EDUCATION RESOURCE KIT

Educational programs are designed to spark curiosity through the discovery of new ideas, immersive experiences and growth of youth through art & culture.

1080: Rabbit Control

7-12 Science Outline:

In experiencing ***From the Vault: 1080 Rabbit Control***, students explore the impact of introduced species and their subsequent efforts to manage those species on local agricultural practices, individuals and the environment.

Syllabus Links:

- **Stage 6: Biology:**
  - **assess the causes and effects of diseases on agricultural production, including but not limited to:**
    - **animal diseases**
- **Stage 6: Earth and Environmental Science: Module 4 (Human Impacts)**
  - **Effects of Introduced Species**
- **Stage 6: Agriculture**
  - **Plant/Animal Production**

Objectives:

Students learn about:

- how introduced species affect the Australian environment and ecosystems
- the nature and impact on animal production systems of microbes, invertebrates and pests
- complex interaction involving problem organisms (pathogenic microbe or invertebrate), the host and the environment in plant disease
- animal pests and diseases
- the impact scientific research and associated technology has had on agricultural production and marketing

Students learn to:

- investigate a local introduced species (rabbits) and include:
  - reason for introducing the species
  - area affected
  - human impacts
  - control or mitigation methods
  - economic impact of the species
  - different views about the value of/harm caused by introduced species
- analyse ways in which human activity can upset the balance of ecosystems and favour introduced species
- investigate the complex interaction between the problem organism, the host and the environment for one animal disease
- outline the importance of ongoing research related to agricultural industries

Activities:

Before your visit:

- Students can identify a range of introduced species' into Australia's ecosystem
- Discuss methods for controlling introduced species - what are the positives and negatives for each method?
- Look through the resources provided to introduce rabbits as a case study for an invasive species

During your visit:

- Identify information regarding the cause of introduction, impacts and efforts to mitigate impacts of rabbits as an introduced species in the local ecosystem.
- Discuss the methods of introducing Myxomatosis and 1080 (Sodium Fluroacetate) to control the rabbit population - what are the positives and negatives?
- View the associated items and images relating to rabbit control - how do these items and images invite conversations about controlling invasive species in Australia?

After your visit:

- Investigate ongoing research through institutions such as CSIRO regarding myxomatosis and 1080 as well as any other methods used to control invasive species in Australia
- Analyse the impact that rabbits have had on the ecosystem. How are the conditions more favourable for invasive species in agricultural/regional areas? Other examples to compare to include mice as they have a similar cause and effect in these areas

Resources:

National Museum of Australia, *Defining Moments: Rabbits in Australia* https://www.nma.gov.au/explore/features/rabbits-in-australia/your-stories

ABC Australia, *160 year battle against one of Australia's worst invasives: Meet the Ferals Ep 6* https://www.youtube.com/watch?v=778Da7NCF6s

Australian National University, Dr Nicole McLennan, *Life sentences: Australia's rabbits* https://www.anu.edu.au/news/all-news/life-sentences-australias-rabbits

CSIROpedia, *Myxomatosis to control rabbits* (2011) https://csiropedia.csiro.au/myxomatosis-to-control-rabbits/

EDUCATION RESOURCE KIT

Educational programs are designed to spark curiosity through the discovery of new ideas, immersive experiences and growth of youth through art & culture.

1080: Rabbit Control

7-12 HSIE Outline:

In experiencing ***From the Vault: 1080 Rabbit Control***, students explore the impact of introduced species and their subsequent efforts to manage those species on local agricultural practices, individuals and the environment.

Syllabus Links:

- **Geography 7-10:**
  - **Sustainable Biomes**
  - **Environmental Change and Management**

Objectives:

Students learn about:

- Changing Biomes
- Environmental changes

Students learn to:

- investigate threats to biomes
- investigate changes to their local environment caused by people
- explore ways people alter the environment
- examine the environmental effects of people's actions eg loss of habitat, declining biodiversity
- identify ways their local environment is managed

Activities:

Before your visit:

- Discuss how introduced species can have an impact on existing biomes
- Create a timeline of introduction of rabbits to Australia, including efforts to control them
- Use the newspaper articles to look at the role of the Trangie 'experimental farm' in local management of the environment - what role does the Government play in this management?

During your visit:

- After looking through and reading information in the exhibit, discuss whether the means justifies the end result regarding the management of rabbits on agricultural land.

After your visit:

- Read through the newspaper articles provided and use them to assess the factors leading up to the introduction of 1080 as a pest control method.
- Create a report for the Department of Agriculture on the impact of rabbits and the possible methods of control of this species in Australia's regional agricultural areas. You will need to include a crop grown in areas affected by the introduction of rabbits, the supply chain, use of the crop and the dangers posed to the food chain by rabbits. You should also include graphs that demonstrate the impacts of and recommendations for control methods.

Resources:

National Museum of Australia, *Rabbits introduced | Australia's Defining Moments Digital Classroom,* https://www.nma.gov.au/explore/features/rabbits-in-australia/your-stories
ABC Australia, *160 year battle against one of Australia's worst invasives: Meet the Ferals Ep 6* https://www.youtube.com/watch?v=778Da7NCF6s
Australian National University, Dr Nicole McLennan: *Life sentences: Australia's rabbits* https://www.anu.edu.au/news/all-news/life-sentences-australias-rabbits
NSW Government, *Environment and Heritage: Rabbits,* https://www2.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/pest-animals/rabbits
CSIROpedia, *Myxomatosis to control rabbits* (2011) https://csiropedia.csiro.au/myxomatosis-to-control-rabbits/

Resources:

Dubbo Liberal and Macquarie Advocate (NSW : 1894 - 1954), Saturday 9 September 1950, page 2

ANOTHER NYNGAN RABBIT PLAGUE FEARED

A dry spell for the next few months in the Nyngan district could produce another rabbit plague, the Nyngan Rabbit Inspector (Mr. Brookby) said yesterday.

He pointed out that there was heavy grass in most areas, and conditions would soon be ideal for rabbits to breed.

In some districts the long grass made it almost impossible to cope with the pests, and indications were that graziers would have as much trouble as last year, he added.

The mobile chillers which have been operating in the Nyngan area have moved on to Gilgandra. The Manager (Mr. Rose) said that hot weather rabbits had to be hauled over too long a distance, and would not keep.

With this incentive to trappers removed from the district, operators against rabbits will be slowed down.

Macleay Argus (Kempsey, NSW : 1885 - 1907; 1909 - 1910; 1912 - 1913;

POISON "1080" MAY REPLACE MYXOMATOSIS

MELBOURNE. — A new deadly poison called "1080" may replace myxomatosis in Victoria's war against rabbits.

The State Superintendent of Vermin and Noxious Weeds, Mr. W. McIlroy, said that approval was being sought from the Pharmacy Board to use the poison in large quantities to kill off the growing rabbit population.

The new poison was manufactured in America, and the problem of getting dollars for imports would have to be overcome.

Mr. McIlroy said that the rabbit population, by building up immunity to myxomatosis, had nearly doubled in the past year.

There had been a 90 per cent. kill in experiments with "1080," which was 10 times as deadly as strychnine.

RABBITS IMMUNE TO MYXOMATOSIS.

INVERELL: Inverell district rabbits appeared to be becoming immune to myxomatosis, Mr. H. A. Ponting, rabbit inspector said in Inverell.

He told the local pastures protection board that he had inoculated five rabbits with the myxomatosis virus on January 23.

On February 2, two of the rabbits showed no signs of infection.

Mr. Ponting said the recent myxomatosis campaign in the district was a "dead loss," as he could see no results from it.

Resources:

Mudgee Guardian and North-Western Representative (NSW : 1890 - 1954), Monday 20 September 1954

Minister for Agriculture Explains Why Deadly Rabbit Poison Has Not Been Used in New South Wales

At last meeting of the Mudgee P.P. Board, Mr. Price sought information concerning a new rabbit poison being used in other States. He pointed out that at present it was extremely difficult to deal with rabbits in rough country.

The same matter was brought forward in the State Parliament recently, when Mr. Padman asked the Minister for Agriculture if it was a fact that a poison known as "1080" was proving very effective for the poisoning of rabbits in South Australia, Western Australia and Tasmania.

"Is it a fact, also," the speaker asked, "that because of the peculiar nature of this poison, it has been deemed necessary in the States where it is used to have its distribution supervised by approved organisations? And is its use not permitted in this State? If these are facts, will the Minister give consideration to the use of '1080' in this State, under suitable supervision, because of its proved effectiveness in the destruction of rabbits?"

Mr. Graham, in reply, made the following statement: "It is true that a poison known as sodium chloracetate, or '1080', has been used for poisoning rabbits in Tasmania and Western Australia with some success. Having heard of the success that was claimed for it in those States, I gave instructions for an expert at the Trangie Experiment Farm to conduct a test on rabbits with '1080'. As a result of that experiment it was considered that '1080' was no more successful for poisoning rabbits than strychnine. On the first night of the test a fair amount of '1080' bait was taken but on the second night not very much was taken. Some people consider that rabbits are frightened by strychnine and certain other poisons and that they will not take them after the first or second night. The result of sodium chloracetate is a slow death to rabbits, and it is considered in those States where this poison is being used that rabbits will continue to take it, but that has not been the experience in this State. However, that is not the reason why it has not been used in New South Wales. Sodium chloracetate is one of the most deadly poisons known, and there is no known antidote for it. The Department of Health is opposed to its introduction to this State because of the serious effects that it could have, not to rabbits, but to human beings. The tests that have been conducted have convinced officers of the Department of Health that no advantage would be gained from its use in New South Wales. However, further consideration will be given to the question."

Resources:

Dubbo Liberal and Macquarie Advocate (NSW : 1894 - 1954), Thursday 24 May 1951, page 1

£12,000 LABORATORY OPENED AT TRANGIE STATION

The £12,000 Mitchell Laboratory, built by the C.S.I.R.O., was officially opened at the Trangie Experiment Station yesterday.

The laboratory will be devoted to research on pastures in western districts, and will work in conjunction with the Department of Agriculture Wool Research Laboratory which was opened on the Station last year.

Although not yet fully equipped, charts have been prepared and research work already has begun in the shell of the new building.

The opening ceremony was performed by Dr. C. Forster, an executive member of the C.S.I.R.O., who was introduced by Dr. R. J. Noble, Under Secretary and Director of the N.S.W. Department of Agriculture.

Dr. Noble congratulated the C.S.I.R.O. on the manner in which the organisation had enlarged its scope into secondary industry research, while still maintaining a burning interest in the welfare of primary industries.

Modern research left little glory for the individual, he said adding that team work was essential when tackling problems of significance. For this reason his Department was delighted to co-operate with the C.S.I.R.O. on the Station.

Dr. Forster said the new laboratory would enable all work undertaken on the Station to be completed on the spot. In the past it had been necessary to send away to Sydney, much of the work that could not be completed at Trangie owing to the lack of equipment.

"Pasture is the largest crop in Australia, and the development and care for grasses is a subject which needs as much research as anything else," he said.

OTHER PROBLEMS

Other problems which would be studied in the laboratory would be rabbit eradication and the locust plagues which sometimes swept across the west. In the latter field, the introduction of myxomatosis virus was only a first step in control and finally eradication, Dr. Forster said.

He added that the laboratory had been named after Sir Thomas Mitchell, who had been responsible for the opening up of the western plains.

After the official opening ceremony, the laboratory was opened to public inspection. The green and cream fibro building, which adjoins the wool research laboratory, was soon filled to overflowing with interested spectators.

They saw a chart showing the incidence of myxomatosis in the Trangie district from the time it was first sighted, and another showing the different types of pastures in the area.

Among the equipment on show was a large spraying plant, used to combat grasshoppers, and electrical instruments for measuring the amount of moisture in the soil.

Dr. Forster said afterwards that the main hold-up at the laboratory was the absence of a dehydrator. He explained that before grasses were treated they had to be completely dried. The dehydrator used for this work was a large and costly piece of equipment which could not be delivered immediately.

In addition to the Mitchell Laboratory, the wool research laboratory was opened for public inspection. In this building, which cost £20,000 to build and equip, visitors saw a demonstration of wool scouring, and all the other processes through which the wool passes during the investigation of its qualities.

OFFICIAL PARTY

Members of the official party, visitors at the station yesterday included:

From the Department of Agriculture: Dr. R. J. Noble, Dr. H. J. Hynes (Assistant Director), Mr. W. Poggendorff, (Chief Director of Plant Industry), Dr. H. J. Belschner, (Deputy Chief of the Division of Animal Industry) Mr. G. Edgar, (Director of Veterinary Research), Mr. L. Judd, (Supervisor of Experimental Farms), Mr. J. Whittet, (Principal Agronomist, Pastures), Mr. C. H. W. Grant, Beef Cattle), Mr. E. A. Elliott, (Principal Livestock Officer, Sheep and Wool), Mr. L. Beveridge, (Livestock Officer, Sheep and Wool), and Mr. R. W. Shelley, (Dubbo District Agronomist).

From the C.S.I.R.O.: Mr. W. Martly (Division of Plant Industry), Dr. Key (Division of Entomology) and Messrs. E. Biddiscombe and T. R. Hutchings, (Agronomists).