



National Kid Rearing Plan

Developed jointly by Goat Industry Council of Australia and the state departments of primary industries.



DAIRY | MEAT | FIBRE | RANGELAND



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CONTENTS

Definitions and explanations	02
<hr/>	
Introduction – National Kid Rearing Plan	03
Purpose	03
About the Plan	03
<hr/>	
Elements of the Plan	04
1. Animal identification	04
2. Use of the <i>National Goat Health Statement</i>	04
3. Annual Review	04
4. Record keeping	05
5. Audit	05
<hr/>	
Key control points in the Plan	06
1. Milk and colostrum management and early kid rearing hygiene	06
2. The rearing area	07
3. The weaning paddock/environment	08
4. <i>Gudair</i> [®] vaccination program (optional)	09
<hr/>	
Biosecurity breakdowns	10
<hr/>	
Supplementary activities to assist with the control of Caprine Arthritis Encephalitis (CAE)	11
<hr/>	
ATTACHMENTS	
Attachment one – Principles underpinning the National Kid Rearing Plan	12
Attachment two – Property and herd risk assessment	13
Attachment three – Owners and Audit Checklists	15

DEFINITIONS AND EXPLANATIONS

Caprine Arthritis Encephalitis (CAE)

Caprine Arthritis Encephalitis (CAE) is a serious disease that causes major production losses in goats world wide through mastitis, ill-thrift, arthritis, pneumonia, paralysis that moves up the body, and brain disease (encephalomyelitis). CAE is also considered an animal welfare issue. There is no cure for CAE. The disease is also known as 'big knee' and is caused by a lentivirus or 'slow' virus associated with encephalomyelitis in kids and slowly-developing disease syndromes in older goats.

"Negative tested herd status" is achieved when two whole herd blood tests (all goats older than six months of age) are conducted at a six month interval, and all results are negative for Caprine retrovirus/CAE using an approved ELISA test.

Goats which are infected but antibody negative at the first test will be positive at the second test in the majority of cases (for example kids which have been infected at birth).

CAE is considerably more contagious than Johne's disease and serological response to the virus can occur within three months after exposure.

Johne's disease

Johne's disease is a serious wasting disease of goats, which can lead to loss of production and death. The disease affects animals by causing thickening of the intestinal wall resulting in a reduction in the normal absorption of food. The disease is caused by a bacterium (*Mycobacterium paratuberculosis*) that lives mainly in animal intestines, but can also survive in the outside environment for several months.

MAP Approved Veterinarian

An Approved Veterinarian that has been accredited under the Accreditation Program for Australian Veterinarians (APAV) and approved by the relevant State Chief Veterinary Officer for the purposes of Johne's disease programs.

Tested to MAP Standard (TMS)

A herd Tested to Australian Johne's Disease Market Assurance Program (MAP) Standard (TMS) is one that does not have an assessed status but which has undergone testing on the herd equivalent to a Sample Test under a MAP program in the last 24 months with negative results.

Sample Test

Test of all or a sample of animals in a herd as defined in the relevant MAP for that species.

Susceptible species

The following species are considered susceptible to either the cattle or sheep strain of *Mycobacterium paratuberculosis* goats, sheep, cattle, alpaca and South American camelids and deer.

Pasteurised milk

Milk held at 72 degrees C for 15 seconds which requires a pressurised pasteuriser or 63 degrees for 30 minutes in a conventional pasteuriser.



INTRODUCTION – NATIONAL KID REARING PLAN



The intent of the National Kid Rearing Plan (the Plan) is to minimise the risk of infection of kids with Johne's disease and CAE. The practices outlined in the Plan are intended as risk minimisation strategies only and focus on hygienic kid rearing practices similar to those used in the dairy cattle sector. The Plan will assist disease control through on-farm biosecurity but additional approaches such as testing or culling of animals will be needed to eradicate these diseases.

Using the Plan as a disease management tool is recognised in the *National Goat Health Statement* for the purposes of increasing the assurance rating of a goat herd for Johne's disease.

The Plan should only be considered as an adjunct to the management of CAE. It is beyond the scope of the Plan to deliver comprehensive guidelines for the eradication of CAE.

Purpose

This Plan describes the key management practices in the rearing of goat kids and points for control to reduce the risk of infection with Johne's disease and/or CAE. By following the Plan producers can gain additional assurance rating points on the *National Goat Health Statement* for Johne's disease.

About the Plan

Participation in the Plan is voluntary. However, goat producers who are planning to claim points from kid rearing on the *National Goat Health Statement* must comply with all the elements of the Plan and agree to audits as set out in the Plan.

All goat herd owners/managers are encouraged to use the Plan; however, it is likely that the Plan will be of greater interest to those breeding or managing dairy goats or other intensively run goat herds such as meat or fibre goat studs. Johne's disease and CAE will infect all goat breeds and once established in a herd can be a challenge to eradicate.

The Plan uses a Hazard Analysis and Critical Control Points (HACCP) approach to identify the key activities in kid rearing. These are the points at which kids may be at risk of exposure to Johne's disease and CAE and identifies appropriate risk minimisation strategies. Attachment One outlines the basis for a HACCP approach to risk minimisation.

Key control points for both diseases occur immediately post birth from exposure to contaminated milk, pens and yards and infected animals. During the subsequent growing phase an additional risk arises from exposure to contaminated pasture and watering points and exposure to infected animals.

ELEMENTS OF THE PLAN

The Plan focuses on:

- **Animal identification**
- **Farm biosecurity and the *National Goat Health Statement***
- **Annual Review – awareness and management of the risks and hazards for disease introduction and spread**
- **Record keeping**
- **Audit and review of hygienic practices**

1. Animal identification

All animals must be permanently identified in accordance with the rules of the National Livestock Identification System (NLIS) and with any additional State requirements.

2. Use of the *National Goat Health Statement*

A *National Goat Health Statement* must be used for recording the Johne's disease Assurance Rating and CAE status for all goat movements into the goat herd and copies retained to confirm compliance with the Plan and for auditing purposes.

3. Annual Review

Producers must undertake a kid management review annually to identify where gaps in hygienic kid rearing practice exist and improvements can be implemented. (Producers may undertake this task or request their MAP Approved Veterinarian* to assist them).

A written record must be retained to demonstrate that the producer has conducted this review.

* See page 02

4. Record keeping

This section applies to MAP Approved Veterinarians and producers.

Records that demonstrate compliance with the Plan must be kept in support of any claim for additional points on the *National Goat Health Statement*.

The following records must be kept for seven years to demonstrate the implementation of all the practices identified in the Plan:

- ✓ Records of all goat transactions, including transfers into the herd, deaths and culls (e.g. National Vendor Declaration (NVD) and *National Goat Health Statement* or relevant statement for any introduced susceptible species (sheep, cattle, alpaca and deer).
- ✓ Annual reviews.
- ✓ Evidence of veterinary investigation and laboratory results of any suspected cases of Johne's disease or CAE in the herd or other susceptible species on the property.
- ✓ Copies of show, sale or venue audits and compliance certificates for Johne's disease and CAE for events that goats have attended.

5. Audit

To maintain currency of the Plan and validity of points claimed on the *National Goat Health Statement*, veterinary audits of each herd participating in the Plan must be conducted every two years and records kept to confirm this has occurred.

The owner of the goats is responsible for arranging the audit and meeting any associated costs.

The veterinary audit will:

- ✓ Identify where the producer could improve the herd management and compliance with the Plan.
- ✓ Determine the effectiveness of the producer in meeting the requirements of the Plan.
- ✓ Ensure annual review has been completed.
- ✓ Raise the necessary Corrective Actions to ensure improvements to the system are achieved.
- ✓ Verify that non-conformities identified in a previous audit have been rectified within the agreed time.



KEY CONTROL POINTS IN THE PLAN

Key Points

- Milk and colostrum management and early kid rearing hygiene
- The rearing area
- The weaning paddock/environment
- *Gudair*® vaccination program (optional)

1. Milk and colostrum management and early kid rearing hygiene

Hazards

Johne's disease and CAE can be transmitted to kids drinking through faecal matter on the udder or teats and directly from infected colostrum and milk.

Young kids are most susceptible to becoming infected and are at risk if they are allowed to suckle, or consume colostrum or milk, from any doe that is infected with Johne's disease or CAE.

In some cases when the dam is infected with Johne's disease, kids may become infected prior to birth or during the birth process.

Colostrum (first milk) is essential to supply antibodies, i.e. immunity to particular diseases and this Plan attempts to balance the risk of infection with the need for colostrum by limiting the time that kids suckle does and are exposed to infected adult goats.

Control

- ✓ Catch kids from positive does at birth and wash and dry to remove birth secretions.
- ✓ Move kids to a kid rearing area that is thoroughly cleaned to remove faecal contamination and well away from goats of unknown or infected disease status for CAE and Johne's disease.
- ✓ Provide kids with colostrum from a herd with a current negative herd tested status for Johne's disease and CAE or artificial colostrum which is commercially available.
- ✓ Prevent contact with adult goats, sheep, cattle, alpacas and deer or the pastures they have grazed for the preceding 12 months even if Johne's disease or CAE is not suspected in a herd or flock, unless they are from a MAP herd or flock, Dairy Score 7, Beef Only or Q Alpaca and from a CAE Accredited herd.
- ✓ Rear kids on artificial milk replacer, pasteurised goats milk or milk from goats in a low risk herd (e.g. a GoatMAP and CAE accredited herd or a herd that has a negative tested status – see definition section for further information*).

* NOTE:

Individual animal tests for Johne's disease have a low sensitivity. An individual animal that tests negative provides little assurance that the animal is not infected with Johne's disease. To overcome this lack of sensitivity, national policies recognise herd tests. For further information about these tested herd

statuses see the current version of the Standard Definitions, Rules and Guidelines for Johne's disease in cattle, goats and other species at: <http://www.animalhealthaustralia.com.au/programs/johnes-disease/what-is-johnes-disease/>.

State CAE accreditation programs require multiple herd tests to obtain a negative herd status.

2. The rearing area

Hazards

Remove all effluent as it can contain faecal material from goats, sheep, cattle, alpacas and deer and can potentially contain millions of Johne's disease bacteria. These can survive in contaminated pens, yards, laneways and pastures where other animals can pick up the infection. In cool shaded conditions, some of the bacteria can survive in the environment for at least a year.

CAE virus is less resistant once outside the animal but can be transferred on secretions from infected goats on brushes, feeding equipment and by humans. Attention to biosecurity and hygiene is very important.

Clean recently vacated pens and rotate kid pens. Many bacteria are susceptible to disinfectants and heat and solar radiation reduces their survival but *Mycobacterium*

paratuberculosis (the bacteria that causes Johne's disease) is not affected by some disinfectants.

By ensuring all organic matter (manure, mud and other material) is thoroughly removed from kid pens regularly will greatly reduce the number of Johne's disease – causing bacteria present and also any secretions that may contain CAE virus. Liming dirt or pasture where kids are raised can increase the soil pH. This may create a less favourable environment for the survival of mycobacteria.

Hard surfaces such as concrete should be cleaned thoroughly and disinfected to help control other infectious agents that may also affect the health of kids. (Follow manufacturer's instructions).

Dirty feeding utensils and permanent feeding sites can assist the spread of CAE and Johne's disease.

Control

- ✓ Keep the kid-rearing area free of effluent.
- ✓ Prevent faecal contamination of water supplies and feedstuffs with faeces from goats and other susceptible species (sheep, cattle, alpacas and deer).
- ✓ Ensure good drainage of pens.
- ✓ If kids are being housed make sure bedding is fresh and cleaned regularly with no manure build up or wet areas.
- ✓ Ensure feeding equipment and areas are thoroughly washed and cleaned after each use to remove all organic material. Scrub hard surfaces using hot water where possible.
- ✓ Avoid overcrowding, as this can increase stress on kids and this increases the risk of infection.
- ✓ Keep kids away from goats of unknown or infected disease status for Johne's disease and CAE.





3. The weaning paddock/ environment

Hazards

Kids become infected with Johne's disease and CAE by consuming contaminated feed, soil or water. Goats can also contract CAE by inhaling the virus from milk droplets. Kids should be weaned and maintained on pastures and in environments that are a low risk of being contaminated with Johne's disease bacteria and well away from adult goats of unknown or known infected disease status. Weaning paddocks should be sited to avoid the risk from faecal material entering from adjacent farms or paddocks after heavy rain.

Infection can pass between goats or from other susceptible species (sheep, cattle, alpacas and deer) when:

- ❗ Goats are fed grain or hay on the ground (increases the risk of soil and faecal contamination).
- ❗ Goats climb and stand in feed or water troughs (faecal and soil contamination of feed or water).
- ❗ Goats have access to dams (faecal contamination of water).
- ❗ Goats are run at a high stocking rate resulting in heavy faecal contamination and exposure.

Producers who graze or agist other goats, sheep, cattle, alpacas or deer must obtain and maintain documentation such as animal health statements supporting the low risk Johne's disease status of herds and flocks from which animals are introduced. Advice from an Approved Veterinarian is recommended on Johne's disease and CAE risk assessment and management of agisted stock.

Control

- ✓ Wean kids onto well drained areas which in the preceding 12 months have not been grazed by goats over 12 months of age or other Johne's disease susceptible species (sheep, cattle, alpacas and deer) which are over 24 months of age.
- ✓ Prevent contamination of feedstuffs and water sources.
- ✓ Place feed and water troughs so they can not be contaminated with susceptible species faeces.



4. *Gudair*[®] vaccination program (optional)

Hazard

The herd risk assessment should help the owner and Approved Veterinarian decide whether the Plan is an acceptable and effective risk management tool for the business taking into consideration the owner's attitude to risk, the enterprise type and its markets. If there is still a recognised risk of exposure of young stock to infection with Johne's disease then additional protection can be obtained from vaccinating young kids with *Gudair*[®] vaccine.

The vaccine is not fully protective against Johne's disease but is very effective at reducing the severity of disease, in delaying the onset of shedding and reducing the numbers of organisms shed.

Vaccinated goats present a lower risk than unvaccinated goats in an infected environment. However a small percentage of vaccinated animals in an infected herd may continue to shed at a sufficiently high rate to present an unacceptable risk to a non-infected herd, so goat owners who are seeking to eradicate the disease from their herd should not rely on the use of vaccine alone.

For animals to be recognised as Approved Vaccinates, kids must be vaccinated between 4–16 weeks of age. (The *National Goat Health Statement* also recognises goats vaccinated after 4–16 weeks of age as approved vaccinates when an Approved Veterinarian confirms in writing that they were not likely to have been exposed to Johne's disease prior to vaccination).

NOTE:

⚠ *Gudair*[®] is an oil based vaccine that causes a severe inflammatory reaction at the site of injection and some animals may develop a sterile abscess at the site of injection. This should resolve over time.

⚠ Vaccinated goats can return a positive serology tests (ELISA).

⚠ People using the vaccine must take care to restrain kids securely and not to inject themselves or other people.

⚠ **Medical attention should be sought immediately** if a person is injected. See the pack for further information.

Control

- ✓ Vaccinate kids with *Gudair*[®] before they are 16 weeks of age.
- ✓ Whole herd vaccination for Johne's disease may be considered if the herd is exposed to risk of disease through the inadvertent introduction of a potentially infected animal.
- ✓ Identify each animal vaccinated with *Gudair*[®] at the time of vaccination with an approved NLIS device printed on one side with the capital letter 'V' inside a circle.



BIOSECURITY BREAKDOWNS



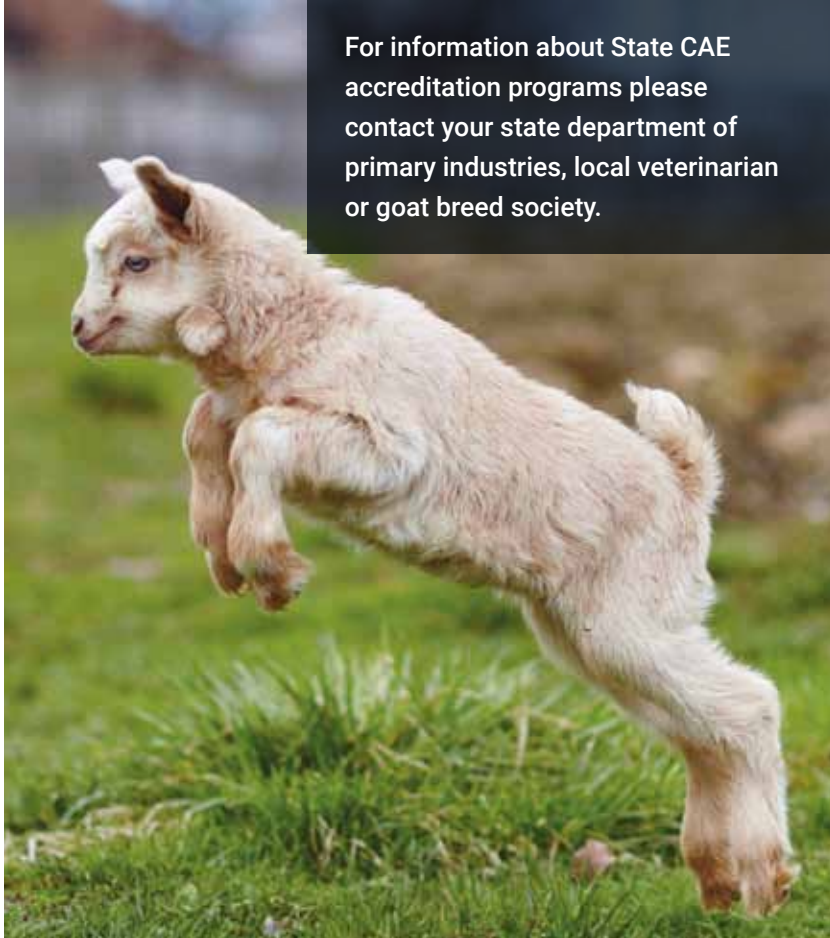
The following omissions are likely to cause biosecurity breakdown in the Plan that must be addressed before the producer can claim risk rating points:

1. Introduced goats not having a *National Goat Health Statement* to confirm their Assurance Rating.
2. Failure to retain information on the origins of purchased goats for a period of seven years, to enable trace back to occur and notification to the herd of origin for the purposes of disease investigation.
3. Breakdown in kid rearing hygiene or grazing management practices.

4. Johne's disease blood test positive reactors not isolated and investigated further within 30 days.
5. High risk animals not isolated and removed from the herd in accordance with state legislative requirements.
6. No records of NVD and relevant species Health Statements (goats, sheep, cattle, alpacas and deer) for purchased, or leased stock and for agisted, stock or short term introductions.
7. Goat's individual identification did not comply with NLIS and state requirements.
8. Failure to comply with recommendations of a MAP Approved Veterinarian or state departmental officer within a specified time period.
9. Failure to notify Approved Veterinarian and State Authorities in writing of possible clinical cases of Johne's disease in the herd in accordance with state legislative requirements, or any other activity that may increase the risk of Johne's disease infection (e.g. Failure to segregate at shows and stray animals).
10. Claiming Approved vaccinated status but failing to comply with requirements for this status.

In the event of major breakdown being identified at audit, the owner must consult an Approved Veterinarian for advice and assistance in establishing suitable remedial procedures. Major issues must be remedied on-farm within the timeline determined by the veterinarian. Issues will be noted in the Plan together with timelines for alteration/resolution.

SUPPLEMENTARY ACTIVITIES TO ASSIST WITH THE CONTROL OF CAE



For information about State CAE accreditation programs please contact your state department of primary industries, local veterinarian or goat breed society.

Hazards

CAE virus can be transmitted to the kid via colostrum or milk and can also pass from one adult to another in close contact situations, such as shared pens through respiratory aerosols and saliva.

Pooled milk from one or two infected adult goats can infect a whole drop of kids.

Individual disease status is recognised for CAE based on individual animal tests. Goats with no history of testing for CAE have unknown status.

Goats that have two negative blood tests, at least six months apart over a 12 month period would be considered 'test negative'. This is equivalent to the pre-accreditation testing for a CAE accreditation scheme.

Goats with a positive test result on blood and/or milk have an infected status. However, please ensure that goats are not tested within one month of vaccination or that does are not tested within one month pre or post kidding.

Control

- ✓ Annual blood testing of goats and identification of virus negative goats (in Queensland herds may be tested biennially after three years of negative herd testing).
- ✓ Keep CAE virus negative goats permanently separated from other goats so that no physical contact occurs either directly between the goats or by fomite (e.g. feed and water buckets, grooming equipment and clothing). The persons managing the goats should wash their hands and change clothes before handling goats of different statuses.
- ✓ Cull or permanently isolate CAE positive goats.
- ✓ Do not share drenching, injecting (vaccinating guns or needles), dehorning, tattooing or foot-paring equipment between CAE infected and non-infected goats or other equipment where there is the risk of blood, milk or secretions transfer.
- ✓ If CAE positive goats have nibbled, sneezed etc on your clothing change your clothing before handling non-infected goats.
- ✓ Milk CAE negative does first and remove them from the shed before milking CAE positive does.
- ✓ Thoroughly clean milking equipment at the end of milking. Use a hot water rinse after the detergent wash.

ATTACHMENT ONE – Principles underpinning the National Kid Rearing Plan

Hazard Analysis and Critical Control Points (HACCP) Principles

(sourced from Biosecurity South Australia)

- 1. Conduct a hazard analysis** – Identify potential hazards in your production system that could allow for damage resulting in a lesser quality product or a means of introducing chemical, drug or disease contamination.
- 2. Determine critical control points** – Critical control points are those times in production or processing where hazards could occur resulting in lower quality products and where production changes or interventions should occur.
- 3. Establish critical limits for control points** – Set limits to prevent problems from occurring, e.g. follow manufacturer's limits on feed additives or drug withdrawal times.
- 4. Establish monitoring procedures for control points** – These procedures assist in determining if critical limits have been adhered to.
- 5. Establish corrective actions** – Actions to be taken when monitoring procedures indicate a problem.
- 6. Establish verification procedures** – These procedures verify that proper corrective measures were taken and have been effective.
- 7. Establish record-keeping and documentation procedures** – Records should be kept on identified problems, corrective steps taken, effectiveness and methods to prevent future occurrences.



ATTACHMENT TWO – Property and herd risk assessment

Property and herd risk assessment – National Kid Rearing Plan

(This guide should be supplemented by the veterinarian's own notes)

Owner/Manager: _____

Herd/Property Name: _____

Property Identification Code (PIC): _____

Address: _____

Contact phone numbers: _____ Mobile _____ Other _____

- Current herd status for Johne's disease
- NA Non-Assessed
 - SU Suspect
 - IN Infected
 - CT Check Tested
 - TMS Tested to MAP Standard
 - MN Monitored Negative – if already in GoatMAP

Current GoatMAP manual held

- Current herd status for CAE
- NA Non-Assessed
 - NS Negative Status
 - SU Suspect
 - IN Infected
 - Accredited – Number and Date:
_____ / _____ / _____

Number of paddocks on the property

Adult/communal yards are adequately separated from kid rearing area

Property plan provided and attached detailing location of kid rearing and weaning paddocks/yards relative to the main herd. Yes No

Are paddocks/yards and pens maintained in good, clean condition and with separation from adult goats, and effluent? Yes No

Are kids reared on pasteurised milk (See definitions) or milk replacer prior to weaning? Yes No
If no, from where is milk sourced? _____

Are kid rearing and weaning paddocks/ yards water sources and feed troughs maintained to avoid faecal contamination?

Yes No

Provide detail for effluent management _____

Have you been able to identify any other sources of risk?

Yes No

Provide detail _____

Identify a risk management strategy _____

The property owner accepts the findings of this risk assessment report

Property Owner/owner's representative

Print name: _____

Signature: _____ Date: ____ / ____ / ____

The owner of the goats accepts the findings of this risk assessment report

Goat Owner/owner's representative

Print name: _____

Signature: _____ Date: ____ / ____ / ____

Declarations

I declare that the herd and property, which are the subject of this report, have been assessed against National Kid Rearing Plan requirements, and that the information contained in this report is true and accurate.

Approved Veterinarian

Print name: _____

Address: _____

Signature: _____ Date: ____ / ____ / ____

A copy is to be provided to the goat and land owner and a copy is to be retained by the veterinarian until the next audit or for at least seven years.

ATTACHMENT THREE – Owners and Audit Checklists

The Audit and Owners Checklists are an interactive Excel document and can be found at www.animalhealthaustralia.com.au/what-we-do/endemic-disease/goat-health/goat-national-kid-rearing-plan/



Goat National Kid Rearing Plan

Animal Health Australia (AHA) works closely with the Australian goat industry to deliver programs that control goat health and support them.

The National Kid Rearing Plan website provides resources to help the use of animal disease prevention in their herd, and to control animal disease and a disease.

The objectives of the National Kid Rearing Plan are:

- Increase the use of safe rearing practices with animal disease
- Reduce transmission of the key endemic goat farm pathogens
- Increase the use of safe rearing practices by implementing measures to control the use of animal disease in the
- Improved health
- Increase the use of safe rearing practices to reduce the risk of disease within enterprises (EWE) (open through support of rearing)

These objectives are outlined in the National Kid Rearing Plan and are supported by an implementation strategy that they are going to have practical implications in the field with users.

Supporting activities include: work on the control of EWE, the additional management practices that are required for the production of EWE. A representative portion of the National Kid Rearing Plan outlines these practices.

Participation in the National Kid Rearing Plan is voluntary. All participants will work to learn from their rearing and the animal disease prevention they have learned will be shared with all the other participants in the National Kid Rearing Plan and agreed to public as well as in the plan.

All goat herd owners and managers are invited to participate in the National Kid Rearing Plan, but it is a matter of your interest to know whether to manage the program and other resources for goats.

Download the National Kid Rearing Plan documents

- [National Kid Rearing Plan \(2018\) \(2.0 MB\)](#)
- [National Kid Rearing Plan \(2018\) \(2.0 MB\)](#)
- [National Kid Rearing Plan \(2018\) \(2.0 MB\)](#)

Related links

- [Goat health](#)
- [Goats](#)

Programme launched in 2018



For more information

Goat Industry Council of Australia
www.gica.com.au

Animal Health Australia
www.goathealth.com.au



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