to remember this anniversary year of 1979 is the great reduction in wild rabbits, saving Western Australia from a loss of more than $50 million a year and spoilt countryside. Relatively few people can now remember when rabbits were so thick in parts of the State that the ground literally rose up at evenings like a moving carpet of grey fur — ‘they were like ants’, said one observer.

Rabbits not native to Australia but brought originally from Europe thrived so well that they reached plague levels in farming areas across the southern half of Australia. In Western Australia the loss in agricultural production was well over $50 million a year based on a CSIRO figure that the loss in sheep production was $1 per rabbit eating the sheep pasture.

The six years of the World War, with little or no rabbit control on farms, contributed largely to the build-up of the rabbit population and during this period a well-intentioned member of Federal Parliament suggested in the House that the Government should start rabbit farms to produce food for troops overseas. He was promptly told that with the severe shortage of manpower and of wire netting, Australia was in danger of becoming one big rabbit farm.

Rabbits were so thick on the Nullarbor Plain in the later years of the war that an Italian prisoner-of-war assigned to railway track work at Zanthus used to meet troop trains with a seemingly inexhaustable supply of ‘ot roast rabbit — two bobs.’ (20 cents each). In the immediate post-war years severe shortage of materials delayed the rejuvenation of farms run down or abandoned during the war and rabbits continued to breed with too little control.

By the early 1950s, more than 3,000,000 rabbit carcases were being exported from Western Australia annually and the total Western Australian rabbit population was estimated at more than 50 million in a favourable breeding year.

The Geraldton Guardian newspaper reported on September 4, 1951 that more than 250,000 rabbits had been destroyed on one property in six years, including 33,000 in one, ten-week period — 470 a day, on average.

In one year, when the two new weapons 1080 poisoning and myxomatosis were first brought to bear on rabbits, more than 500 tons of poisoned oats and free-feed grain were laid over 22,000 miles of trail by the Agriculture Protection Board’s contract rabbit poisoning service for farms.

It is a frightening thought that if rabbits had not been brought under control (with more than 90 per cent of them destroyed) the stupendous million-acres-a-year farming expansion of the 1950s and 1960s would not have occurred and if the rabbit population had remained at its old level, large areas of Western Australian farm land might have been rendered permanently useless from the combination of rabbits and the severe droughts of the late 60s and 1970s.

Another speculative thought is how fine and unspoilt the land must have been before nearly half a century of occupation by rabbits.

Rabbits brought into Western Australia by the earliest settlers for food did not start the chain of damage and, in fact, they probably were not the first rabbits. There is every possibility that earlier, visiting ships had rabbits on board and that some were released.

From these, colonies appear to have become established on off-shore islands and others were possibly living on the mainland as well.

But it was the massive invasion from the eastern States of Australia which led to the State’s great problems. It is generally agreed that the mass movement resulting from the release of rabbits in Victoria in 1859 had crossed Australia and entered Western Australia by about 1894; in any case rabbits were quite numerous inside the eastern borders of Western Australia by 1900.
They gradually moved westwards, delayed, but certainly not stopped by the 'rabbit proof' fences which had been erected. They consolidated their position and spread right across the southern part of the State. Rabbits had reached plague proportions and were virtually at saturation point by 1930. In the initial occupation, they extended far into our pastoral country but since have either died out altogether or are only in small isolated colonies excepting along the northwest coast. Assessing the losses caused by pests such as rabbits is extremely difficult as it is impossible to put a price tag on much of their damage which changed the landscape. The environmental degradations of soil erosion, removal of natural vegetation and prevention of regeneration of trees, shrubs and smaller plants and redirection or even blocking of water courses cannot be measured now. Nor can any price be placed on the suffering of wildlife and stock which starved or died because rabbits deprived them of their food or cover.

What can one say about the misery of farmers who were kept in poverty or were forced off their land in despair because rabbits caused so much damage to their crops or pastures as to deprive them of their living?

Some assessments were made of a general 50 per cent drop or more in stock carrying capacity after rabbits arrived and 50 to 85 per cent decreases measured in unfenced, cultivated pasture. Crop losses were assessed at 10 per cent and upwards while some farmers deliberately grew extra plants in the hope that this sacrifice would protect their main crops. Millions of dollars were spent on control including fencing, warren destruction, poisoning and trapping but it was inadequate for any permanent reduction.

An estimate of the direct losses sustained as a result of rabbits in Australian sheep production alone in the 1940s was $800 million a year and Western Australia's share in this was certainly large.

This was the situation facing the Agriculture Protection Board when it was formed in 1951 and the Board and its staff gave the solution of the rabbit problem top priority. Additional field staff were employed and a research unit was created — small, but keen and determined.

At the same time two seemingly miraculous control weapons became available, 1080 poison and myxomatosis. These were immediately introduced into the battle with the APB research staff working on methods of local implementation in conjunction with field officers. Initially 1080 poisoning was the more promising, with almost unbelievable success obtained in organised control drives which were gradually but enthusiastically developed and extended.

The virus disease myxomatosis, which had been spectacularly successful in other States, was being established in selected, isolated areas but would not spread among the wild rabbit population.

Then suddenly an act of nature changed the whole situation. In the summer of 1953 there were heavy summer rains and widespread flooding of low-lying areas. The result was a spectacular breeding of mosquitoes which started transmitting myxomatosis and in a few years the disease had spread to most of the rabbit-infested areas.

By 1956 a combination of myxomatosis and 1080 had reduced rabbits by probably 90 per cent. Since then further "follow up" control measures using 1080 poisoning, fumigation, warren destruction and myxomatosis combined with European rabbit fleas, which spread the disease, reduced rabbits even further.

While the great success obtained with 1080 involved much hard work by many people, the establishment and spread of myxomatosis was the culmination of a far greater effort. All those involved cannot be praised too highly — farmers, shire councillors and staff, officers of the Department of Agriculture and of the CSIRO. They gave much time and concentrated effort to the task and willingly shared their skills and experience. They would not give up despite the discouragement of early lack of success.
The staff of the Agriculture Protection Board merit special commendation for their remarkable determination and total dedication to the cause. Under the most difficult conditions they worked late at night, sometimes all night and over weekends and holidays and there were no complaints about the hours, the pressures or the conditions. The whole organisation was fired by enthusiasm and determination. I think it is fair to say that the same spirit was shared by all who took part.

In retrospect, some aspects of the campaign had touches of the ludicrous. To catch rabbits to inject with myxomatosis, APB men finally had to chase them with butterfly nets and spotlight at night; rabbits trapped or caught by ferrets had earlier proved unsuccessful for passing myxomatosis on. When myxomatosis seemingly refused to spread here as it had done in other States, critics arose aplenty and strong moves were made to halt what some people thought was a vain effort, with good money being wasted on an already lost cause. Fortunately the Agriculture Protection Board, the Government, local authorities and farmers’ organisations maintained their support for the work.

It is now pleasing to look back on the days when success was achieved and when reports were pouring in of how myxomatosis was spreading. Soon the results of the combination of the poisoning and the disease became evident — bare hill tops were covered with green; newly generated native plants were found where not seen before in memory. Farmers were able to improve pastures and to sow crops with the knowledge that the previous toll of one half or more did not have to be paid to rabbits. Confidence was restored to those many farmers who had suffered so grievously from the pests.

While rabbit numbers are still being kept low it is hoped that Western Australians will not forget the dreadful scourge of these animals when uncontrolled. It is difficult to think they could build up to large numbers again but they are still here and cover most of the areas where they were in plague numbers. Our history should not be ignored and control efforts should be continued. Those who experienced the rabbit plague will not easily forget it. They will remain suspicious of all moves to introduce overseas animals and watch warily any efforts to promote rabbits as pets.

A natural bacterium for crown gall control

The new treatment is recommended for all types of stonefruit, apples, pears, grapevines, roses and woody shrubs grown from cuttings. Seeds, cuttings, seedlings and young trees should be dipped in a preparation of the culture before planting.

Use of the culture

The contents of a packet of the culture should be mixed in 12 litres of water in a clean bucket. Seeds should be dipped and thoroughly wet in the mixture before planting. Within two hours of lifting seedlings or nursery stocks, the roots should be wet with the mixture; if not possible, damaged roots should be trimmed before dipping. Planting should be done immediately. Cuttings should be dipped before applying rooting compounds, and should then be planted as soon as possible. For young trees to be planted in the orchard, make fresh cuts on the roots and dip the roots just before planting.

By Olga M. Goss, Plant Pathology Branch

Crown gall, a disease of orchard trees and garden plants, can be controlled with a newly developed product. The product is a naturally occurring soil bacterium which is supplied as a peat culture. Dr. A. Kerr of the Waite Agricultural Research Institute, South Australia, developed the bacterium which is antagonistic to the bacterium which causes crown gall. It replaces the need for expensive chemical sterilisation of the soil for crown gall control.

For crown gall control

Crown gall on a plum tree. The disease is caused by a bacterium Agrobacterium tumefaciens which spreads rapidly, invading wounds on the roots. Affected trees and shrubs are severely stunted.

Dr. Olga M. Goss, Plant Pathology Branch

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Cultures can be stored for six months at 4°C. They are available at a cost of $9 a packet plus freight, from Root Nodule Pty. Ltd., P.O. Box 188 Epping, N.S.W. 2121 (phone 02 816 2299).