Boys and Girls

Agricultural

Projects

Produced by

Waikato King Country Boys and Girls

Agricultural Group

2000

Acknowledgements

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Many thanks must also go to the editor who has undertaken to edit this resource at short notice and rigorously check the presentation.

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Section One
Introduction

Just as New Zealand was dependent upon agriculture at the beginning of the twentieth century, so to is it at the beginning of the twenty first century, with sixty percent of exports being produced by the agricultural sector. The history of the Boys and Girls Agricultural Groups began at the beginning of last century in 1911. They were initially established in Otago and ran competitions for people who grew root crops. In 1922 agricultural groups were established in Taranaki. It was another ten years before the Farmers Union introduced these groups to the Waikato. The Farmers Union persuaded the Auckland Education Board which then administered state education in the Waikato, to integrate the activities of these agricultural groups into the education syllabus (curriculum). As many children as possible were encouraged to participate. Perhaps this move was seen as a positive economic strategy that would increase New Zealand's agricultural production both internally and externally. Initially these agricultural groups were commonly called Calf Clubs. This name is still dominant today. However the governing body responsible for Group Days and the Boys and Girls section at the Waikato A&P Show is the Waikato King Country Boys and Girls Agricultural Group. This group is dependent upon sponsorships, and time and effort generously donated by many enthusiastic people.

Aims and Outcomes

The Boys and Girls Agricultural Group can offer a link between rural and urban schools and their students by the very nature of the projects. The garden projects are a suitable link particularly for urban children. Although the reasons for establishing the Boys and Girls Agricultural Groups have changed they still provide a link between schools and their local communities. The Boys and Girls Agricultural Group activities consist of four projects that children may undertake as part of their education. The projects are to rear and work with a lamb, calf or kid goat or to cultivate a garden. The groups offer the opportunity for children to participate in a project that is their own individual responsibility undertaken beyond the school environment. The aims of the Waikato King Country Boys and Girls Agricultural Group are:

- To encourage children to be involved with one of the projects as stated above.
- To work with and develop the patience and determination that is required to rear an animal or cultivate a garden.
- To understand the frustrations of a project and take suitable remedies to mitigate these.
- To develop initiative and self reliance as a result of their chosen project.
- To understand all aspects of animal welfare such as handling, feeding, shelter and health.

- To develop an awareness of the link between their project and the natural resources of air, water and soil.
- To be aware of the importance of managing natural resources in a sustainable manner.
- To be aware of the contribution that agriculture (including horticulture) makes to the New Zealand economy.
- To be determined to begin and finish the project.
- To exhibit their project before the public.
- To develop a pride in their project, enthusiasm and love for their chosen pet or for the skills of gardening.

Outcomes:

- To understand the processes and practices as a result of involvement by either rearing a lamb, calf, kid goat or cultivating a garden.
- To develop an understanding of the importance of animal welfare issues such as feed, shelter, handling and health.
- To understand the importance of natural resources to the New Zealand economy.
- To understand the importance of agriculture to the New Zealand economy.
- To develop confidence in beginning a project and exhibiting it before the public.
- To develop skills that enable children to work independently or as team members.
- To develop skills and knowledge that will transfer into adulthood.

This resource has been collated to provide suggestions as to how these projects can be integrated into the curriculum. It further provides a ready source of information for parents/caregivers and teachers. Over many years as members have left the Boys and Girls Agricultural Group experience and information has at times been lost. The information in this resource has been obtained from present and past members of the Waikato King Country Boys and Girls Agricultural Group, members of the public who have been associated with these projects, and from the previous science units that were developed by John Mathieson, District Science Advisor, Hamilton Education Board and issued by the Department of Education, Wellington (1982).

This information is presented only as a guideline and gives suggestions that will enable a child to develop and complete a successful project. As a result it is hoped that this will encourage more children to undertake such a project and that they will be enthusiastic about their tasks and have fun while learning.

Time Frame

The time frame is a guide for schools and parents/caregivers to plan their agricultural activities. The following time frame begins after the Waikato A&P Show:

- **November to July** - all Boys and Girls Agricultural Groups should hold their Annual General Meetings.
- **Early to mid August** (Beginning of Third Term) - school begins planning for their show days and arranges for a speaker to talk to the children. Distribute relevant information.
- Children chose pets approximately 4-7 weeks before the first show day. Begin relevant agricultural activities. See Integrated Curriculum Activities.
- **Early to mid September** - Children begin to feed, groom, and care for their pets. Take pets for walks. - recommend second talk or use video; *Country Day,* produced by Tiger Films Ltd, Auckland.
- Children begin formal leading with their pets. Approximately three weeks before first show day. See relevant sections.
- Wash kid goats **(not fibre goats)** and calves approximately three days before each show day. See relevant sections.
- **October** - School Show Day – promote Group Day – maintenance work with animals for participants.
- **October** - Group Day – promote Waikato A&P Show day - maintenance work with animals for participants.
- Waikato A&P Show.

Figure One: Time Frame

Section Outline

This resource is divided into six sections. There is linkages between all the sections but sections two to four can be used independently. Section one is the introduction and has briefly outlined the history of the Boys and Girls Agricultural Group, the aims and learning outcomes and a time frame for planning agricultural events. Section two, three and four concentrate on rearing a specific animal such as a lamb, calf or kid goat. The focus in section five is on cultivating a garden. Section six outlines the miscellaneous information that will enable the schools and groups to organise successful show days and garden presentations. A general over view of the role of judges, stewards, children, parents/caregivers and schools is presented in association with numerous activities that are related to all the major learning areas and their strands in the education curriculum.

Section Two

Section Two
Rearing a Lamb

Introduction

A lamb is a wonderful pet to rear at any age and is often easier for smaller children to handle. Lambs can be successfully reared on small sections while young as they do not require large areas. During spring many farmers have a few motherless lambs and are happy to give these away as pets. Many farmers will also take the lamb back once the child has completed their project. Ram, crypt orchid, ewe and wether lambs as well as long tailed lambs are all eligible to enter competitions organized at the Waikato A&P Show. If requested some farmers may dock the lamb when it is collected. There are local group days and school days that may or may not except entire long tailed rams or crypt orchid lambs into their events.

Recommended Materials

Lamb	A cover (optional – keeps wool clean)
Bottle and suitable teat that a lamb can readily suck on	
Milk – lamb's powder or cow's milk. Calf powder may be used after 3-4 weeks	
Plastic comb and brush (No wire brushes)	
Cloth	Collar and lead
Shelter	Pen
Bedding	Container for water

Early Days

If possible choose a lamb that is only a few days old and begin caring for it immediately. This helps to ensure that a strong bond is established between it and the child. Also only choose a lamb that has been fed colostrum[1] as it will have begun to develop a strong healthy immune system. The child needs to give the lamb a name and record its date of birth and breed.

It is most important that the newborn lamb is kept warm. Build a lamb's pen in a sunny position and place a shelter in the pen so that the lamb can keep out of the rain, cold winds or hot sun. Some form of bedding should be used in the shelter. A large box lined with clean shredded newspaper, sacking or clean straw is ideal for shelter as this compensates for the warmth that a lamb receives from its mother. Keep the bedding clean by renewing it regularly. The lamb must be kept warm, dry and clean and the area free from draughts.

Saving Dates for Lambs

[1] This is the first milk made by the animal's mother and is high in energy and antibiotics, boosting the newborn's survival changes.

Early Lambs 01st July – 19th August
Late Lambs 20th August – 20th September

These dates can be adjusted by the organising school or group to achieve a better distribution of participants in the events. This helps to distribute the awards among more participants. However the above saving dates are never changed for those entering the Waikato A&P Show.

Daily Care of a Lamb

Feeding

A newly born lamb must have its mother's colostrum or cow's colostrum. Cow's colostrum is the best alternative to ewe's colostrum. Often dairy farmers have a good supply of this during the lambing period. If this is not available use the following home made mixture of colostrum for at least four days.

Recipe for Lamb's Colostrum

1 litre warm cow's or powdered milk
1 egg
1 teaspoon of cod liver oil

Two litres should be sufficient to start a lamb. Newborn lambs require six feeds daily. This milk must not be watered down. Feed the lamb small amounts and often for the first few days, after which the milk of choice can then be introduced. This may be a propriety brand that is formulated to feed new lambs. Ensure that the instructions on the container are read, understood and that the milk replacement is suitable for lambs. After approximately six weeks the number of feeds can be reduced to four times daily until nearly weaned. For example 7am, 11am, 3pm and 7pm. Increase the supply of milk according to the lamb's appetite. An indication of 'fullness' occurs when the lamb's flanks are level with its sides. Lambs should never look bloated. The lamb will need to be fed for a minimum of twelve weeks and should never be weaned until after the final show day. If a lamb refuses a feed it must never be forced as this can indicate health problems. See Health Problems and Some Solutions for Lambs (page 9).

Suggestions for a Daily Lamb Care Routine

- Feed the lamb regularly during the day and remove any soiled bedding from its shelter.
- Wash bottle and teat after each feed. This aspect of welfare is vital to avoid health problems.
- Clean the lamb daily with a warm damp cloth around face, ears and under the front and back legs. After docking when wounds have healed include the tail area. Brush daily, taking care around naval cord area and docking wounds. Brush lightly with a nylon or natural fibre brush but avoid the wool taking on a 'fluffy' appearance. **Do not under any circumstances wash the lamb** as this practice will remove all the natural lanolin from the wool.
- Take the lamb for a walk using a collar and lead with a snap hook on one end. The child should pat, cuddle and continuously talk to the lamb and reward it with praise after working together.

Preparing a Lamb for Show Days

Training and working with a lamb should start from an early age. The following events are the most popular and are the main events that the child will compete in during the Waikato A&P Show day. However they are not necessarily the only events that the Schools or the Boys and Girls Agricultural Groups may hold on their own days. These events are all designed to challenge the child as they work with their pet.

Events for Lambs

Most Obvious Pet

This is an interesting event and can indicate the quality of the relationship between the child and the lamb. To train a lamb for this event the child will need to have someone hold the lamb while s/he stands some distance away with a bottle of milk. The child calls the lamb's name. When the lamb comes to the child it receives a gentle pat on the head, then its bottle. Continue patting while the lamb drinks. **Note:** on show days the child will not be able to use a bottle of milk so ensure that during practice the use of the bottle is gently fazed out. The stages in this event are:

Stage One: The Start. The steward holds the lamb. The child takes the lead off and takes it with him/her.

Stage Two: The Call. The child walks to the first peg, turns and calls the lamb. Stand back sufficiently to allow the lamb to move around the peg. It is very important to pat the lamb on the head.

Stage Three: The Follow. Child walks to the second peg with the pet following behind. Remember not to walk too fast.

Stage Four: The Catch. The child runs to the finish, turns and catches the lamb inside the ring. See Figure Two below.

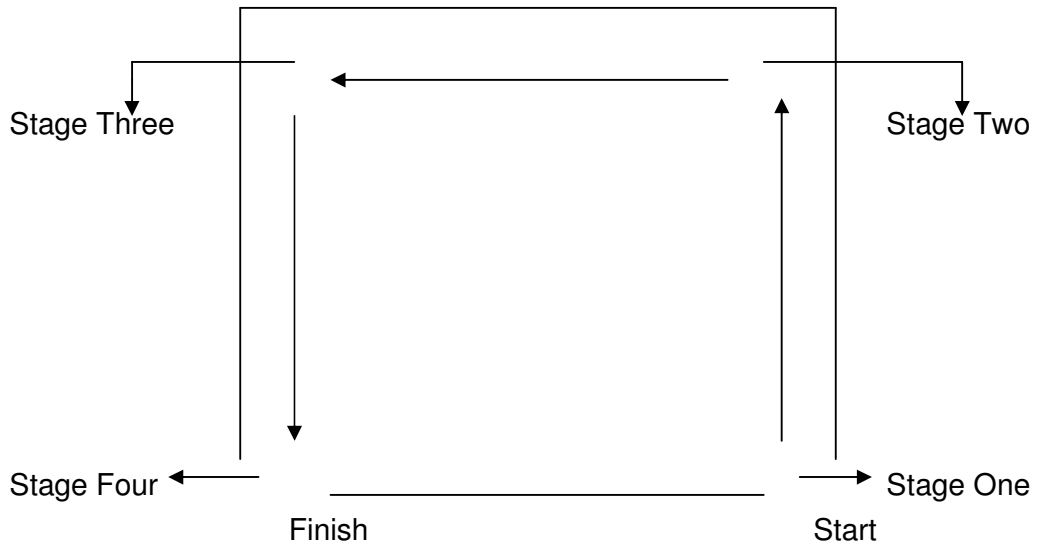

Figure Two: Four Stages that Constitute the Call, Follow and Run as the Most Obvious Pet Event.

Leading

Daily practice can result in a perfect lead on the show days. The lamb is led anti-clockwise around a 10 metre square. Left-handed children may lead clockwise. Each child leads their pet around the outside of the pegs and stops halfway to a count of three. See Figure Three below.

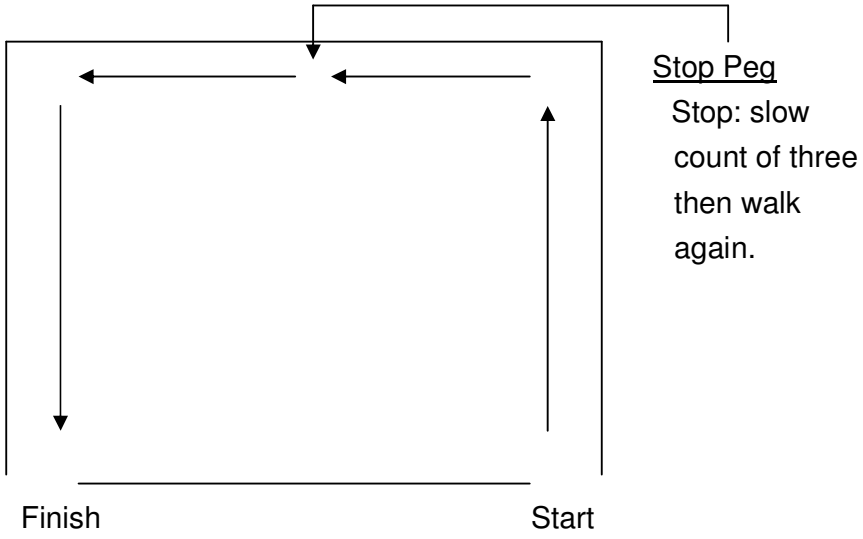

Figure Three: The Course Indicating the Stop Peg

Note: the lead must be held correctly. Form a fist with the right hand and grip the lead with the palm facing up. Leave a length of lead between the hands. The right hand must never be removed from the lead. The left hand should then grip the lead in the same manner but with the palm facing down. There should remain at most, 30-40 cm of the lead hanging free from the left hand. If the lead is any longer it should be gathered neatly into the left hand with no fingers through any loops. All control should be exercised by the right hand on the lead.

Check that the collar is not too loose or tight. During the event the lamb should not be touched, hit or nudged and the lead must not be pulled or jerked. The only stop is made at the stop peg (see Figure Three, page 7) or if the lamb needs a toilet break. The child should stand upright at the lamb's shoulder and walk at the same pace as the lamb.

Rearing

This section of the competition is usually assessed under the following headings of care, condition and cleanliness.

Care

The child should know the name, breed and date of birth of the lamb. For older children it would be an advantage it they know about the Five in One vaccine given for Pulpy Kidney, Tetanus, Blackleg, Malignant Oedema and Black Disease. The older children will be expected to know whether their lamb has been drenched for worms, how often, what was used and whether it has been vaccinated for Scabby Mouth. All children should be able to explain about docking and what this means. They should be able to talk about their lambs with confidence, knowledge and to describe the strategies that they have used while rearing it.

Condition

This aspect of rearing involves the size for age and breed of lamb. The child should know what has been fed to their lamb, how much and how often. This aspect of rearing includes milk, grass, meal, hay, water and anything else the lamb has been fed.

Cleanliness

The lamb needs to be brushed daily. The wool should to be kept clean and therefore a cover is recommended. See Daily Care of a Lamb, (page 5). It is especially important to keep the tail area clean as the longer this is left the worse it gets and the lamb can become very unpleasant to be with. A warm damp cloth may be used to clean the lamb's underbelly, ears, face, mouth, eyes, legs, hooves, and flanks for

showing. After each feed wipe the lamb's mouth to avoid any build-up of dried milk. A well-reared lamb will be bright, clean, well grown and alert.

Health Problems and Some Solutions for Lambs

It has already been emphasised that a healthy lamb has the correct feed, clean bottles and teats, is given warm shelter and housed in clean conditions. However at times health problems do arise. Sometimes the child can take care of these but at times a professional such as a veterinarian (vet) is required. If a lamb does not respond to treatment immediately contact the vet as the lamb will have a better change of recovering and the child will be happier.

A lamb that is refusing to feed may have scours (diarrhoea). This must be treated quickly to avoid dehydration and death. Use the following regime:

Scouring Lamb Regime

Feed one	replace milk with electrolytes (same as milk)
Feed two	same as above
Feed three	milk made from yoghurt (3/4 normal feed volume)
Feed four	electrolyte mix
Feed five	small feed of milk
Feed six	electrolyte

If the lamb responds and is well, use yoghurt for three to four more feeds then begin the normal feeding regime. If in doubt contact your veterinarian.

As has already been mentioned there is also the Five in One vaccine that can be injected to prevent Pulpy Kidney, Tetanus, Blackleg, Malignant Oedema and Black Disease.

Section Three

Section Three
Rearing a Calf

Introduction

Although many children still have access to calves due to the significance of the dairy industry in the Waikato and King Country regions it is increasingly common for children who do not live on farms to borrow a calf to rear as a pet for showing. Many farmers are only too happy to loan a calf due to the extra care and attention that it will receive. It is preferable to choose a heifer calf but bull calves are also accepted into the Waikato A&P Show day. Children also are increasingly rearing beef calves for show. The beef section has grown in popularity over recent years. Some people have a concern about the size of a calf in relation to a younger child. But calves make great pets and respond well to all the love and attention that a child can bestow on them. Calves 'love' all the grooming, washing and regular feeding. With time and attention the calf will form a trusting relationship and enjoy 'hanging out' with its handler.

Recommended Materials

Whole milk	Hay or straw
Meal, nuts or museli	Fresh clean water

Brush and soap (Two brushes are recommended, one being softer than the other. Never use nylon brushes as they are too hard on the calf's skin.)

Bucket	Cloth
Halter preferably not rope	Lead
Shelter (warm, water proof draft free)	Clean bedding (if animals are housed)
Practice ring (optional)	Cover

Selecting a Calf

Select a calf that has been fed on colostrum for a minimum of four days as its immunity system will have been strengthened against sickness. However this is seldom a problem as most calves are selected at approximately three to four weeks of age. Encourage the child who is to rear the calf to participate in the selection process. This is an advantage as it is important for the child to have a calf that s/he likes and vice versa. The bond between the child and the calf will be instant and it can only be strengthened as they work and play together.

Saving Dates for Calves

Early Calves	10th June – 26th July
Late Calves	27th July – 20 September

These dates can be adjusted by the organising school or group to achieve a better distribution of participants in the events. This helps to distribute the awards among more participants. However the above saving dates never change for those entering the Waikato A&P Show.

Some Recommendations for Selection

- Whenever possible select a calf from a cow which has good conformation. Often a calf chosen for calf club will be chosen by eye appraisal only as it is not necessary for the Breeding Worth (BW) to be known. This calf is a child's pet. However a calf from a cow that has good conformation and breeding is likely to inherit some of the parent's good qualities such as health and temperament. Always choose a friendly calf.
- Select a calf that has balance. For example, the calf has a very alert head, is bright, has fine shoulders and a straight back line.
- If possible choose a calf with a soft skin, fine coat and hair that sits flat as it is easier for children to groom.
- After selection it is recommended that the child should take over the responsibility of caring for the calf as soon as possible. The child needs to be part of the rearing programme in order to establish a strong bond with his/her calf.
- Give the calf a name and record its date of birth and breed.

It is recommended not to choose the calf too soon as boredom can set in for both. On selection the calf will require a warm waterproof shed with a clean, dry floor. Use dry shavings or straw for the bedding. The shed should be situated in a very sunny position so that the calf can enjoy the extra warmth. Frequently check that the calf's shelter is clean. Also cover the calf from the cold weather. The cover assists the calf to shed loose hair and promotes a shiny coat. On hot days the cover can be removed. Keep the cover clean and give it an occasional wash.

A cover can be made from a clean sack or can be purchased from an agricultural stock and station store. (Covers fashioned from plastic fabrics are not recommended.) To avoid chaffing ensure that the cover is not too heavy on the calf. Chaffing can sometimes be seen over the top of the tail and around the neck as these are the areas that the cover seam sits upon. It is in these corresponding areas on the cover that the belts are sown causing a constant pressure that may cause chaffing and discomfort. If necessary sow soft fabric over the cover seams where it sits across the top of the tail and the neck. It is also an advantage to line the cover with a blanket with one side covered with a silk fabric. Attach this blanket to the inside of the cover in such a manner that it can be removed and frequently washed. Ensure that the silk surface lies against the body of the calf. This helps to generate heat,

assists in giving the calf a shiny coat and aids the movement of the cover against the calf's body. In placing the cover on the calf make sure that the front and back belts are not too tight to prevent any chaffing and remember that calves are continuously growing, therefore the cover needs to be adjusted frequently.

Daily Care of a Calf

An affinity between animal and the child can rapidly develop as a result of handling, grooming, leading and feeding. Has as already been mentioned the child should feed the calf as much as possible in order to develop a close friendship.

Feeding

Due to the calf's age it will have already begun a feeding programme to maintain its health. The following methods are recommendations that are useful to feed a calf:

Methods for Feeding a Calf

- Bottle and teat
- Drinking from a clean bucket or container
- Udder Mudders
- Calfaterias

Ensure that all drinking vessels are thoroughly washed and cleaned in warm water after each feed to prevent sickness. After each feed wipe the calf's mouth with a damp cloth to prevent any build-up of dried milk that can form a crust resulting in sores. Feeding methods are subject to frequent revision, so take any opportunity of help from an experienced parent or dairy farmer to plan a feeding programme. Sufficient feed should be given to maintain warmth and promote growth. Over-feeding can cause scours. If scouring occurs the child should consult an adult without delay. To avoid creating surpluses of stale milk make up only sufficient quantity for an individual feed. The calf should have access to clean fresh water and pasture at all times. Provide good meadow hay, barley straw and fresh meal, nuts or museli in measured quantities.

The calf needs to be fed milk regularly, at least twice daily. Use whole milk or a proprietary brand. Try to make feeding time at approximately the same time each day and use the milk not only as a method to promote warmth and growth but also as a reward. This helps the calf to develop an expectation that after grooming and a walk their will always be a drink of milk. As the calf grows increase the supply of milk and expect to feed it for approximately 10-12 weeks. Although the supply of grass, hay and meal concentrates is increased during the rearing programme it is recommended not to eliminate milk from the daily feed programme. Milk retains the 'bloom' on the

calf and is an advantage on show days. Dry feed such as meal should always been fresh and kept free of access by birds and rodents.

Handling

During feed times pat and brush the calf while talking to it in a gentle and friendly manner. Spend time with the calf as this all assists in the development of trust and loyalty. Trust is a vital aspect that demands time and determination if the calf is to feel secure and confident working with the child. When the calf has become accustomed to handling at feed times then introduce it to a halter. Initially the calf should be tethered for short periods gradually lengthening the time span. Always tether the calf in a safe environment. Never tie it to barbed wire or standing on concrete as in the case of being frightened the calf may be seriously injured. A calf should never be dragged or hit. If this occurs it will immediately pull back on the lead and resist all attempts to walk in a correct manner. Hitting a calf will only create mistrust and will associate handling with punishment. The child needs to begin working with the calf in a caring and friendly manner in order to create a lasting trust and bond.

Once the calf is used to the halter the child can begin taking it for walks. Remember just as people enjoy looking at a new environment, so do calves. Take it to as many different places as possible, introducing it to different sights, sounds, actions, people and other animals. As the calf grows lengthen the distance and have it walk in the manner that is expected in the ring to avoid it forming any bad habits. It is impossible to change a style of walking on or just before the show days. See Learning to Walk with a Calf, (page 14). While out walking, the child should continue to talk to the calf as well as practicing turns, stops and the pigtail (turning clockwise). Before the child and the calf know it they will have practiced all the aspects of leading and developed competence in walking around the ring together.

The handling of any calf is greatly assisted with the use of a good halter that is both comfortable for the calf and safe for the child. The halter can be made from either soft rope or leather. It is preferable for the calf to have two halters one of which is used only on show day. However this is not necessary. A simple practice halter can be made by tying an eight-centimetre loop at one end of the rope and another eight-centimetre loop positioned a few centimetres away. See Figure Four, (page 14). The length between these two loops must fit comfortably over the bridge of the calf's nose. The long end of the rope passes behind the back of the calf's head and through the two loops and to pass under the calf's jawbone. See Figure Four below.

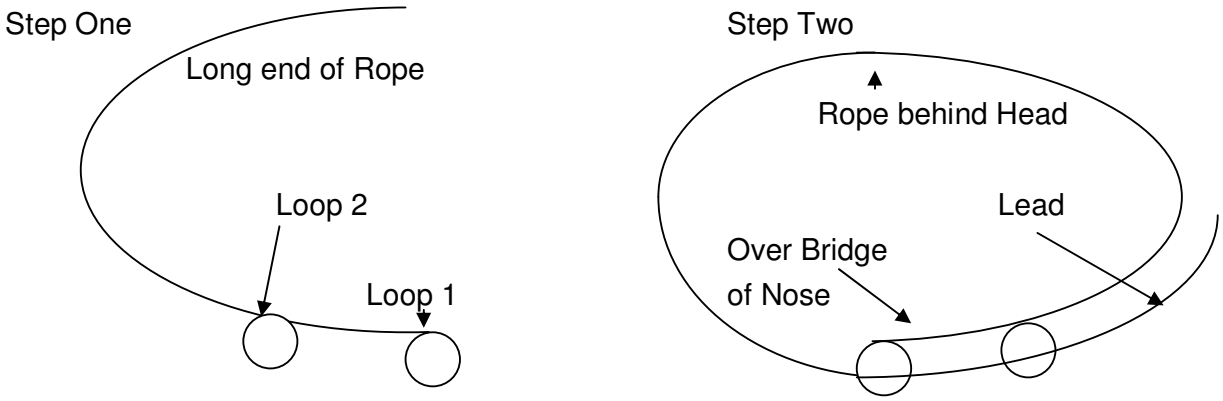

Figure Four: Practice Halter

Grooming

Daily grooming is a very important aspect of this project. The calf should be brushed all over. For example the legs, head, tail, tummy, neck and body. Special attention should be given to the uncovered areas. A comb for the tail and a firm brush and damp hands make good tools to remove the loose hair from the calf's coat. Never use a sharp object such as a hacksaw blade to remove loose hair as this practice will damage the skin causing the coat to look dull and coarse. Check that the cover is not too tight and adjust as required. Look very carefully for any lice under the brisket, between the front legs, around the jaw and nose, on the neck and between the back legs. See Health Problems and Some Solutions for Calves, (page 18).

Before each show day it is an advantage to wash the calf as this enhances its appearance. Wash the calf approximately three days before show days to allow time for the coat to flatten down and the oils to return. There are many proprietary brands available but warm water and sunlight soap do an excellent job. Rinse off the soap with warm water in which a sprig of rosemary has be allowed to steep for a few minutes. This practice removes the soap from the hair and assists the coat to regain its soft shiny appearance. Rub the calf all over with a dry towel, concentrating not only on its back but also under the brisket and belly. Brush the calf and cover it immediately. To prevent any possibility of it catching a chill do not allow the calf to be standing wet.

Learning to Walk with a Calf

Leading a calf correctly is a great achievement in itself as it encompasses all the interactions between the child and the calf. A child and calf that can walk together with confidence helps to denote that many hours of work, care, attention and practice has been put into this project. Once the child and the calf have mastered leading they will always walk as a team. Leading also encompasses holding the lead safely and

correctly. The following dangerous habits are to be avoided at all times as some of them directly compromise the safety of the child and the calf. They are:

- Wrapping the lead around hands
- Fingers through rings on halter or lead
- Never release the right hand from the lead
- Never allow the lead to drag on the ground

Once the calf has accepted the halter, will tie up and relax it is time to practice leading (walking) every day. Refer to Handling, (page 13). To prevent interference with the calf's vision the child should always stand behind the ear and in front of the calf's shoulder. The child should hold the lead firmly in the right hand as this hand acts as the steering hand and brake. At no time while walking should the child take the right hand off the lead. If a child is left-handed then these recommendations will need to be adapted. Hold the lead approximately 15-25cm away from the side of the calf's head as there must be a gap between the child and the calf. The lead should be held in the right hand that is clenched to form a fist with the palm facing up. There should be a length of lead between the hands. Take the lead firmly in the left hand, form a fist with the palm facing down. In short the right palm is always facing 'up' and the left palm is always facing 'down.' Ensure that the lead between the hands never hangs below the top of the child's knees to avoid tripping. See Figure Five below.

Figure Five: Holding the Lead in the Correct Manner

If the lead should be a little too long fold it into the left hand until the end hangs approximately 30-45cm. Ensure that the child's fingers are over the top of the lead. There must never be any fingers through loops to prevent the possibility of the child being dragged by a frightened calf. If the calf should become frightened and bolt then the lead will just unravel leaving the child standing.

The child can use a slight forward flick or motion with the lead in the right hand to start the calf walking and a gentle backward motion with the lead to stop the calf. To prevent the calf from having to stop suddenly the child can anticipate the stop and very gently with a backward movement of the right hand stop the calf. It is frequent practice with the calf that will install knowledge of these commands. Commands need to be consistent to enable the calf to know what to expect. It is recommended not to practice leading in a formal manner until approximately three weeks before the first show day to prevent the calf becoming bored with the routine. Remember if the child has been walking the calf daily in the correct manner, when the time comes for a more concentrated effort most of the work has already been done. See Handling, page 13).

Ring work

It is an advantage to erect a ring that is similar to the measurements and layout that is used for show days. Place the pegs to mark the course and use it daily, approximately a week before the first show day. It the calf is familiar with the work in the ring then its chances of success are enhanced. Familiarity leads to confidence and security between the child and the calf. With lots of practice and patience the calf will become used to changes and the show days will just be another interesting experience. See Handling, (page 13) and Learning to Walk with a Calf (page 14).

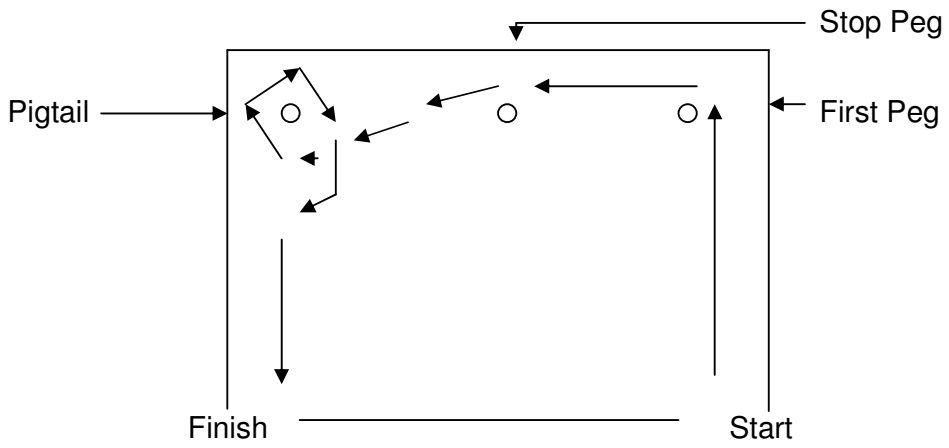

Figure Six: Layout of a Calf Ring

Calf Events

Leading

This event has largely been covered in the section, Learning to Walk with a Calf. The child and the calf will be expected to walk as a team around a ring. The judge will indicate to the child when to begin leading. The child will walk the calf around the first peg, turn left to walk to the stop peg and stop for a count of three. The calf and the

child will then walk towards the pigtail moving around it in a clockwise direction and then to the finish. See Figure Six, (page 16). As the calf and child begin to approach the pigtail the child's step will be slightly forward (half step; this is almost unnoticeable) of the calf to encourage it to turn. The right hand may move only very slightly forward. At approximately half way around the pigtail the hand moves back (these two actions are almost unnoticeable) into its former position as the calf now knows that it is beginning to walk out of the pigtail. With plenty of practice a calf does not need to be 'steered' into the pigtail as it will already know what to do when turning in a clockwise direction. Practice is definitely an advantage for success. The calf is not expected to stop in the ring apart from at the stop peg or when it needs a toilet break. In the event of the calf stopping and the child unable to encourage the calf to continue then the judge or steward can assist. The child must ensure that the calf walks on the outside of the pegs. It is recommended not to walk the calf too close to the pegs as it has four legs and requires room to maneuver itself comfortably.

Rearing

This event focuses on the cleanliness of the calf, the rapport, understanding and knowledge that a child has. The focus is on the following aspects:

- Care
- Cleanliness
- Condition
- Knowledge about the calf, its needs and behaviour
- Name, date of birth and breed
- Type of food the calf has been fed and how it has been reared
- Diseases to look for and how to treat them
- Happy moments during the project

(The above aspects are only some that may arise.)

The child will be expected to present a calf that they have reared and worked with and is in excellent condition with have a very clean coat. The calf should be well brushed, show no evidence of chaffing and have very little loose hair. The legs, hooves, between the 'claws,' tail, belly, nose, eyes, and ears should all be clean. The inside of the ears should be wiped only to the 'crinkled' region to avoid any possibility of damage to the calf's hearing. This is a delicate region and should never be cleaned with cotton wool buds. A damp cloth on the end of the child's finger is sufficient to clean the inside of the ear. **Clipping, oiling the coat or nuggeting the hooves is not permitted.**

Type or Conformation

This class is a great opportunity for children to learn basic discernment in selecting a sound animal. The focus is on structure and utility. Dairy type can be divided into heavy and light breeds (not necessary if numbers are low) and is applicable only for calves of dairy origin. Dairy calves are divided into light or heavy breeds due to the requirements of breed characteristics for specific breeds. The dairy breeds are classified into the following type:

Light	***Heavy***
Jersey	Friesian
Ayrshire	Shorthorn
Guernsey	

Due to the number of crossbred dairy cows entering the national herd there are many calves that will display characteristics of either their dam or their sire. Check with the head steward if there is any confusion regarding light or heavy type.

Dairy Type (Conformation) (Female progeny only)

The focus is on the conformation or structure of a calf of dairy origin. See Some Recommendations for Selection, (page 11). In this event the judge will look for the positive attributes that make for a 'balanced' calf. This process can begin with looking at the calf's head, beginning with the jaw to check that it is not 'under or over shot' and that the eyes and ears are positioned to form an alert looking calf. The calf's legs should be checked to ensure that it walks in the correct manner and the brisket should be checked for width. Notice should be taken of the 'spring of the rib,' checking for ample capacity that will enable the heart plenty of room to pump oxygenated blood around the body. There should also be plenty of loose skin over the ribs and width between them to indicate capacity for future growth. The structure across the pelvis and pin bones should be checked to ensure that the calf has 'ease of calving' as a cow. The child will be asked to walk the calf towards and away from the judge so s/he can check that the calf walks freely and correctly. The calf should display an overall balance and femininity.

Beef Conformation (Type)

This event is for calves of beef origin and is judged in a similar manner to the dairy type. It is also suitable for animals that are not eligible for the Dairy Type event. It is often mistakenly believed that the biggest beef calf will be selected. However there is plenty of precedence to suggest that this is not so as the judge will look for an animal that has the potential to grow for an industry dependent upon marketing prime products. The beef animal not only has to have a 'sound' frame but must also be suitable for breeding purposes as well as the local or export trade.

Health Problems and Some Solutions for Calves

To rear a healthy calf it is important that the child and the parent/caregiver keep a check on the condition and habits of the calf. See Role of Child and Parents/Caregivers, (page 35). Frequently check for lice, particularly after show days. Infestation by those tiny creatures can cause a rapid decline in both general health and bloom. If lice is discovered it can be eradicated by using a proprietary lice powder. Read the manufacturer's directions carefully before application. **Note:** it is recommended that "pour-on" products not be used on calves that are being prepared for showing as these products require extremely careful application. If it is necessary to use one of these products the calf should be over six weeks of age and the application undertaken by an adult. There are many proprietary powders suitable to treat lice that are safer to administer and just as effective. The powder can be rubbed all over the calf's body or if it is used as a precautionary measure placed along the calf's back, under the brisket and between the back legs to ensure a good coverage.
Another health problem is scours. This can occur in a calf whose feeding regime has been changed. However scours occurs more commonly in a calf that is drinking too much or has picked the bacterium up from the ground or another calf. This problem should be treated immediately to assist the calf to make a full recovery. Scours is often treated by feeding the calf a solution of electrolytes that is obtainable from a vet who will also supply instructions.

Of significance to the cattle industry is the incidence of Tuberculosis (TB) among the herds. In a move to eradicate TB from the national herd the Ministry of Agriculture has a strict policy on animal health which sets out regulations under the Biosecurity Act 1993. Calves from herds whose owners are registered with the Livestock Improvement Corporation's (LIC) MINDA™ identification (ID) programme can continue to use that system. All other owners of cattle are covered by the regulations of the Animal Health Board under which it is compulsory for each calf over the age of one month to wear an ear tag that displays a bar code, the herd number and the calf's number. It is also compulsory that all calves must travel accompanied with a TB certificate, both to any show and on returning home. The certificate must be shown if an officer from MAF should ask to see it. For further information ring freephone 0800 437243 or 0800-ID SCHEME.

Section Four

Section Four
Rearing a Kid Goat

Introduction

Kid goats are some of the most ‘fun’ animals to rear. Their intelligence, curiosity and ’quickness’ of mind add to their cuteness. Kid goats will willingly explore their environment by climbing, sniffing and nibbling at anything and everything. There is little that does not interest or fascinate them. They are naturally explorative and love to play. Once a kid goat has begun to be reared as a pet they become very loving and loyal to their handler. Though the strategies used to rear a lamb and kid goat are similar there are some subtle differences.

In choosing a kid goat it is recommended that the child select a doe. If the child selects a buck kid it is preferable that it be castrated. Buck kids and crypt orchid kids are eligible to enter the kid goat section held at the Waikato A&P Show as they become more aggressive when they begin to grow. However some schools and Boys and Girls Agricultural Groups do allow buck and crypt orchid kids to enter their show days. A kid buck should be castrated at approximately one to two weeks of age. Often the farmer will do this task before the kid is taken home. As dairy and fibre goat farming has increased in popularity there are goat farmers who will either loan kid goats or give them away. Kid goats can also be reared on a small section and make wonderful ‘lawn mowers’ as an adult pet as well as providing good company in the garden. (Kid goats will be referred to as ‘kids.’)

Recommended Materials

Kid goat
Bottle with a suitable teat for a kid
Brush (no wire brushes)
Collar and lead
Hay and meal or nuts
Clean bedding
Practice ring (optional)
Cover
Milk powder (suitable for kids or lambs)
Cloth
Pen
Shelter
Container to hold clean water

Early Days

On selecting the kid give it a name, record the breed and date of birth. Where possible choose a kid that has received its mother’s colostrum and is about five days old. A kid at this age will quickly bond with the child. It is most important that a newborn kid is kept warm. When the kid goat pen is made choose a sunny position and put an A-framed shelter into the pen so that the kid can keep out of the rain, cold

winds or hot sun. Sacking or clean straw is ideal for bedding as this compensates for the warmth that a kid receives from its mother. Keep the bedding clean by renewing it regularly. The kid must be kept warm, dry and clean and the area free from draughts. Kids are extremely susceptible to pneumonia and will die quickly if they loose the will to live.

If the kid has not had colostrum use the recipe below remembering to add one teaspoon of glucose for instant warmth and energy.

Recipe for Kid Goat Colostrum

1 litre powdered milk that is suitable for lambs or kid goats (read instructions)
1 egg
1 teaspoon of cod liver oil
1 tsp glucose

Two litres should be sufficient to start a kid. Gradually reduce the colostrum content after three days so that more powdered milk is mixed into the feed to prevent scours. Newborn kids require at least four feeds daily. For example 7am, 11am, 3pm and 7pm. **Feed in small amounts and often** for the first few days. Cows milk is not recommended due to its higher fat content. Ensure that the instructions on the container are read, understood and that the milk replacement is suitable for kids or lambs. After the first few days the milk of choice can be introduced. Kids begin to eat grass from approximately one week of age. At approximately six weeks of age reduce the number of feeds to three times daily and by approximately 12 weeks of age it will need only two feeds per day. Clean dry meadow hay, water and shelter from the rain, wind and sun should be available at all times during the rearing programme. Slowly introduce the kid to pellets after approximately four to six weeks of age. A kid will need approximately four to five months of feeding with milk and plenty of roughage if it is to develop into a well-grown and healthy goat. Roughage develops the rumen and helps to prevent scours.

Saving Dates for Kids

Early Kids	1st July – 19th August
Late Kids	20th August – 20th September

These dates are flexible and can be adjusted by the organising school or group to achieve a better distribution of participants in the events. This helps to distribute the awards among more participants. However the above dates never change for those entering the Waikato A&P Show.

Suggestions for a Daily Kid Goat Care Routine

- Feed kid regularly during the day and remove any soiled bedding from its shelter.
- Wash bottle and teat after each feed. This aspect of welfare is vital to avoid health problems.
- Clean with a warm damp cloth around face and ears and under the front and back legs daily and groom with a soft clean brush.
- Wash the kid before show days (optional but **never fibre kids**). See Cleanliness, (page 24).
- Keep the hooves, the hair between the 'claws' and around the hooves trimmed. This helps to prevent scold. See Health Problems and Some Solutions for Kid Goats, (page 24).
- Check daily for lice and drench the kid for worms if necessary. See Health Problems and Some Solutions for Kid Goats, (page 24).

Take the kid for daily walks and introduce it to a variety of interesting obstacles such as walking a plank and jumping on to and over logs. Introduce one obstacle at a time and once the kid has mastered it move on to the next interesting challenge. Try to make any challenge 'fit' the size of the kid. For example, it is not recommended that little kids try to jump on to hay bales as these may be too high. While out walking the child should encourage the kid to walk beside him/her ensuring that the kid's front legs are in line with the child's legs and its head held high. This encourages the kid to become confident walking on a lead and close beside the child. Allow the kid to run and exercise freely each day. The amount of time that a child spends with his/her pet is generally reflected in the bonding between them.

Preparing a Kid Goat for Show Days

While the child and the kid have been working and playing together they will have plenty of opportunities to develop the skills that are required for showing as these can all be developed outside of the ring, making the entire process of rearing a kid both enjoyable and achievable. However practice in a ring can certainly improve the level of skill but do not begin ring practice too soon so as to prevent boredom. There are three main events that the child and the kid will be expected to master on show days.

Most Obvious Pet

To train a kid for this event the child will need to have someone hold the kid while s/he stands some distance away with a bottle of milk. The child calls the kid's name. When the kid comes to the child it receives a gentle pat on the head, then its bottle. Continue patting while the kid drinks. **Note:** on show day the child will not be able to use a bottle of milk so ensure that during practice the use of the bottle is gently fazed out.

Leading

This event is now undertaken around an obstacle course. See Figure Seven and Eight below.

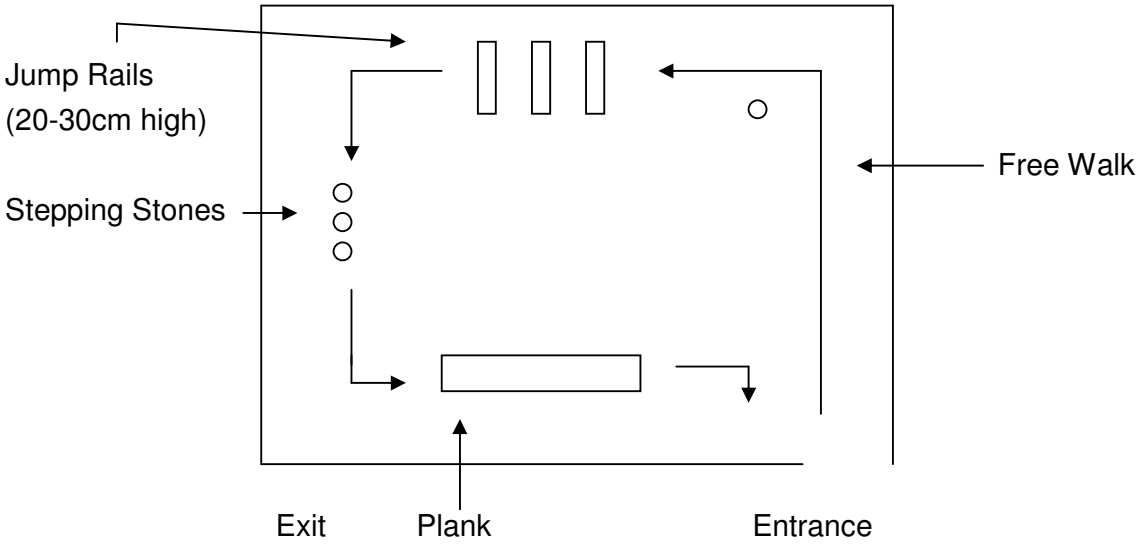

Figure Seven: Obstacle Course for Kid Goat

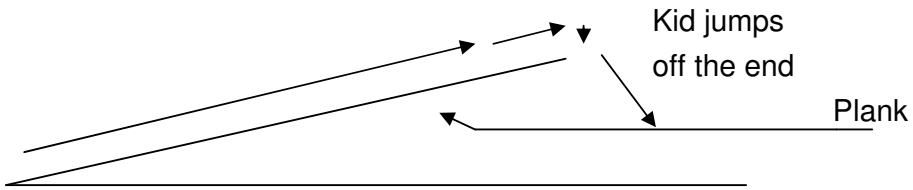

Figure Eight: The Plank

The child walks with the kid, staying on the outside of the obstacles. The child is not permitted to climb over the obstacles or to assist the kid on to them.

Rearing

This event is usually assessed under the following headings of care, condition and cleanliness. The kids entering this event should be presented with clean ears, eyes, mouth, legs, hooves, flank, under-belly and tail. See Suggestions for a Daily Kid Goat Care Routine, (page 22). The hooves should be trimmed and hair clipped around them.

The child should know the name, breed and the date of birth of their kid. The older children should know about health problems such as scours, footrot, lice and internal parasites and the treatments. Children should be able to talk about their kids with confidence, knowledge and to describe the strategies that they have used to rear it. The child should know which category his/her goat belongs to and their purpose in

the primary sector. Senior children should be aware of other breeds and their purpose. For example, what is an angora or a milking goat bred for?

Condition

This section involves the size for age and breed of kid. The child should know what their kid has been fed, how much and how often. This aspect of rearing includes milk, grass, meal, hay, water and anything else the kid has been fed.

Cleanliness

Washing kids **(not fibre goats)** before show day is optional as kids are extremely susceptible to pneumonia. If they need to be washed do it only on a sunny day and ensure that the kid is dried immediately, covered and kept very warm. A blow wave hair dryer is often used to dry newly washed kids. A cover is an advantage as it will assist in keeping the kid clean. See Health Problems and Some Solutions for Kids below. The kid's underbelly, ears, face, mouth, eyes, legs, hooves, and flanks need to be clean for showing. A warm damp cloth may be used for this. After each feed wipe the kid's mouth to avoid any build-up of dried milk. Although dairy goat kids can be brushed, Angora kids can be brushed only very lightly or plucked gently to remove any loose hair so as to retain the natural style and crimp in their fleece. A well-reared kid will be bright, clean, well grown, alert and explorative.

Health Problems and Some Solutions for Kid Goats

While keeping and caring for the kid there are health problems that can arise. One of the more common is that the kid can develop lice and will possibly need to be drenched for worms (parasites) that live in the gut and intestines. There are many proprietary brands of lice powders and sprays suitable for kids that are available either from the local vet or from a stock and station store. After the first treatment repeat the same dosage in approximately 10 days. Always be sure that the instructions on the container are fully understood before application. There are also drenches that will treat both worms and lice. Also kids may need a supplement of selenium. Check with a vet for the required dosages.

On selecting the kid enquire as to whether the doe (mother) has received a Five in One vaccine prior to kidding. If this has not been administered then it is recommended that the kid be vaccinated against pulp kidney, tetanus, Blackleg, Malignant Oedema and Black Disease. However be aware that some kids are from organic farms where other practices are undertaken.

Scold can be prevented by keeping the hair trimmed around the top of the hooves and in between the 'claws.' This condition can predispose the kid to footrot and can

be identified by reddening and heat around these areas. If scold is unchecked open sores can develop. These will need to be treated by a vet who can offer powders and ointments. However prevention is better than cure as scold will cause distress to the kid and hinder its development.

It is recommended that hooves are kept trimmed to prevent footrot. Trimming prevents the hard surface of the hoof from forming a layer beneath the hoof itself, therefore trapping moisture and hinders the kid from keeping its feet dry. It is recommended to always provide an area raised off the damp ground that will enable the kid to stand on and dry its feet while it is resting. If the kid does develop footrot carefully trim the exterior of the hoof back to healthy tissue and treat with zinc sulphate ten percent solution. A bluestone and water solution can be used. However this remedy may leave a stain on the hair round the feet.

Always use a warm damp cloth to wipe any milk from the kid's mouth after each feed to prevent scale developing in this area. If scale occurs (milk spots around the mouth) dab some baby oil or vaseline on it twice daily. After one to two days the scale should be lifted.

As there are several reasons (see Early Days, page 20) for kids developing scours. It is recommended that a vet immediately treat this condition as kids can dehydrate and loose condition rapidly. Be sure to follow any instructions very carefully.

Due to kids being very explorative there are several plants that they should be kept away from to prevent sickness and in some instances death. The plants are:

Rhododendron	Deadly Nightshade
Rhubarb	Potato Tops
Tomatoes Tops	Daffodils or any plant that develops from a bulb.
Oleander	Lantana.
Ragwort.	

There are others that are not identified on this list. As a safety measure it is recommended that kids have access to normal pastures that contain few weeds. For example, kids love to eat sour thistle. However this weed courses kids to develop diarrhoea.

Section Five

Section Five
Gardening: a Project for Spring

Introduction

Gardening is another project that the Waikato King Country Boys and Girls Agricultural Group is involved with. Due to the recent developments in the science curriculum many schools have begun to interest children in cultivating gardens. As the technology of producing and handling food is increasingly playing a larger role in the New Zealand economy it would appear realistic that more children be encouraged to expand their knowledge about the growing and care of plants. This knowledge also assists children to understand the relationship between agriculture and the economic base of many exports and the care and sustainable use of resources such as air, water and soil. It is through knowledge that children and future generations will be able to safe guard these invaluable resources. It is also from the combination of air, water and soil that great achievements and rewards can be gained.

Children may be encouraged to develop a vegetable or flower garden or a garden that encompasses both. The rewards from gardening are quick once the preparation has been undertaken. In only a short period there will be vegetables to eat and flowers and foliage to enjoy. Nothing surpasses the pleasure of preparing a meal with 'truly fresh' and nutritious vegetables that have not been in cool storage and picked several days before eating. A team approach to a gardening project can be used to develop leadership, management, negotiation and reporting skills as children make management decisions about plant varieties, quantities and responsibilities for maintenance and sharing the harvest. The following guidelines are written for an individual but they can be adapted to suit a team project.

Recommended Materials for Cultivating a Garden

Small plants (seedlings[2]) or seeds
Peat and pumice to grow seeds in if desired
Fertiliser
Manure (either cow, horse or hen)
Shovel or spade
Push and Dutch hoes
String line
Soil
Water
Compost and straw
Rake
Triple tyne cultivator
Small garden fork and trowel
Stakes if required

[2] Young plants that are beginning to form their root system.

Suggestions for Beginning a Garden

Children should begin their garden by choosing a plot that is not too large. If possible choose a site that faces the northerly direction, is well-drained and sheltered from cold or drying winds and is not prone to late frosts. In choosing the site be aware of access and watering requirements. It is an advantage to select an area that is free from weeds that propagate through excessive runners or seeding. Excessive and difficult weeds can be daunting for children to manage. The aim is to encourage children to enthuse about gardening and perhaps carry this skill into adult life.

Soil Preparation

Once the site has been selected decide what method of gardening to use. There are a variety of methods. Some are no-dig methods such as permaculture in which a layer of compost is laid over the soil and the plants are grown straight into it, or bio-dynamics, organics, and other methods that require the top soil to be cultivated. The latter approach is still the most popular method. The soil is turned over while incorporating amounts of manure, straw, compost and fertilisers. Use manures that have good nitrogen and calcium contents such as decomposing cow or horse manure and hen manure. Be careful not to apply too much and to allow it to break down before the plants are bedded in. Along with the manure dig in material such as straw or a green crop (mustard or lupins) that may have be grown the previous season. Straw helps to replace the carbon content that may have been removed with the previous year's crop. After digging the soil apply fertilisers such as lime, superphosphate, dolomite and blood and bone etcetera and allow the soil to 'lie fallow' for a week or two. This gives time for the manure and straw to further decompose and for the worms to return and begin aeration. It also allows the rain to wash the fertiliser into the topsoil.

Planting

Before beginning to plant the seedlings record their names and plan where they are to be planted. Also plan for extra props that may be needed to support the plants once they have grown and are fruiting. It is an advantage if some plants are not planted beside each other due to their shape impacting upon the availability of sunlight. For example, it is not recommended to plant lettuces between potatoes and peas as the lettuces may struggle to grow due to diminished sunlight. Choose a variety of plants whether choosing vegetables or flower plants. The vegetables and flower plants listed below can either be sown from seeds or seedlings.

The following vegetables may be grown from seed sown directly into the soil:

Carrot	Radish	Pea	Board Bean
Parsnip	Beetroot	Runner Bean	Dwarf Bean
Potato	Turnip	Squash	Pumpkin
Cucumber	Marrow	Courgette	Yam

Vegetables that may be grown from plants:

Kumara	Lettuce	Cabbage	Broccoli
Cauliflower	Curly Kale	Tomato	Strawberry
Pepper			

Flowers that may be grown from seed:

Sunflower	Lupin	Alyssum	Lobelia
Californian Poppy	Mignonette	Salvia	For-get-me-not

Flowers may be readily grown from plants:

Stock	Pansy	Marigold	Livingstone Daisy
Nemisia	Zinnias	Wallflower	Candy Tuff

However using plants does hasten the process of growing and therefore the child will reap quicker rewards. If a child wishes to sprout the seed use a shallow container and add a mix of peat and pumice to a depth of approximately 3-4 cm. Firm the ‘bed’ with the hands. Scatter the seeds lightly over the top of the soil and add another layer of mix, 1-2 cm deep; again firm down with the hands. Once the seeds have sprouted the plants (each seedling should have two leaves) can be ‘pricked out’ and planted into a larger container allocating more space for each plant. Allow the plants further time for development before planting them into the garden. Although pumpkins, courgettes and cucumbers can be grown directly into the soil, peat pots are ideal as the plants can be immediately transferred into the soil without having their roots disturbed. Peat pots prevent the plants having to ‘re-grow’ the root hairs before they are able to absorb the nutrients from the soil.

After allowing the ground to lie fallow for a period and the soil and atmospheric temperatures to increase it is time to begin planting. Prepare the garden using a rake to work the fertiliser into the topsoil. At the time of planting remember that some plants will need stakes. For example, runner beans. Push three or four stakes into the ground and tie together at the top. Sow the runner beans beside each stake and wait for then to sprout and begin to climbing. Plants such as tomatoes and cucumbers also require stakes. Place the plants in the ground first and the stakes beside them to prevent root damage.

Other vegetables such as carrots and parsnips should be sown directly into the soil. Although these are commonly grown in rows this is not a necessity. Always remember to read the instructions on the seed packets. This information usually states when to grow the seed, how to grow it and length of time that the seed takes to germinate. Whatever design or pattern is chosen the child needs to make a very shallow trench using either a stick or small garden fork. Use the string line to either make the lines straight or to make curves. Trace along the line with the side of a garden fork or a stick to form a trench. The trench should be only approximately 1-2 centimetres deep. The seed can be sown by the child using the index finger and thumb and very carefully spread the seed along the trench. Once the seed is sown the child can use the back of the rake or the hands to replace the soil over the top of the trench and to firm the seedbed. A firm seedbed enables the plants to grow and support themselves in the wind. The child should use a marker naming the seed to identify its location.

If a child has decided to plant seedlings s/he could use either a trowel or fork. Gently work the ground where the plant is to be placed and make a small hole that will comfortably accommodate the entire root system. Place the plant's roots into the hole and drag the soil back over the roots; firming with both hands. When planting a garden remember that all the plants will grow larger. Therefore leave sufficient room between each plant for future growth. See Role of Parents/Caregivers, (page 35). Be aware that pumpkins, squash and courgettes like to spread across the ground so plant these on the edges of the garden. This will prevent them from spreading over other plants and diminishing the sunlight.

An increasingly popular aspect to gardening is growing herbs. Herbs give diverse flavour to the cooking of food and take very little attention. Some of the most common herbs that are easy to grow are basil, sage, time, mint and rosemary.

Garden Maintenance

Gardens need to be maintained if the endeavours of one's labour are to bear fruition. The garden needs to be kept watered during any dry periods and weeds need to be controlled if the plants are to take full advantage of the nutrients and sunlight. The plants will emerge at different times. For example, in warm spring conditions radishes will take approximately four days to sprout whereas carrots can take from 15-21 days.

While waiting for the seeds to sprout it is recommended that maintenance is minimal until the newly sprouted plants are readily identifiable and growing strongly. Any

weeds should be carefully pulled away from the roots of the plants. Use a push hoe or the triple tyne cultivator to prevent compaction of the soil between the rows or the patterns. This also assists the retention of soil moisture. Plants, such as tomatoes and runner beans will need to be tied to their stakes and likewise vegetables such as cucumbers. If the weather is too wet to walk on the soil use flat boards or stepping stones to walk between the plants for weeding. Potatoes and yams will need to be moulded up with a Dutch hoe just as they begin to sprout. Drag the soil over the top of the plants forming a mound to assist the formation of new tubers. This task will need to be undertaken approximately three times or until the tops are well developed. Vegetables such as carrots, parsnips and radishes should be 'thinned out' to make room for fewer plants to grow larger.

Hints for Controlling Common Pests and Diseases

In any garden there are communities that are both beneficial and harmful. It is the beneficial communities that need to be fostered. Lace flies and ladybirds all assist plants to resist attack from predators such as aphids (green fly). It is important to use remedies that do not place the beneficial communities at risk. Many proprietary bands will assist in controlling insect pests and diseases such as potato blight and the white butterfly caterpillar that eats cabbages and cauliflowers. However these remedies are not suitable for children to handle as many contain poisons and should only be handle by adults wearing protective clothing. See Role of Parents/caregivers, (page 35).

There are many organic methods that will reduce the incidence of pest and diseases in the garden. Although these methods do incite debate among adults as to their effectiveness they are often safer for children to handle. For example, place dried crushed eggshell around plants. The outer membrane on slugs and snail becomes damaged if they try to cross the eggshell, causing them to die. Another easy and safe disease prevention method is companion planting or sowing plants that will control insects by releasing odours. For example, lavender. Many rural people have hens that are allowed to search for small insects and grubs close to the garden. Hens are marvellous at keeping these pest populations in check. There are still people who are delighted to share their knowledge of gardening with the younger generation, so make use of this wonderful resource.

Section Six

Section Six
Miscellaneous

Show Days

There are three major show days in the Boys and Girls Agricultural Group's calendar year. The first day is held at the child's local school. School Day is usually organised by the Board of Trustees and the school principal. Schools can opt to arrange a variety of events. For example, some schools will arrange an obstacle course, or a fancy dress event that is based upon a theme in relation to a learning unit. The variety of events is limited only by the imagination. It is the first outing for the child's pet and in general follows the same events that will be held at Group Day. The judges for the school day are frequently from the local area.

The second show day is Group Day. Several schools within the same locality and a delegate from the Waikato King Country Boys and Girls Agricultural Group meet to organise the format for this day. Group Day is usually organised using similar events to those at the Waikato A&P Show, but will sometimes have a variety of other events incorporated. As there are a number of schools in a group the responsibility for the organisation is often rostered ensuring that each school has the opportunity to host this day. The judges are selected from an area beyond the locality of the competing schools. Judges are appointed by the convenor of the Waikato King Country Boys and Girls Agricultural Group.

The third show day is held at Waikato A&P Show. This day is organised by the convenor, chief stewards and delegates and is the responsibility of the Waikato King Country Boys and Girls Agricultural Group. The Waikato King Country Boys and Girls Agricultural Group establishes the rules for this day. The lamb, calf and kid goat sections are each assigned a Chief Steward who is responsible for their administration. This day is open to any child who has participated in a Girls and Boys event and details are outlined in the annual schedule. All judges and stewards are generally selected from the area covered by the Waikato King Country Boys and Girls Agricultural Group. However at times there may be some visiting judges from other agriculture groups.

Although the Waikato Show Day is often considered the pinnacle of showing for children, there are events arranged at other A&P shows that cater for children and are held throughout the spring and summer seasons. Again these are often organised along the same principles as the Boys and Girls section of the Waikato Show.

Strategies for Judging and Placements on Show Days

Although many schools and Boys and Girls Agricultural Groups will employ different strategies to select award winning animals and their handlers, in general the placing of award winners follows the same procedure as that used at the Waikato A&P Show. The procedure at the Show is as follows:

There are five place winners in each event.
All first place winners compete in the championship event.
The animal which is placed first becomes the champion.
The animal that was placed second to the champion will then enter the ring and be judged against all remaining animals.
The reserve champion will then be chosen.

There are several cups and trophies awarded annually at the Waikato A&P Show and these are explained on the schedule. Often schools will award cups and trophies and they are responsible for establishing their own rules. The Boys and Girls Agricultural Groups will also make such awards on group day. However the rules for group days are established by the local Boys and Girls Agricultural Group in association with participating schools.

Strategies for Judging Gardens

There are a variety of methods used to judge gardens and make awards. Some of the schools involved with the garden projects recruit experienced gardeners from their local garden groups, members from Boys and Girls Agricultural Group or an interested teacher. They often use their own systems for marking. The gardens will usually be visited twice. The visits are often arranged for after Labour Weekend and during December.

Role of Stewards and Judges

Stewards

This is the most important support position in the Boys and Girls Agricultural Group. The steward's role requires good preparation and management of the children to ensure that they participant in all their events. It is the steward's responsibility to arrive on time, dressed in a very tidy manner. A white coat is recommended and to have a pen or pencil and paper. On arriving at a show day the steward should check to ensure that s/he understands the requirements of the day as schools use different strategies to manage their day. **The work of the steward involves the tasks outside of the ring**. However s/he will usually record all the winning animals and ensure that the awards are available for each event. The steward should organise the children and their pets at the beginning of each event. It is recommended that the steward invite members of the public to present any awards. The success of any day

hinges upon the efficient and competent work of the steward. **For Judges' Field Day see section on Judges below.**

Judges

Judges should be prepared to visit schools prior to the school day if invited by the organiser. Tailor any talk to the level of the child's understanding and attention span. Always arrive early and dressed appropriately. Both women and men should wear tidy clothes and men a collar and tie. Gumboots are not acceptable footwear. All judges must wear a white coat for ring work. A pen or pencil and a notebook is required for recording and making comments during an event. **The judges' responsibilities are to judge only what is in the ring** and to refrain from judging an animal outside of the ring. This is both unethical and unsupportive of other judges' efforts. The judge should encourage, be friendly, talk pleasantly to the children and show a sincere interest in them and their pets. To begin the day, talk to the children about any safety issues and ensure that they all understand what is required in the ring. Be consistent and fair in all the decisions. Use a friendly manner and ask questions that challenge but are tailored to the child's level of understanding.

Judges' Field Days

Each year the Waikato King Country Boys and Girls Agricultural Group holds several judges' field days. These are designed to 'upskill' all judges and stewards. It is their responsibility to attend one of these days in order to develop further knowledge and uniform strategies for judging and stewarding. These days are also open to any person who wishes to become a judge or steward. Any new judge will serve as an Associate until s/he is considered competent where upon s/he is nominated for senior status by a senior judge. An Associate Judge must always work with a Senior Judge in the ring.

Remember that as judges it is recommended that some remedies for treating animals will be of an organic nature and therefore will be different to those frequently used by many farmers. Judges should also note that some organically grown lambs will not be vaccinated. It is recommended that schools invite a current judge to talk to the children as that person will be able to explain all the necessary aspects that can lead to a successful relationship between the pet and the child.

Layout of Rings

It is important in planning the ring layout that there is a barrier between the events and the public. This assists the children and their pets to participate without hindrance from unnecessary distraction.

Ring Sizes

Calves	18 x18 metres
Lambs	10 x10 metres
Kid Goats	10 x10 metres

These measurements may be adjusted to fit the area provided that the rings are not too small and therefore do not sufficiently challenge the children. The above measurements are always used at the Waikato A&P Show.

Materials for Constructing Rings

Calf Ring

It is suggested that the calf ring be constructed using rope, waratah standards or electric fence tape and standards. Place the first peg, stop peg and pigtail to allow plenty of room for the child and calf to walk around them safely. The first peg and pigtail are placed approximately two metres diagonally from the corner. The stop peg can be placed on the children's left hand side and approximately half way between the first peg and the pigtail. Rope off an area around the ring that prevents the calves from being distracted by the public. The grass where the calves will walk should be cut very short and all evidence of cutting removed to prevent distraction. See Figure Six, (page 16).

Lamb Ring

The lamb ring is usually constructed with scrim supported by electric fence standards and waratah standards on three sides. Use short stakes indicating the first peg, the stop peg and the third peg. See Figure Three, (page 7). Mow the grass in the entire area very short and remove it from the ring. This prevents lambs stopping to nibble.

Kid Goat Ring

This ring can be constructed using either scrim or wire netting supported with either waratah standards or electric fence stands. The placement of pegs is similar to the layout used for the lambs. However there is no stop peg in this ring during the leading event. See Figure Seven, (page 23). If the equipment shown in Figure Seven is not available use alternatives but keep in mind that kids are small animals and require equipment that they can manage safely.

Role of Children, Parents/Caregivers and Schools

Children

Children should select a lamb, calf or kid that they like and spend plenty of time grooming and playing with it. Treat the pet with as much kindness as possible ensuring that it is well fed and warm. To create a lasting and trusting bond it is

recommended that the children do as much of the work as possible. This project belongs to the child and it is his/her work that is expected to be shown in the ring or in the garden. Create interest in the pet or garden among other members of the family by frequently keeping parents/caregivers informed about the progress that is being made. Most of all children should enjoy all the activities between them and their specially chosen pet or garden project.

Parents/Caregivers

Always encourage the child to undertake all the work and to spend as much time as possible with their pet or in their garden. Smaller children will need assistance in order to develop confidence. However assistance does not equate with taking over the child's project. Ensure that the child uses safe work practices when handling their pet or working in their garden. It is recommended that parents administer any products and undertake procedures that are required to maintain the health of the pet. For example, children would not be expected to administer drenches, lice powder, trim the hooves on the feet of a kid or to spray the potatoes against blight.

Schools

As there are increasingly greater numbers of children who will never be able to undertake such a project it is a great opportunity to encourage as many children as possible to participate. A project such as that offered by the Boys and Girls Agricultural Group enables children to grow with an understanding of the agriculture industry that underpins the New Zealand economy. Utilize all the necessary experience and information that is available in the community and especially skills that are available within the Boys and Girls Agricultural Group. Format a fun programme that is challenging, educational and exciting for children to participate in. Introduce some different and additional events. For example, initiate groups of three for leading. See Show Days, (page 31). Begin planning for the show days ahead of schedule to allow children plenty of time to prepare their pets or gardens. See Figure One, (page 3).

Integrated Curriculum Activities

Although these projects are part of Science there are opportunities for related activities within the other major learning areas such as Language and Languages (written and oral), Mathematics, Social Sciences, Technology, The Arts, Health and Physical Well-being. There are many activities within the Boys and Girls Agricultural Group projects that can be undertaken using an interdisciplinary approach to planning educational units by drawing objectives from a variety of main curriculum areas. Although most children involved with a Boys and Girls Agricultural project will progress to level four, there will be others working beyond this level. It is not the

intention of this resource to provide a planned integrate programme. However the list of activities below do provide some suggestions and should be adjusted to suit the children's level of ability. These suggestions are all based upon the curriculum documents issued by the Ministry of Education and available in the schools.

English in the New Zealand Curriculum

Listening, Speaking, Reading, Writing, Viewing and Presenting Functions

- Create a daily diary and record all the experiences and times while working with the animal. Analyse the amounts of time being spent on certain activities and why.
- Present a cartoon representation of the daily diary to a group using a variety of technologies.
- Share experiences with other children through question and response activities.
- Read, recite and share animal stories (contemporary and classical).
- Develop narratives and present them using a clear, logical sequence of ideas.
- Write regular reports on the animal's progress indicating the processes involved in rearing the animal (use appropriate genres and format and editing skills).
- Analyse current ethical concerns related to animal welfare issues and make comment using photography, computer, video or newspaper formats.
- Develop an historical time line indicating the significance of either a lamb, calf or kid goat to New Zealand culture and economy.

Mathematics in the New Zealand Curriculum

Number, Measurement, Geometry, Algebra and Statistics

- Understand the relationship of numbers to rearing animals by recording the details of quantity and costs that are associated with rearing.
- Determine the costs using an individual animal expanding the computation process to estimate the cost involved in rearing larger numbers of animals (use variables, fractions and decimals to problem solve).
- Develop budgeting skills using estimations and actuals (note and explain differences).
- Make several measurements of different parts of the animals body such as legs, girth and across the hips, measuring in the same place each time at fixed intervals and record all measurements. Check for growth, graph and compare.
- Weigh and record the amounts of feed given to the animal daily. Note all feed increases and compare with growth rates. (Use percentages to record answers.)
- Check and record the heartbeat of an animal before and after engaging in activity, note which activities are associated with different heart rates, weight and age. Make comparisons with other children undertaking similar activity.
- Develop how to measure an animal with a tape and calculate its body weight.

- Identify the three main wedges (triangles) that make up the animal's body, measure the area they cover and discuss their importance.

Social Studies in the New Zealand Curriculum

Social Organisation, Culture and Heritage, Place and Environment, Time, Continuity and Change, Resources and Economic Activities.

- Identify some of the agricultural groups that exist in a community and investigated the structures, roles and responsibilities that members have to the group. For example, local farm discussion and farm advisory groups, stream care groups. Analyse the group's contribution to the community, who joins and why. Compare the structures and contribution with other community groups.
- Describe culture and heritage of different groups who may live in the students' community. Discover how they have reflected their agricultural practices in their song, dance and writings over history, what practices have these communities brought with them and ascertain what changes they may have made during integration. How do these groups pass on their heritage to future generations?
- Make a time line of the technological changes that have occurred over the last one hundred and fifty years in pastoral farming. Say why these changes may have occurred.
- Map all the important places with significance to agriculture in the community and describe the history of these places and why they are significant to people. Compare with historical maps that may exist of the area and interview people in the community for the historical content. Organise a trip to visit these sites.
- Describe the work of women in agriculture and how it may have change over time. Identify any advances in technology and education that could have contributed to an increased role and significance of women in agriculture. Make comparisons with previous generations.
- Identify natural disasters that may have happened in the community and how it impacted upon agriculture.
- Explain all the different types of work in the community. Identify which type of work is the most dominant. Discover why and what resources are required to undertake a particular type of work.
- Identify what renewable and non-renewable resources are involved in either rearing an animal or cultivating a garden. State methods that could assist the conservation of non-renewable resources using voluntary practices (customary, education) or statutory regulations. State what the impacts may be if non-renewable resources are not conserved.

Science in the New Zealand Curriculum

Making Sense of the Nature of Science and its Relationship to Technology, Developing Scientific Skills and Attitudes, Making Sense of the Living World, Physical World, Material World and of the Planet Earth and Beyond

- Develop a diary recording the processes involved in cultivating a garden, how the plants grow, conditions that are required and why.
- Explore the variety of methods of using the soil for growing plants or other methods of growing plants and compare.
- Discover the relationship between the technology used for cultivation, planting, animal welfare and people.
- Develop an understanding of the impact of technology on air, water and soil and how any adverse effects can be mitigated.
- Investigate the impact of agriculture on the soil and methods that may help to mitigate any impact.
- Investigate the relationship between soil borne communities, plants and animals using an ecological approach.
- Identify all the different types of material used to rear an animal or grow a plant, what it is made from, the process of manufacture and its contribution to peoples' lives.
- Compare animals of today with those that inhabited the earth during past periods and discover any physical differences and adaptations. Analyse and make comment on the advantages and disadvantages.

Technology in the New Zealand Curriculum

Knowledge and Understanding, Capability and Society

- Explore the functions of the technologies used in agriculture and their contribution, particularly in the children's own environments.
- Compare the safety features of such technologies that have been identified in the above suggestion.
- Investigate the inputs that are necessary to develop certain technologies and output that can be achieved (people input, time material and financial).
- Investigate and report on the impact of technology used to industrialize agriculture (including horticulture) and its impacts on the wider community. For example, the dairy industry or sheep and beef systems of management, impacts of increased stock units, use of chemical fertilisers and the advance of electric fence systems, labour and rural communities.

Health Education

- Investigate animal and plant diseases, and preventive remedies.
- Plan safety strategies for rearing an animal and planting a garden. Relate these strategies to the benefits for the child.
- Make a chart that records the dates and all the areas on an animal's body that should be groomed daily. Check them off the chart each day. Design a similar chart for a garden.
- Develop strategies that will keep all food clean, away from vermin and will shelter the animal from the weather.
- Develop strategies and practices to keep all garden equipment clean and dry. Identify people experienced in the community who can be approached for help.

Art

Knowledge about Material, Equipment, Process and Form

- Freehand two sketches or negative paintings of the animal. Develop two sides, colour, stuff with paper or wool and display in the classroom. Give the animal a name and a date of birth.
- Design an animal or garden. Identify the methodology (method and process) that will be required to produce a representation of it. Express the reasons for using such a methodology.
- Explore forms of two-dimension qualities by developing a collage of the garden under cultivation or an animal being groomed. Incorporate materials such as wool, shavings, tinfoil, string or whatever will make the work of art unique. Allow the imagination to run wild. This suggestion can also be used to develop three-dimensional qualities using models from clay, paper mache or cardboard boxes.
- Design a poster that will encourage children to participate in the Boys and Girls events at the Waikato Show combining pictorial imagery and language.

Conclusion

As has already been stated this resource is only a guide. There are a number of methods that will produce successful gardens and animals. The most important ingredient in any project is to have 'fun' while participating and learning. So to conclude 'have fun and enjoy whatever project is chosen.'